

**Sensemaking and Entrepreneurial Strategies in
Singapore's Private Higher Education Sector:
A Study of EduTrust-Certified Institutions**

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Abstract

Research Context: This research investigates the role of sensemaking and entrepreneurial strategies in the leadership and strategic decision-making of Singapore's Private Education Institutions (PEIs), specifically, PEIs with 4-year EduTrust-certification that offers higher education courses - Higher Education Private Education Institutions (HEPEIs). HEPEI focusses on undergraduate and postgraduate programmes approved by Skillsfuture Singapore to award tertiary qualifications upon forming transnational education partnership (TNE) with external university partners. They operate in a highly regulated and competitive business environment facing significant challenges in sustaining their educational institution viability, adapting to regulatory tensions, and competing with publicly funded education institutions (Training Partners Gateway, 2020). HEPEIs unique challenge is it depends largely on international students that holds about 70% of their revenue who impacted by geopolitics and Singapore immigration restrictions, as well as meeting the 4-year EduTrust-Certification standards in order to sustain their business viability.

Theoretical Framework: The research is based on the concepts of Karl Weick's (1995) sensemaking framework applications within HEPEIs that comprise the seven elements of: identity, retrospection, enactment, social interactions, ongoing processes, meaningful cues, and plausibility to explore how HEPEI senior leaders interpret and respond to complex and ambiguous business and operating challenges. It also integrates the concepts of Entrepreneurial Orientation (EO) and Growth Mindsets of Entrepreneurship (GME) to evaluate how sensemaking elements influence HEPEI leadership's strategic agility, adaptability, and organisational innovation.

Research Methodology: This study adopted the qualitative research methodology, involving semi-structured interviews with senior HEPEI leaders. Thematic analysis, supported by NVivo coding, was utilised to investigate patterns in HEPEI's leadership, strategic decision-making, and actions, as well as organisation reactions to external challenges and pressures.

Key Findings: The study indicates that HEPEI leaders who are more experience have better accurate sensemaking capacities demonstrated higher entrepreneurial agility, which resulted in a better ability to balance regulatory compliance with institutional sustainability. It is noted that HEPEI lacks retrospections and leaders does not practice limited intuitions and plausibility in decision making. The study identifies four major themes: (1) Institutional Culture of Entrepreneurship: HEPEIs' approach to entrepreneurial thinking; (2) External Factors: regulatory pressures and market dynamics; (3) Individual Traits: personal traits influencing entrepreneurial decisions; (4) Social Dynamics: internal relationships and collaboration fostering innovation.

Contributions and Implications: The research contributes to both theoretical and practical applications by linking Weick's (1995) sensemaking with EO and GME within the context of Singapore's higher education private education sector. The study offers policy recommendations and strategic insights for Higher Education Private Education Institutions (HEPEI) leaders to instil better organisational resilience, encourage educational innovation business models, and boost institutional competitiveness. The findings reveal a distinct "sensemaking signature" among these leaders: a strong alignment with action-oriented, externally focused sensemaking practices, but a corresponding weak alignment with the more internal, reflective practices of retrospection and plausibility. The research emphasises the need for constant adaptation in HEPEI given its competitive landscape and suggests future research into sensemaking applications in HEPEIs.

Keywords

Agility, Business Management, Decision-Making, Entrepreneurial Orientation, Entrepreneurship, Innovation, Leadership, Organisational Behaviour, Private Education, Sensemaking, Strategic Agility, Strategic Decision-Making, Strategy, and Sustainability

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Chapter 1. Introduction

1.1. Background

Singapore is world-renowned for its highly successful education system and the quality of its public education institutions (Thiruselvam, 2022; Boyle, 2024), as well as its strict regulatory framework and control over the private education sector (Government of Singapore, 2022).

In Singapore's intensely competitive and regulated Private Education Sector, Higher Education Private Education Institutions (HEPEIs) endure significant continual pressure and regulatory scrutiny. As an educational consultant to multiple Higher Education Private Educational Institutions (HEPEIs), it is noted that HEPEIs struggle to comprehend and make sense of internal and external environmental factors influencing operational constraints to plan business directions for their institutions. Evidence from Training Partners Gateway (2024) indicates that 38 private educational institutions have been delisted from 2023 to 2025, with 8 schools closing in the initial six months of 2025.

A search on SkillFuture's "Training Partners Gateway" Portal (Government of Singapore, 2020) shows that Singapore's PEIs are primarily consisting of small and medium-sized enterprises (SMEs), with educational offerings ranging from K12 to vocational and university-level graduate and postgraduate higher education qualifications. Singapore HEPEIs are not allowed to award qualifications beyond postgraduate diplomas (Government of Singapore, 2022), thus, all HEPEIs that provide higher education programmes are mainly teaching centres, which could be classified as higher educational service providers.

It has been observed that to sustain business continuity, HEPEI's senior management frequently faces challenges due to limited financial resources, market size and strict regulations.

Firstly, as noted by Raguraman (2023), PEIs as a whole faced the challenge of lacking funding support from Singapore's education budget, which amounts to approximately SGD 14 billion. It is worth noting that the Singapore government's annual education budget, which was SGD 14.08 billion (USD 10.47 billion) in 2023 and expected to be SGD 14.752 billion (USD 10.97 billion) in 2024, does not include any direct funding or grants for the Private Education

Institution (PEI) sector. This budget is solely for the subsidisation of state education and skills training for Singaporeans (Raguraman, 2023; Ministry of Education, 2023; Ang, 2024).

Secondly, the HEPEI sector faces a market with a low ceiling. Essentially, HEPEIs are for-profit organisations that operate similarly to traditional businesses. HEPEIs navigate this as small and medium-sized enterprises (SMEs) in strategically applying their entrepreneurial skills within a limited market size, which averaged 137,550 students annually in 2022 and 2023 (CPE, 2022; CPE, 2023). The enrolment of international students, which accounts for approximately 60% of revenue in the overall PEI sector (CPE, 2022; CPE, 2023), depends on the approval of student passes by Singapore's Immigration and Checkpoints Authority (ICA). This process has shown a consistent trend, with approximately an average of 90,000 students enrolled annually between 2022 and 2023 (CPE, 2022; CPE, 2023; Immigration and Checkpoints Authority, 2024). Therefore, private education market has a threshold as to how much more the school's populations can expand, as there is limited number of students pass approval a year. In addition, it faces competition in recruiting Singaporeans from public education institutions (Ministry of Manpower, 2024). Singapore's HEPEIs not only face serious competition among themselves, but they are constantly competing with the country's public educational institutions and regulations, particularly the public tertiary and higher education institutions that receive billions of dollars in education funding because HEPEIs are treated as typical business entities, accessible only to enterprise and business-related government support and grants (Raguraman, 2023; Ministry of Education, 2023; Ang, 2024). With public education institutions increasingly competing for local students and only one-third of students in HEPEIs being Singaporeans or Permanent Residents (CPE, 2022; CPE, 2023), it is no surprise that international students are the HEPEI's most important and primary source of income.

HEPEIs also face strict regulatory and quality standards audits by SkillsFuture Singapore (SkillsFuture Singapore, 2024), a statutory board under the Ministry of Education, which governs the purpose of Private Education Institutions (PEIs) in accordance with the Private Education Act (2009). The Singapore government passed the Private Education Act 2009 (revised in 2020) to create a framework for the regulation and accreditation of PEIs to ensure that students attending PEI receive a quality education while also protecting students' school fees, interests and concerns (Government of Singapore, 2022).

Faced with small market size, competition from public tertiary education institutions and strict regulations, Singapore PEIs have to enhance their business acumens in sensing the various issues in order to establish better corporate entrepreneurial orientation (EO) to encourage growth mindsets of entrepreneurship (GME) within their organisations for business sustainability.

1.2. Research Context

This study focuses on HEPEIs. The purpose of HEPEIs in Singapore is largely to provide education options at the tertiary level as an alternative route to a university degree to help with employability (Ministry of Trade and Industry, Singapore, 2017). In 2023, approximately 68,150 students, or 50% of PEI students, studied for a Diploma or a Bachelor's program (CPE 2023). As of November 18, 2024, HEPEIs offer approximately 4709 courses within the classification of higher education programmes (Training Partners Gateway, 2024). Therefore, the sector played a significant role in complimenting the Singapore public school systems to offer alterative pathways for local and international students aspiring for higher education endeavours.

In order to recruit potential Singaporeans and international students, Singapore's registered HEPEI (Training Partners Gateway, 2024) must compete with the nation's post-secondary public educational institutions, which include seven autonomous universities, five polytechnics, three institutes of technical education, one sports school, one School of the Arts, three government-affiliated private education institutions, 23 junior colleges, 135 primary and secondary schools (Ministry of Education, 2024), and more than 40 other types of internationally renowned private and specialised schools that are granted special operating privileges by the Singapore government (Ministry of Manpower, 2024). Given the limited population in Singapore and the stringent international student pass regulations, Higher Education Private Education Institutions (HEPEIs) are encountering heightened competition, as these public educational establishments are government-funded. This scenario underscores the resource limitations that small and medium-sized enterprises (SMEs) experience when contending with larger corporate rivals.

In the year ending 2023, the total market value of PEIs is Singapore dollars SGD 3.36 billion (USD 2.5 billion), with approximately 136,300 students, including approximately 90, 867 international students (67%) from Australia, the United States, the United Kingdom, China, India, Japan, and Malaysia, among others (CPE, 2023). As a result, the PEI sector relies heavily on international students for revenue.

In 2010, the EduTrust-certification scheme, administered by SkillsFuture Singapore, was introduced to establish quality standards for Private Education Institutions (PEIs) (Training Partners Gateway, 2020). The scheme comprises three levels: the 1-year renewable EduTrust Provisional (22 PEIs), the 4-year renewable EduTrust (102 PEIs), and the 4-year renewable EduTrust Star (2 PEIs), which represents the highest level (Training Partners Gateway, 2024). Only PEIs with EduTrust and EduTrust Star certifications are permitted to offer pathway programmes leading to a bachelor's degree in collaboration with overseas universities and to franchise their internally developed programmes up to the postgraduate diploma level. As PEIs are unable to grant bachelor's, master's and doctorate degrees (Government of Singapore, 2022), PEIs will need to enter into transnational partnerships (TNE) with global universities. The EduTrust scheme, while voluntary, has evolved into a recognised quality mark that students, especially international ones, consider when choosing a Private Education Institution (PEI). This development has increased the pressure on PEIs to uphold their EduTrust status. A 4-year EduTrust-certified HEPEI is recognised for its elevated quality standards, which have gained international acclaim for individuals pursuing undergraduate or postgraduate courses. However, such initiatives will incur extra cost and manpower resources to maintain the EduTrust standards. As such, it would be worthwhile to investigate the unique challenges that present with the opportunities.

Another factor to note is the Ministry of Education (MOE) of Singapore's yearly education budget from 2021 to 2024, an average of SGD\$14.1 billion, about 19% of Singapore's annual national budget (Ministry of Education, 2023). However, no funds or grants have been allocated to the development and activities of Singapore PEIs. This funding pattern reflects MOE's long-standing policy of directing subsidies to the publicly funded Autonomous Universities so they can "train high-quality graduate manpower to support Singapore's economic needs" while private providers operate on a fee-for-service model, without direct

state grants (Ministry of Finance, 2024). This creates a disadvantage to HEPEI as they will have to allocate resources even to meet regulatory standards that often benchmark students' graduation outcomes against publicly run higher education institutions.

As a whole, the PEI sector in Singapore operates within a dynamic and challenging business environment impacted by strong competition, strict regulations, and limited resources. The HEPEI faced four key problems:

1. **Lack of government education funding:** Unlike public institutions, PEIs do not benefit from government education funding, despite the Ministry of Education's budget exceeding SGD 14 billion annually (Raguraman, 2023; Ministry of Education, 2023). This resource gap means HEPEIs have to depend only on tuition fees, largely from international students, who account for about 67% of total enrolments (CPE, 2023).
2. **Unknown student visa approval rate:** The reliance on international students is complicated by Singapore government immigration policies on student passes (visa), where visa approval rates are frequently fluctuated and not consistently known (Immigration and Checkpoints Authority, 2024), this affects HEPEI's ability to project accurately enrolment numbers directly affecting revenue and cash flow projections. Therefore, HEPEI needs to be prepared to adjust budgets in response to fluctuating international student enrolment due to student pass restrictions.
3. **Meeting quality assurance standards:** HEPEIs must also maintain quality assurance standards through the EduTrust certification scheme; as of 2024, only two PEIs have received the highest tier EduTrust Star certification (Training Partners Gateway, 2024). According to Training Partners Gateway (2024), the SkillsFuture regulatory policy requires PEI to obtain a minimum of four years of EduTrust certification before providing higher education pathway programs. Thus, HEPEIs must be prepared for external audits in order to maintain their 4-year EduTrust certification, which serves as a benchmark for institutional credibility and branding for Singapore's HEPEIs. This means that HEPEI must estimate potential compliance costs in advance of the EduTrust certification requirements.
4. **Competitions with publicly funded tertiary institutions:** HEPEIs' challenges are compounded by competition from publicly funded tertiary educational institutions

and government-invited internationally renowned private institutions that are granted special operational status and privileges (Ministry of Education, 2024). However, limited resources put constraints on HEPEIs' ability to compete with publicly funded institutions (Raguraman, 2023). The inability of PEIs to provide better teaching technologies or facilities on a par with government tertiary institutions will result in operational inefficiencies and decreased competitiveness.

1.3. Research purpose

With such challenges, it could be said that for any HEPEIs to thrive and overcome challenges, organisational sensemaking and entrepreneurial thinking are essential for the sector, primarily composed of SMEs. Maruntelu (2023) stated that addressing the challenges faced by educational institutions necessitates transformation through innovation, collaboration between government and business, and adaptation to social changes. According to Bhardwaj, Sushil and Momaya (2011), effective innovation necessitates a management-driven front-line process characterised by a corporate entrepreneurial spirit, a clear vision, teamwork, and a reward system.

Thus, SMEs require sense-making and entrepreneurial thinking to overcome complex and dynamic environments effectively. According to Weick's 1995 research, sense-making involves the social-psychological construct through which staff and organisations understand their issues of concerns, influenced by ongoing, retrospective, and social factors (Aromaa et al., 2019; Nardon & Hari, 2022). This approach, which includes fostering a sensemaking identity and using cues to interpret changes, is critical for SMEs to make informed decisions and be agile to challenges. By fostering sense-making capabilities, leaders in SMEs can enhance their strategic decision-making and increase resilience in the face of challenges and uncertainty.

Given the above context, this research will focus on studying Higher Education Private Education Institutions (HEPEIs) that offer higher education programmes by examining the entrepreneurial orientation (EO) and Growth Mindsets of Entrepreneurship (GME) in the context of these HEPEIs through the seven dimensions of Weick's (1995) "Sensemaking" theoretical framework which includes "identity, retrospection, enacting sensible environments, social interactions, ongoing process, meaningful cues, and plausibility."

This study's outcomes strive to contribute to both practical applications and theoretical understanding, establishing a guideline for PEIs to steer the complexities of PEIs' operational environment while strengthening HEPEI's entrepreneurial and growth-oriented ability by being able to sense the business environment better.

Although the Singapore government recognises that HEPEIs play an important role in providing alternative education pathways (Ministry of Trade and Industry, Singapore, 2017), there is a notable lack of scholarly research on the Singapore PEI sector, including ideas about education sector entrepreneurship such as entrepreneurial orientation (EO) and growth mindsets of entrepreneurship (GME) within the context of Singapore PEIs. Furthermore, while Weick's (1995) sensemaking framework has been extensively researched and applied in organisational studies, its relevance to the PEI sector to explore Singapore's unique business environment is unknown.

1.4. Research Framework

The above problems require HEPEI leaders to think entrepreneurially, sensing the business environment and adapting their strategies to the complexities of the PEI sector's challenges.

Empirical evidence indicates the use of Weick's (1995) sensemaking framework in resource-constrained environments. For example, the study by Niemi et al. (2022) pointed out that proactive leaders who engage in sensemaking when faced with challenges are able to better align their strategies more effectively with organisational needs while dealing with complexities. In the HEPEI context, this could include anticipating compliance costs associated with EduTrust certification (Training Partners Gateway, 2024) or adapting marketing budgets to fluctuations in international student enrolments caused by student visa approval restrictions (Immigration & Checkpoints Authority, 2024). Sensemaking in HEPEI can assist leaders to prioritise financial resources and manpower capacities to maintain Skillsfuture's regulatory and EduTrust compliance while pursuing the institution's growth opportunities (Weick, 1995; Niemi et al., 2022).

Niemi et al. (2022) study indicates that sensemaking is fundamentally consideration for responding to unexpected circumstances, events and for scenario planning, facilitating an understanding of the marketplace and addressing customer satisfaction. Ha et al. (2018)

highlighted that for SMEs to better promote innovative entrepreneurial ideas, it is important to comprehend and analyse both external and internal factors for business survival, given SMEs' resource constraints.

HEPEI's entrepreneurial culture within the organisation is essential for fostering a growth mindset among employees, enabling them to collaboratively tackle challenges. The entrepreneurial orientation (EO) of a company is typically defined by management's promotion of idea generation and initiative, the acceptance of calculated risk-taking, the pursuit of creativity, the willingness to confront competition, the continuous enhancement of firm performance for growth, and the establishment of competitive advantage (Lumpkin and Dess, 1996; Covin and Slevin, 1991; Wiklund and Shepherd, 2005)). An individual's growth mindset of entrepreneurship (GME) encompasses attitudes and beliefs that enhance resilience, self-efficacy, and a readiness to learn, which are essential for cultivating an entrepreneurial culture and enhancing organisational performance (Hmieleski and Corbett, 2008; Cardon et al., 2012; Liguori, Winkler and Vanevenhoven, 2020). Consequently, entrepreneurial orientation (EO) and the growth mindset of entrepreneurship (GWE) are interdependent, suggesting that private educational institutions (PEIs) could benefit from their effective application to address the various challenges encountered in the sector.

However, literature review revealed no research on the EO and GME aspects of the Singapore PEI sector, nor any on exploring the concepts of sense-making. The overarching goal is to identify patterns and assess the extent to which top management and senior staff can "sense" their business environment and its relationship with EO and GME in order to sustain and grow their educational institutions in Singapore.

The industrial challenges above highlights the significant obstacles faced by Singapore's Higher Education Private Educational Institutions (HEPEIs). These challenges demand HEPEI leadership adopting innovative approaches to deal effectively with their operational and strategic agility.

1.5. Aims of the Research

This study aims to address gaps by examining how HEPEI leaders align their decision-making practices with Weick's sensemaking framework and how this alignment affects EO and GME.

The findings strive to provide practical insights for improving HEPEI's leadership's strategic agility, encouraging innovation, and maintaining sustainable growth in a challenging and highly competitive Singapore private education sector.

Singapore's HEPEIs have to consistently balance competitions, operating constraints, programme limitations, enrolment revenue, and still meet EduTrust-certified quality standards. This study analyses Singapore's HEPEIs leadership behaviour, exploring the relationship between Weick's (1995) Sensemaking Model, Entrepreneurial Orientation (EO) (Lumpkin and Dess, 1966; Mondal and Chakrabarti, 2021), and Growth Mindsets of Entrepreneurship (GME) (Billingsley et al., 2021) within HEPEIs. It examines how senior leaders in HEPEIs manage external and internal issues and challenges to sustain growth in Singapore's competitive private education sector.

Therefore, the research objectives (ROs) and Research Questions (RQs) are designed to determine how HEPEI leaders face these business and operational barriers using the theoretical concepts of Weick's (1995) sensemaking, EO and GME. Specifically, this research aims to investigate how these theoretical frameworks can assist HEPEI leaders' decision-making, promote innovation, and nurture organisational resilience in HEPEIs.

This research aims are:

1. To examine how Weick's (1995) sensemaking framework (Weick, 2020): identity, retrospection, enactment, social interactions, ongoing process, cues, and plausibility, have relevance to the decision-making processes of Senior HEPEI leaders in Singapore's Private Education Institutions.
2. To study the extent to which HEPEI leaders' alignment with Weick's (1995) sensemaking framework influences their entrepreneurial orientation (EO).
3. To analyse the integration of Weick's (1995) sensemaking elements within leadership practices impacts the growth mindset of entrepreneurship (GME) in HEPEIs.

The research objectives (ROs) guide the research questions (RQs), examining how the decisions and behaviours of HEPEI leaders align with the sensemaking framework and its impact on the relationships with EO and GWE within the context of HEPEIs.

1.6. Research Objectives and Questions

This study adopts an inductive approach, utilising in-depth interviews with senior leaders of HEPEIs in Singapore to investigate gaps identified, specifically, the research focuses on bridging the theoretical knowledge, concepts and practical understanding of sensemaking (Weick, 1995), entrepreneurial orientation (EO) and growth mindsets of entrepreneurship (GME) in Singapore's private education sector.

The research objectives (ROs) and research questions (RQs) are as follows:

- **RO1:** To explore how HEPEI leaders' decision-making and strategic actions align with the seven elements of Weick's (1995) sensemaking framework, focusing on identity, retrospection, enactment, social interactions, ongoing process, cues, and plausibility (Weick, 2020).
 - **RQ1:** How do senior leaders in HEPEI make decisions and undertake actions that correspond to the seven components of Weick's (1995) sensemaking framework (Weick, 2020)?

According to Cristofaro (2022) and Hoyte et al. (2019), Weick's (1995) sensemaking framework has been widely accepted as a concept for its ability to explain how leaders' sense and interpret ambiguous and uncertain situations to take strategic actions for organisations. However, its application in the context of Singapore's PEIs is never explored. Given the unique situations faced by PEIs - such as challenges from a highly regulated business environment, heavy dependence on international students' enrolments for revenue, and limited financial resources (CPE, 2023; Ministry of Education, 2023). HEPEI leaders must address complex decision-making situations to ensure organisational growth and sustainability.

It is noted that Singapore's HEPEIs are small and medium-sized enterprises (SMEs) that operate in an ever-changing business environment where robust strategic decision-making is needed for sustaining competitiveness (Raguraman, 2023). The seven dimensions of sensemaking allow a comprehensive lens for analysing how HEPEI leaders respond to different internal and external changing scenarios, such

as maintaining EduTrust-certification and managing Skillsfuture regulatory compliance (Training Partners Gateway, 2024). By investigating the alignment of HEPEI's leadership decision making actions with sensemaking elements, this research objectives and questions strive to address the gap in understanding how HEPEI leadership as a whole are able to make sense of challenging business and operational situations in HEPEI's organisational context, thereby contributing to knowledge for theoretical understanding and practical insights.

- **RO2:** To examine the influence of Weick's (1995) sensemaking practices on the entrepreneurial orientation (EO) of HEPEI leaders, including traits such as autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness (Lumpkin and Dess, 1996; Mondal and Chakrabarti, 2021).
 - **RQ2:** What aspects of Weick's (1995) sensemaking practices affect the entrepreneurial orientation (EO) of HEPEI leaders concerning autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness (Lumpkin and Dess, 1996; Mondal and Chakrabarti, 2021)?

Entrepreneurial orientation (EO) has been established by scholars as a critical driver of agility, innovation, and resilience in resource-constrained organisations (Lumpkin and Dess, 1996; Blanka, 2019), such as Singapore's PEIs. However, there is a lack of research investigating the relationship between EO and sensemaking in the Singapore PEI sector, where PEI sector leaders must balance entrepreneurial innovation with regulatory and operational limitations (Mondal and Chakrabarti, 2021). PEIs, as Small-and-Medium Enterprises (SMEs), need entrepreneurial leaders who take calculated risks in an uncertain business environment to sustain growth (Bhardwaj, Sushil and Momaya, 2011). For example, the critical revenue stream from enrolling international students while competing with government-funded tertiary education institutions (Ministry of Education, 2024; CPE, 2023) highlighted the vital use of proactiveness and competitive aggressiveness (Miller, 1983; Covin and Slevin, 1991) in HEPEI leadership. Sensemaking elements, such as enacting sensible environments and identifying meaningful cues, allow HEPEI leaders to gain opportunities be agile to changing business environment and market conditions (Cristofaro, 2022)

Therefore, RO2 and RQ2 try to close the gap by examining how sensemaking influences EO dimensions within HEPEI context. For example, EO's two core elements such as autonomy and innovativeness, are vital critical for HEPEI leaders to create new courses and university partnerships in order to differentiate their HEPEIs from competitions (Mondal and Chakrabarti, 2021). By linking sensemaking elements with EO, this research will be able to establish actionable insights into how HEPEI leaders can foster entrepreneurial thinking to drive organisational innovations and capabilities.

- **RO3:** To evaluate the influence of Weick's (1995) sensemaking practices on the leadership in cultivating a growth mindset of entrepreneurship (GME), is aligned to the concepts of GME's Leadership, Creativity, Personality, Intelligence, and Entrepreneurial Ability (Billingsley et al.2021) in HEPEIs.
 - **RQ3:** What aspect of Weick's (1995) sensemaking practices impact the ability of HEPEI leaders to cultivate a growth mindset of entrepreneurship (GME) in the areas of leadership, creativity, personality, intelligence, and entrepreneurial ability (Billingsley et al. 2021)?

A growth mindset of entrepreneurship (GME) has been recognised for establishing organisational resilience, agility, and innovation within companies (Billingsley et al., 2021). In the context of Singapore's HEPEIs, where competition and resource limitations are causing sustainability issues, GME is highly needed in leadership to develop sustainable strategies and foster an organisational culture of continuous improvement (Sharma, 2021; Hmieleski and Corbett, 2008). Sensemaking practices, such as retrospection and ongoing processes, allow leaders to reflect on experiences and learn to create strategies to adapt and meet emerging opportunities and challenges (Weick, 1995). For example, HEPEI leaders must creatively address funding limitations (Raguraman, 2023) and operational inefficiencies by leveraging partnerships and innovative program designs (CPE, 2023). These actions also align with the mindset of leadership and creativity

dimensions of GME, which are critical for nurturing a culture of innovation and adaptability within PEIs (Billingsley et al., 2021; Liguori, Winkler and Vanevenhoven, 2020).

In addition, plausibility factors of sensemaking support HEPEI leaders in analysing and evaluating the feasibility of new institutional initiatives, ensuring that organisational decisions are practical, applicable with influenced by entrepreneurial thinking (Cristofaro, 2022). By examining how sensemaking impacts GME, this RO3 and RQ3 address the gap in understanding how HEPEI leaders can nurture a growth-oriented corporate culture that increases organisational resilience and long-term business viability and sustainability in the HEPEI sector.

The above pointed out clear linkage between the ROs and RQs along with the identified gaps found in the literature readings of this study, focusing on bridging gaps in understanding how sensemaking, EO, and GME interact to address HEPEI operational constraints and strategic challenges. By investigating these theoretical concepts within the HEPEI context, this study adds to theoretical knowledge advancements in organisational fields of studies, particularly in the resource-constrained environments of SMEs, like HEPEIs. In addition, the study also offers practical insights for HEPEI to improve their strategic adaptability and competitiveness. The findings also have implications for operational and business critical decisions, particularly in shaping strategic directions and supporting ideas that drive HEPEIs' innovation and sustainability as a whole. The study aims to provide workable solutions for better HEPEI leaders agility, strategic adaptability, organisational growth mindset, business innovation, and sustainability in HEPEIs.

1.7. Conceptual Framework of Research

The study analysis found that sensemaking offers an essential framework for comprehending leadership decision-making and actions within HEPEI and their association with Entrepreneurial Orientation (EO) and Growth Mindsets of Entrepreneurship (GME).

The interview patterns from pilot study as shown in Chapter 3 regarding "identity" revealed that the significance of nurturing resilience, adaptability, and courage relates to

entrepreneurial orientation dimensions like autonomy and risk-taking while fostering personality traits and leadership that are essential components of GME (Lumpkin and Dess, 1996; Billingsley et al., 2021). “Retrospection,” a crucial sensemaking element, is evident in participants' reflections on experiences, illustrating their adaptive decision-making, alongside EO traits such as proactiveness and GME, like intelligence, for enhancing organisational strategies (Weick, 1995; Dawson and Sykes, 2019).

The participants demonstrate the establishment of “Enacting a sensible environment” through their leadership in fostering a supportive work culture that facilitates growth, in alignment with EO traits such as autonomy, proactiveness, and creativity, which are components of GME traits (Cristofaro, 2022; Andrews, 2021). “Social interactions” have been identified as a fundamental element frequently cited as a catalyst for organisational innovation and the promotion of collaboration, demonstrating participants’ EO's focus on competitive aggressiveness and risk-taking, alongside GME's leadership and creativity (Hoyte et al., 2019; Rogers and Vardaman, 2022).

The “ongoing process,” a component of sensemaking, is demonstrated by participants' actions in adapting to internal and external challenges essential for dealing with the dynamic and challenging environment of PEI business, linked to entrepreneurial orientation traits such as innovativeness resilience and intelligence elements of GME (Lumpkin and Dess, 1996; Ratzmann et al., 2018). Participants exhibit “meaningful cues” and “plausibility” as sensemaking elements by emphasising the interpretation of cues and external environmental signals while formulating persuasive arguments and actions, which correlate with EO's proactiveness and risk-taking, as well as GME's intelligence and creativity (Weick, 1995; Song et al., 2023).

These findings correspond with the literature reviews indicating that Weick’s (1995) sensemaking elements—identity, retrospection, enacting a sensible environment, social interactions, ongoing processes, meaningful cues, and plausibility—serve as a primary conduit linking entrepreneurial orientation (EO) and global market engagement (GME) in addressing the challenges of the complex business environment within the PEI sector.

Therefore, the incorporation of sensemaking, EO, and GME components will assist leaders of PEIs in fostering an innovative culture, enhancing resilience, and strategically adapting to challenges and uncertainties (Cristofaro, 2022; Lumpkin and Dess, 1996), thereby facilitating the growth of these small and medium-sized enterprises (SMEs) within a constrained resource, highly regulated, and competitive landscape characterised by external uncertainties.

The pilot study indicates that the Conceptual Framework of the Research, illustrated in Figure 7, positions Weick's (1995) sensemaking framework as the primary platform for leaders in Private Education Institutions (PEIs) to tackle organisational and environmental challenges and complexities. The pilot study findings strongly illustrated the centrality of "sensemaking," indicating that the sensemaking process (SP) is essential in fostering interactions that influence PEI strategic directions and actions.

The Sensemaking framework highlighted the significance of social dynamics (SD) within PEIs as a crucial factor influencing the components of sensemaking. The pilot study found that staff and departmental collaboration, interactive communication, and cooperative teamwork are essential components for cultivating a unified and cohesive organisational culture, which is vital for supporting a culture of entrepreneurship (CE). Weick (1995) and Dawson and Sykes (2019) highlight the significance of social interactions in fostering cohesion, a collective mindset, and the promotion of innovation within organisations.

The pilot study indicates that the relationship between sensemaking and the establishment of a culture of entrepreneurship (CE) involves the interplay between the elements of Entrepreneurial Orientation (EO) (namely autonomy, proactiveness, innovativeness, risk-taking, and competitive aggressiveness), and the components of Growth Mindset of Entrepreneurship (GME) (namely leadership, creativity, personality, and intelligence). The pilot findings demonstrated how these EO and GME elements assisted PEI leaders in managing the complexities, uncertainties, and challenges presented by external factors (EF) of PEIs, including government regulations, market competition, technological advancements, and social influences, etc. Lumpkin and Dess (1996) and Mondal and Chakrabarti (2021) state that the interplay between EO and GME enhances organisational resilience and agility in dynamic business environments.

The conceptual framework also demonstrated that individual traits (IT), characteristics of GME, significantly influence the sensemaking process, as evidenced by how PEI leaders displayed resilience, courage, and adaptability in managing external factors (EF) during the pilot study. These traits seemed to assist PEI leaders in interpreting environmental signals and business cues, enabling them to collect evidence for more informed and precise decision-making. Individual traits (IT) also contributed to cultivating an organisational culture that aligns with corporate and business objectives. This observation is supported by research emphasising the significance of leadership and personality in fostering, developing, and executing an entrepreneurial ecosystem within an organisation (Cristofaro, 2022; Rogers and Vardaman, 2022).

It can be concluded that the sensemaking framework (Weick, 1995) facilitated the integration of EO and GME while offering a significant approach to addressing the challenges posed by external factors (EFs). The capacity of PEI leaders to interpret business trends, regulatory issues and changes, and competitive dynamics through sensemaking enhances strategic decision-making and actions, as evidenced by the pilot study and supported by research indicating that sensemaking cultivates plausible narratives through evolving comprehension, collaboration, behavioural analysis, and adaptation to dynamic environments (Ala-Laurinaho et al., 2017; Ancona, 2011; Christianson, 2019; Rogers and Vardaman, 2022).

The categorisation of themes, as demonstrated in Table 9: Classification of Themes from the Pilot Study, facilitated the development of the Conceptual Framework for this research, emphasising the connection between Weick's sensemaking and the individual, social, entrepreneurial, and environmental dimensions within PEIs. This framework is substantiated by academic research, including Weick (1995), Lumpkin and Dess (1996), and Cristofaro (2022), which highlights the interaction of individual characteristics, teamwork, collaboration, entrepreneurial mindset, and environmental factors in influencing organisational growth and success. The pilot study and literature identify these elements as pivotal in shaping PEI's decision-making within the SME context, particularly in light of the complex, resource-limited, and competitive environment of the Singapore PEI sector.

The conceptual framework illustrated in Figure 1: Conceptual Framework of the Research (adapted from Weick, 1995; Lumpkin and Dess, 1966; Cristoforo, 2022), positions Weick's sensemaking framework as a central platform linking the social dynamics (SD) of PEIs, individual traits (IT), the Culture of Entrepreneurship (CE)/Entrepreneurial Orientation (EO), individual traits (IT)/Growth Mindset of Entrepreneurship (GME), and external factors (EF). The framework aims to provide a comprehensive foundation for examining PEI leadership and organisational practices within the sensemaking domain by synthesising the findings from the pilot study with established theories from the literature. It demonstrates how sensemaking enhances the interaction among SD, CE, IT, and EF, promoting an agile, creative, and resilient corporate and organisational culture that sustains the PEI's growth in a challenging and dynamic environment.

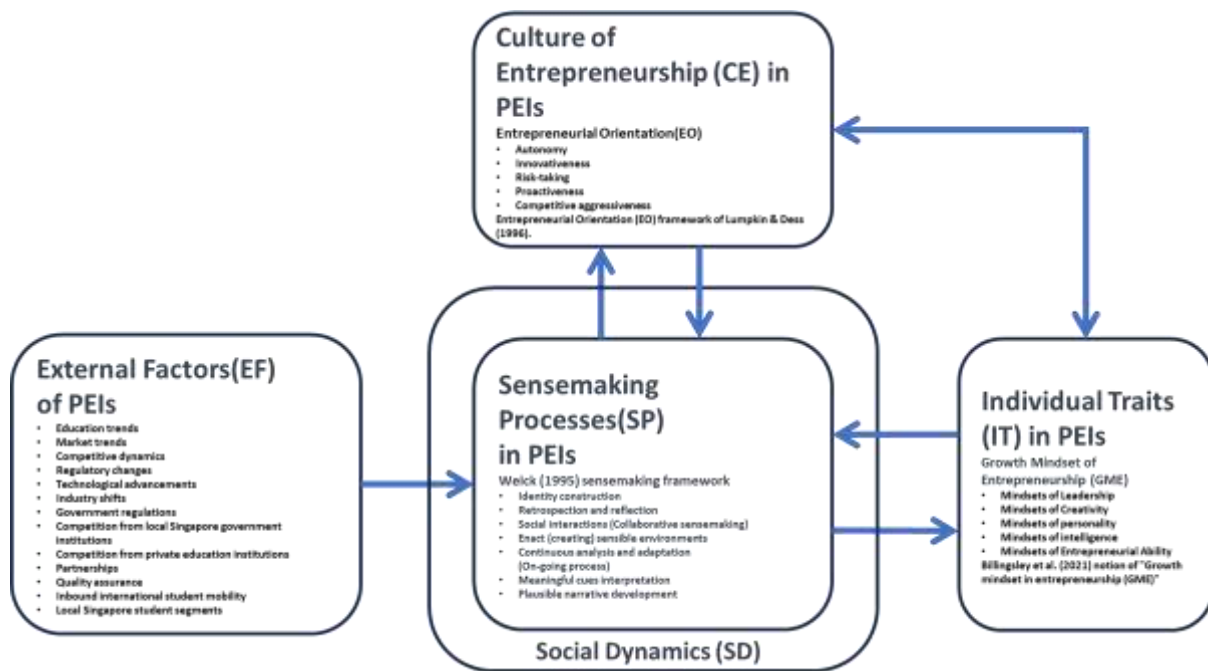


Figure 1: Conceptual Framework of Research (adapted from Weick, 1995; Lumpkin and Dess, 1966; Cristoforo, 2022),

1.8. Thesis Outline

This study examines sensemaking and its influence and impact on HEPEI's strategic decision-making. The structure of the thesis is as follows:

- Chapter 1 provides the introduction to the study's background, problem statement, objectives, and research questions. It also discusses the significance of strategic agility and decision-making in an evolving Singapore private education.
- Chapter 2 examines the literature on sensemaking theory, EO and GME orientation, and organisational behaviours.
- Chapter 3 outlines the research methodology, adopting a qualitative research design using semi-structured interviews. It justifies the research design and approaches.
- Chapter 4 provides findings and analysis, stating the results and insights of HEPEI. It will also address the themes of the study.
- Chapter 5 discusses key insights from Chapter 4, integrating empirical findings into theoretical frameworks.
- Chapter 6 concludes with practical recommendations catering to implications for policy, leadership development, and institutional strategy, discusses research limitations, and offers suggestions for future research.

The next chapter is a review of the literature on the understanding of theoretical concepts within the context of this study.

Chapter 2. Literature Review

The promotion of entrepreneurship and the cultivation of a growth mindset among stakeholders in private education institutes (PEIs) in Singapore are of utmost importance, given the external geopolitical and economic challenges, as well as the regulatory and business conditions unique to the country's private education sector. The literature review aims to conduct a comprehensive examination of the concepts of sensemaking, entrepreneurial orientation (EO), and growth mindsets of entrepreneurship (GME) within the context of Singapore private education.

The primary aim of this literature review is to comprehensively examine the existing research that investigates the interconnectedness between sensemaking theory, EO, and GME to provide a thorough examination and interpretation of relevant scholarly works to clarify the underlying mechanisms, theoretical frameworks, and empirical findings that establish a correlation among these three concepts to address the research objectives.

The achievement of this objective will provide valuable insights into the strategies that effectively promote long-term success and innovation in HEPEIs by initially comprehending sensemaking theory, EO, and GME and subsequently analysing the interrelationships among these aforementioned factors.

2.1. Sensemaking in Organisational Contexts

2.1.1 Definitions and Principles of Sensemaking

The study's RO1 is to examine how HEPEI leaders' decision-making and strategic actions align with the seven elements of Weick's (1995) sensemaking framework namely identity, retrospection, enactment of sensible environment, social interactions, ongoing process, cues, and plausibility (Weick, 2020). The concept of the sensemaking theory, originated in 1970s by Karl E. Weick. It has gained significant acceptance as a theoretical framework within entrepreneurship research arena (Magala, 1997). Figure 2: Weick's Sensemaking Concepts (adapted from Weick,1995; Cristofaro, 2022) depicts sensemaking concepts. The framework offers valuable insights into the process by which people make sense of complex and ambiguous situations such as those challenging the operations of HEPEIs, as well as how people negotiate uncertainty to make successful decisions (Kramer, 2017; Weick, 2020).

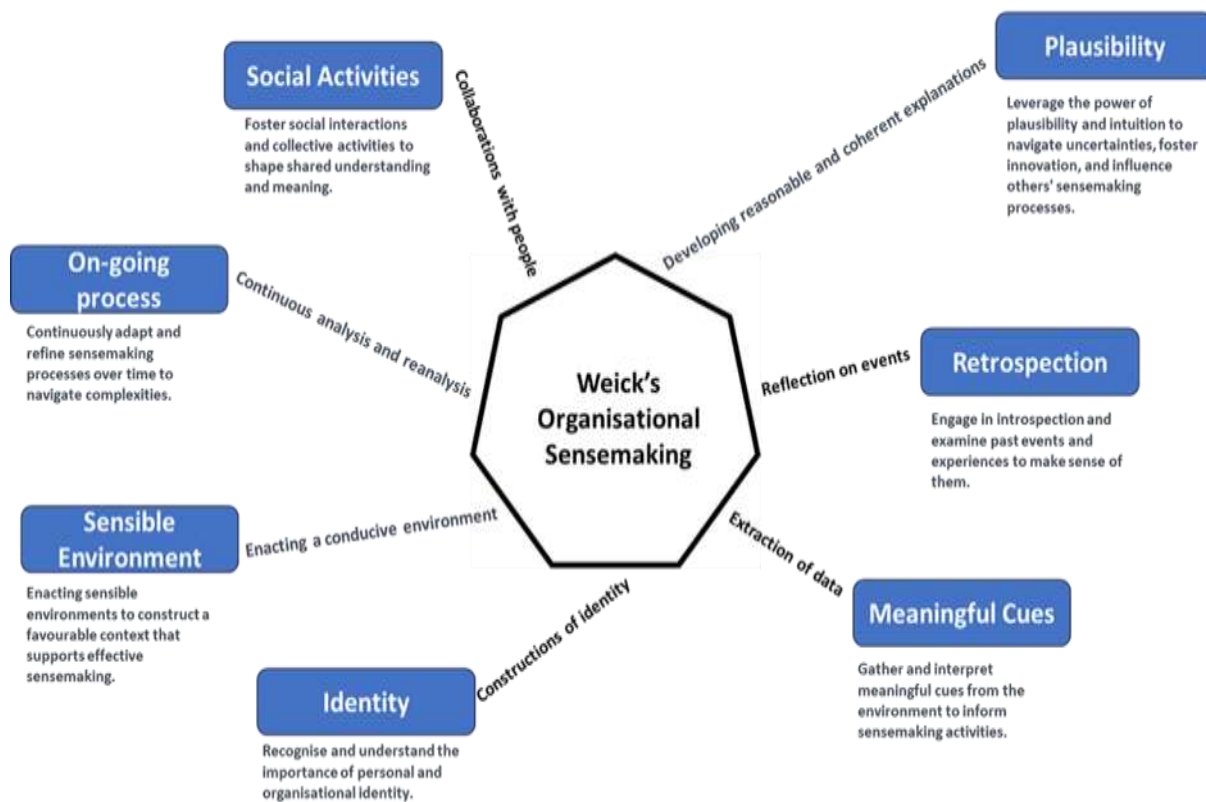


Figure 2: Weick's Sensemaking Concepts (adapted from Weick, 1995; Cristofaro, 2022)

The phenomenon of sensemaking is driven by its ongoing and dynamic characteristic that involved the constant investigation and interpretation and reinterpretation of empirical data and individual experiences (Blanka, 2019; Cristofaro, 2022; Rogers and Vardaman, 2022). The sensemaking concept sees high importance on people's cognitive aspect along with human social interactions resulting in the construction of meaning in determining the ultimate understanding of situations and the decision-making abilities of people.

Weick's study in 1995 outlines a series of social-psychological contributions as well as attributes that allow researchers to grasp the framework by which organisational reality is established through both collective and individual sensemaking efforts (Aromaa et al., 2019). The process involves the cultivation of one's identity, the skilful utilisation of signals (cues) to communicate a specific understanding of a given circumstances or situation, and its impact on retrospective, ongoing, and social factors on the sensemaking process (Aromaa et al., 2019; Nardon and Hari, 2022). Hence, sensemaking is a process that encompasses the assignment

of meaning to an action, an events, or a circumstance by an individual androgenisation in advancing the collective understanding of things.

According to Weick (1995), sensemaking involved using captivating narrative that integrates diverse elements, thereby giving the necessary momentum and direction for action. This narrative needs to be sufficiently probable to enable people to reflectively comprehend issues while also being attractive enough to encourage them to contribute their views to increase the overall comprehension of the issues.

The framework of sensemaking have been accepted to explain as well as applied in various disciplines and studies including organisational research, information science, and psychology. In the context of HEPEI, the business issues posed by internal and external uncertainties caused by legislative changes and competitive market fluctuations requires HEPEI leaders to effectively able to interpret signals to make sense of situations to sustain the viability of their HEPEIs. Weick's (1995) framework outlined seven interconnected elements of sensemaking in organisations gained significant attention as a fundamental concept for research on sensemaking in different areas of leadership management and its effects on organisational phenomena.

The framework includes “identity, retrospection, enact sensible environments, social activities, meaningful cues, and plausibility”. These elements are discussed in detail below.

2.1.1.1. Identity

The identification of individuals is central to sensemaking in organisations, leading to entrepreneurial mindsets. As per Weick's (1995) perspective, identities can be regarded as the pivotal point of convergence between the processes of sense-making and power discourse. Identity, which encompasses personal, social, and organisational dimensions, plays a fundamental role in shaping individuals' self-concepts, worldviews, and behaviours because the unique contexts of individuals within an organisation, as captured by their social positions, are crucial ingredients for their sensemaking regarding the organisational change (Lockett et al., 2014). People’s identities influence their thoughts, values, and actions, acting as a lens through which sense-making occurs; identity allows individuals to construct coherent narratives that align with their self-identity by guiding attention and cognitive processing

(Vough, Brianna and Maitlis,2020). According to Schildt, Mantere and Cornelissen (2020), scholarly literature consistently demonstrates that identity plays a significant role in shaping individuals' quick reactions, as they tend to rely on cognitive shortcuts that reinforce their self-concept and dismiss information that challenges their deeply held beliefs. In view, personnel in the private education sector must possess a comprehension of identity and sensemaking in order to cultivate entrepreneurial mindsets.

From a group perspective, according to the research conducted by Hay, Parke and Aleksandra Luksyte (2021), the collective perception of employees towards the failure of organisational change was found to be significantly associated with their sensemaking process concerning their work identity. This process comprised four distinct categories, namely” Identity Loss, Identity Revision, Identity Affirmation, and Identity Resilience”, each exhibiting distinctive cognitive, emotional, and behavioural tendencies (Hay, Parke and Aleksandra Luksyte, 2021). Additionally, identification with specific groups, organisations, or social categories further aids sense-making by determining the affiliations and shared meanings individuals adopt. The perception of an organisational issue originated an individual and then shared within the organisation and externally outside an organisation (Weick, 1995). The concept of identity involved a range of traits such as attributes, self-experiences, beliefs, and mental constructs of an organisational issue, as well as influences from external interactions, has a significant impact on one’s sensemaking and is reciprocally influenced by it (Cristofaro, 2022). Research by Lee and Rees (2020) indicated that the implications of organisation development (OD) show various subjective realities that are viewed by staff at different levels suggesting that when implementing OD to transform the organisational or corporate culture, it is vital to identify the current norms and practises within the existing working culture as they have shown to influence the construction of employees' identities. This research emphasised that OD initiatives aimed at fostering entrepreneurship and business growth in HEPEIs should consider the impact of prevailing institutional working norms and practises on the employees’ identities.

From the perspective of entrepreneurship and sensemaking, in state of just based on issues with resource constraints and access to capital, new ideas in entrepreneurship is better explained by investigating the controlling factors in one’s attitudes and decision-making,

which are often influenced by personal aspirations and perspective of their identity (Cunningham and Anderson, 2018). The cognitive processes, decision-making abilities, and actions of an entrepreneurial individual are significantly influenced by their self-concept, which is shaped by various psychological and social identity factors (Heinze, 2013). It is argued that the implementation of entrepreneurial ideas is heavily impacted by the reciprocal influence of socio-institutional context in which it operates (Roche, 2011). Empirical studies have shown that various human traits, such as proactiveness, behavioural control and aspiration, forwardness, self-efficacy in entrepreneurship, amiableness, and openness to experience are highly correlated with entrepreneurial intentions (Kwapisz et al., 2022). It is important to understand that entrepreneurship is a phenomenon that is highly deep-rooted in social behaviours, cultural uniformity, sociodemographic factors, and the influence of the entrepreneurial expectations and experiences that create perceptions about entrepreneurship (Martinez-Martinez, 2022).

Therefore, acknowledging the interdependence of identity, sensemaking, and entrepreneurship can facilitate the development of entrepreneurial mindsets, business growth, and innovation organisations. Investigating these dynamics can aid in the formulation of tactics and programmes that leverage identity and sensemaking to foster entrepreneurial mindset and commercial prosperity in the realm of business success.

2.1.1.2. Retrospection

Retrospection is the base for sensemaking, the process of investigating and reflecting on past experiences such as the recollections of good or bad memories and experiences provide a great opportunity for sensemaking (Weick, 1995). O'Connell (1998) stated that Weick's studies showed that effective strategic planning and actions frequently needs leaders' ability to develop coherent narratives that corresponds with current situations, rather than relying on divine foresight to attain future objectives. Individuals offer a valuable perspective on organisations culture and facilitate the comprehension of their encounters within their entity, the action of retrospection is very much ingrained into sensemaking actions, as it enables one to reflect on past experiences and ascertain their important significance and serves as a roadmap for future objectives (Wetzel and Dievernich, 2014; Dawson and Sykes1, 2019). Therefore, retrospection is important as part of a planning for future growth by assisting

organisations understand their strengths and weaknesses for improvements, enabling organisations to make informed strategic actions and design effective growth trajectory. .

Disparities between real-time and retrospective perspectives point out the cognitive biases and show differences in one's views of how things have changed over time (Gover and Linda, 2018). Change for better organisational or business performance are achieved via a progressive phase of perceiving, interpreting, organising, and executing adjustments, which involves the refining of directives and intentions from higher management through individual and collective interpretation and interaction with one another (Wetzel and Dievernich, 2014). Therefore, understanding cognitive biases and the differences between real-time and retrospective perspectives can help inform effective change management strategies considering an organisation's individual and collective interpretation and interaction frameworks.

Retrospection as a process of learning from critical events in entrepreneurship involves effective decision-making and is characterised by both situated learning and cognitive development; it is an important factor in increasing stakeholders' ability to exert influence (Ucbasaran et al., 2013; Song, He and Zhang, 2017). Lattacher and Wdowiak (2020) indicated that learning from failure and understanding the types of lessons that, when applied, can help an entrepreneurial person bounce back from setbacks and succeed in the future is important. The cultural transfer perspective suggests that leaders tend to reproduce cultures that they have previously encountered. On the other hand, the functionality view states that cultures are influenced by environmental changes, therefore, good cultures shaped by leaders allow organisations to effectively address to the challenges of their environments (Kim, Toh and Baik, 2022). A study by Rauch and Hulsink (2023) showed that the evaluating just one significant event can impact entrepreneurial decisions. These findings indicate that retrospection, which involves introspection and deliberating b of past experiences and previous decisions, is important in effective sensemaking. Through the practice of retrospection, one can acquire precious knowledge and insights allowing deeper comprehension in assessing decision-making procedures and implement informed actions for future actions.

In view, retrospection is a critical element in the context of business expansion within companies. This facilitates the evaluation of the efficacy of previous experiences, events, schemes, and tactics by organisations in nurturing entrepreneurial behaviours and propelling commercial growth performance. Through the actions of deeper evaluation of past events, organisations can enhance their methodologies, leverage their advantages, and rectify any shortcomings. The practice of retrospection allows organisations to identify their areas of strength, weakness, and potential for improvement. This information can then be used to inform the institution's strategic decisions and future direction.

2.1.1.3. Enacts sensible environments

As per Weick's third property of sensemaking, the term "enact" refers to the action of individuals in constructing a segment of the environment they are presented with to establish a favourable and conducive environment that fosters efficient sensemaking procedures for future action (Nardon and Hari, 2022). By enacting sensible environments, businesses can enhance their ability to make sense of complex and ambiguous situations, gather diverse perspectives, and generate insights that inform future actions (Blakcoria and Psychogios, 2021; Andrews, 2021).

The employees, who are the individual sense makers and the key actors of work activity, have the potential to be empowered as collective subjects of learning and transformation agents for their work (Ala-Laurinaho, Kurkia and Abildgaardb 2017). The notion of establishing sensible environments to comprehend a situation is intricately associated with problem-solving theory, particularly with regard to the identification of pertinent components or factors in a problematic scenario (Massey and Clapper, 1995). A study by Heinze (2013) found that the process of sense-making among entrepreneurs who experience failure is significantly impacted by the manner and degree to which other individuals are impacted by the occurrence of failure. Enacting sensible environments is a proactive approach that allows individuals to align their actions with their goals, values, and aspirations. Nonetheless, according to Weick (2020), when it comes to enactment, the experience can be trusted, but when it comes to selection, the 'familiar' enactment should be interpreted with caution. Thus, by consciously selecting a specific domain of activity, individuals can concentrate their

endeavours and allocate their resources towards areas of significance to them, where they possess the potential to effect change.

As a group, according to Ala-Laurinaho, Kurkia and Abildgaard et al. (2017), the act of modelling future work, as viewed through the lens of sensemaking, has the potential to offer novel interpretive frameworks that may be collectively enacted. By enacting a sensible environment, organisations can create a supportive context that facilitates effective sensemaking and collaboration among stakeholders (Blakcoria and Psychogios, 2021). It is found that insensemaking, “affective atmospheres”, which is the emotional mood that surrounds an individuals impacted by physical traits, perceptions, and interpersonal communications can influence individual's cognitive and affective reactions to stimuli and circumstances in the organisation (Vitry, Sage and Dainty, 2020; Joy et al., 2023). Therefore, the creating of a conducive organisational environment is vital to foster the emergence of workable frameworks that promote shared comprehension and coordinated action through the application of sensemaking framework. This includes the establishment of a setting that promotes unrestricted discussions, cooperation, and the interchange of varied views.

In terms of entrepreneurship, Blanka (2019) found that organisations can foster a rational environment by giving employees strategic autonomy to investigate and pursue intrapreneurial ventures within predetermined parameters, thereby creating a sensible environment that fosters understanding and interpretation, encourages entrepreneurialism, and fosters new ideas.

By creating a conducive environment that values and promotes sensemaking, organisations can empower employees to effectively navigate challenges, identify opportunities, and contribute to organisational success.

Organisations can improve sensemaking, understanding, and action by creating sensible environments. By supporting stakeholder sensemaking and collaboration, organisations can promote shared understanding and coordinated action. A conducive environment promotes free speech, cooperation, and diverse viewpoints. Giving employees strategic autonomy, diverse frames and interests, and the resources to understand strategic challenges can also foster an entrepreneurial environment. By encouraging entrepreneurial behaviour and

providing relevant training, organisations empower employees to overcome obstacles, find opportunities, and help businesses succeed.

2.1.1.4. Social activity.

Sensemaking is a phenomenon that occurs within a social construct when an individual's ongoing activity is disrupted by various cues (Weick, 1995; Weick, 2020). Vitry, Sage and Dainty (2020) mentioned that sensemaking can be impacted by an affective atmosphere due to interpersonal communications through socialising. According to Stieglitz et al. (2018), sensemaking is a process that is carried out largely by individuals, but individuals may seek better understanding by socialising with other individuals who possess relevant information. The implementation of organisational change is influenced by the interplay between individual social networks, sensemaking, and activity (Rogers and Vardaman, 2022). According to Ting (2023), social learning within an organisation plays a significant role in information and knowledge sharing among individuals as long as the knowledge spread does not jeopardise the current collective structure.

The process of sensemaking entails the social engagement of individuals with their surroundings, wherein they utilise their cognitive faculties to analyse and interpret information and subsequently take appropriate measures to modify the circumstances desirably (Turner et al., 2023). Dan Parrish (2023) indicated that Weick's perspective on sensemaking emphasises the role of storytelling in the organising process as a central activity to make sense of complex situations and to communicate understanding, serving as a metaphor for understanding their dynamics. Stieglitz et al. (2018) found that when people seek better clarifications in the context of sensemaking, they focus on two key areas: first, an economic view in which they strive to gather more information to improve their behaviour and outcomes; and second, a psychological perspective in which they strive to capture more data to mentally overcome past experiences. Thus, it is seen that the sensemaking process involved both social and cognitive engagement where individuals evaluate, analyse and interpret information to change their situations.

At the organisational level, the interdependent association between actors' sense-giving and sensemaking responses plays a crucial role in the integration of meaning. This is achieved

through the facilitation of a reciprocal relationship between actors' sense-giving and sensemaking responses, whereby one actor's sense-giving stimulates the other's sensemaking, resulting in subsequent sense-giving actions and the emergence of a functional process (Stigliani and Elsbach, 2018). Research by Bietti, Tilston and Bangerter (2018) stated that the act of storytelling is considered to be the foremost social activity that facilitates the process of collective sensemaking. Stigliani and Elsbach (2018) indicated that sensemaking and sense-giving involve social interaction, in the sensemaking process, people in a social setting observe, interpret, and evaluate each other's actions, which shapes their understanding issues while in the sense-giving process, people use their power and resources to act out their secondary identity and respond in a meaningful way to change how others act. Turner et al. (2023) advocated a "Multifaceted sensemaking theory" that incorporates social activity at all levels, including reasoning ("sensing, meaning-making, sense-giving, becoming, agency"), action ("future-scoping, movement, evaluation"), and transitioning during the counterfactuals stage. Hence, societal activities must offer valuable insights that emphasise the importance of social dynamics and interactions in shaping organisational sensemaking and the integration of meaning within the organisation.

The entrepreneurial sensemaking process starts with the establishment of a causal map aligned to the current circumstances. This map is subsequently sharpened through social exchanges and interactions, any validation is taken from a specific group of individuals referred to as "sense givers" (Hoyte, Noke and Mosey, 2016; Hoyte et al., 2019). It is discovered that entrepreneurial sensemaking requires the comprehension of diverse individual, social, and cultural signals by individuals, who then adjust their decisions and actions based on sensory and verbal information gathered through social interaction (Niemi et al., 2022). According to Soetanto, Huang and Jack (2018), different types of barriers lead entrepreneurial individuals to find help from various network ties, implying that people engage in sensemaking to search for the most appropriate connectors to address specific issues and challenges. Therefore, entrepreneurial individuals learn from others and enhance their ideas through social communications by tapping into the collective intelligence of others through social interactions and knowledge exchanges.

Understanding that sensemaking requires social interactions has practical impact in the context of operating a business. Sensemaking is both a social and cognitive process in which we evaluate, analyse and interpret data to modify circumstances. Socialising and engaging with people who have accurate and relevant information can assist with comprehension in sensemaking. Sensemaking in the entrepreneurial context involved the development of causal maps through social interactions and communications. Engaging in sensemaking framework and finding ideas in collective intelligence via social exchanges can assist organisation in improving their ideas and addressing specific entrepreneurial challenges.

2.1.1.5. Ongoing Process

Sensemaking is a continuous process, Rerup, Gioia and Corley's (2022) study showed that sensemaking actions can go beyond a specific event and carry-on over a prolonged period of time. Sensemaking is a continuous and complicated process in which people collaboratively develop their reality within the context of a settings that involve the interpretation of past experiences and the formation of meaningful outcomes through the attribution of meaning to situations (Weick, 1995; Kramer, 2017). It is found that individuals simultaneously shape and act to the situations they face as sensemaking is an ongoing process as change occurs gradually over a period of time (Weick, 1995; Weick, 2020).

Individuals embark on designing knowledge framework that are personally relevant in order to make sense of information of a situation (Zhang and Soergel, 2014). Individual sensemaking in organisation, according to Yngve (2022), requires a sophisticated relationship between organisational comprehension to complexity and the interpretation of data based on the impact of specific organisational rules and guidelines, and individuals often unable to completely free to determine their reasoning approach. Thus, individual exchanges allow organisation members to develop new collective interpretations of events as they occur, facilitating sensemaking and greater understanding of ongoing change and, ultimately, influencing individuals' change adoption (Hoyte et al., 2019; Rogers and Vardaman, 2022). The process of sensemaking necessitates access to concepts to interpret an event, resulting in varying degrees of plausibility as actors rationalise a prior action (Yngve, 2022; Rogers and Vardaman, 2022). Thus, individual sensemaking and monitoring over time involve building personally relevant knowledge structures, interpreting information based on organisational

responses and industry-specific guidelines, sharing ideas to develop collective interpretations, and rationalising actions in the face of changing events.

Effective sensemaking in a team necessitates the management and coordination of team efforts in order to clarify the present circumstances and forecast future scenarios while considering uncertain and cultural factors (Klein, Wiggin and Dominguez, 2010; Ivanova-Gongne and Torkkeli, 2018). It is found that over time, pooling individual mental content and physically sharing it with the team, facilitated collective engagement in organising, integrating, and refining ideas, enabling socially distributed cognition within teams (Ileana and Davide, 2012). From the perspective of sensemaking, teams must participate in task-related discussions that promote comprehending and interpreting information (Ratzmann et al., 2018). The examination of continuous sensemaking necessitates the observation and documentation of particular occurrences wherein the connotations of terms transform throughout a given period (Rerup, Gioia and Corley, 2022). This ongoing sensemaking and monitoring allows people to adapt their understanding and decision-making as they navigate changes and complexities, therefore, effective sensemaking in teams involves managing and coordinating team efforts to clarify the present and forecast the future.

In the context of entrepreneurship, according to Ratzmann et al. (2018), individuals can make sense of complex information, adapt their understanding, and ultimately drive innovation over time through continuous interaction, idea exchange, and concept refinement. Entrepreneurship plays a pivotal role in facilitating the process of development by devising and experimenting with various business models and market mechanisms over a period, thereby fostering economic prosperity (Calin, 2020). Research by Hoyte et al. (2019) indicated that certain properties related to sensemaking may become imperative at specific junctures and, hence, may carry greater significance than others at a given moment. Entrepreneurial people seek opportunities to highlight their qualities and knowledge gained over time through learning or experience and capitalise on the power of persuasion in order to strengthen relationships and sense the market position (Valimareanu and Horgas, 2021). In view, one can say that entrepreneurial people use ongoing sensemaking through interaction, idea exchange, and concept refinement to make sense of complex information, adapt their understanding,

drive innovation, and capitalise on market opportunities, contributing to economic prosperity and strengthening relationships.

Understanding sensemaking is practical for organisations. Sensemaking allows people to shape and react to their environment over time. Personal and industry-specific knowledge structures help people understand information. Sharing ideas, collective interpretations, and rationalising actions in the face of changing events are also part of sensemaking. Considering the uncertainty and cultural factors, teams must manage and coordinate efforts to clarify the present and predict the future. Sensemaking and monitoring help people and teams innovate, adapt, and seize market opportunities. Entrepreneurs benefit from ongoing sensemaking through interaction, idea exchange, and concept refinement, which helps them understand complex information, use their skills, and build relationships. It involves organisational reality construction and experience interpretation to give events meaning.

2.1.1.6. Meaningful cues

Extracting meaningful cues for effective sensemaking, Weick (1995) mentioned that it is imperative to be attentive to environmental cues, assimilate novel information, and thereby transform an inadequate map into a valuable sensemaking instrument (Ancona, 2011; Hoyte et al., 2019). Gover and Linda Duxbury's (2018) study highlights the importance of understanding contradictory and interconnected components that individuals use to interpret an uncertain environment, emphasising the role of cognitive processes like thinking and sensemaking in understanding the implications of change over time. From a cue's perspective, sensemaking evolves by considering social context, personal identity, reflections on experiences plausibility, and new elements like practical and social context, the impact of emotions and bodily experiences, power dynamics, and future-oriented retrospection while extracting and updating cues (Cristofaro, 2022).

The triggers for sensemaking can vary in intensity, from inconspicuous disruptions that individuals may rationalise, justify, or assimilate into their existing understanding to more pronounced inconsistencies between anticipated and actual events (Hay, Parke and Aleksandra Luksyte, 2021). Individuals' cognitive processes aim to achieve stability through the use of cues to establish frames of reference, which allows the frames to facilitate the

inclusion of predicates, resulting in a conceptual framework that organises our collective and historical experiences (Holt and Cornelissen, 2014). Sensemaking is triggered by both minor disruptions and significant discrepancies, and the phenomenon of paradox emerges when individuals interpret emotions, organizational procedures, environmental signals, and research discoveries (Gover and Linda, 2018). Christianson's (2019) study suggests the process of updating occurs when additional cues are presented, but only if the individuals involved in the updating process are receptive to these cues and evaluate the likelihood of the hypothesis derived from the new cues in relation to the likelihood of the current belief. The findings indicate that minor interruptions to major discrepancies have an influence on personal interpretation of situations and events. People use these signals to interpret and comprehend their past experiences and form cognitive structures that influence reality perceptions. Individuals' interpretations of these cues may lead to contradictions and affect their sensemaking process.

The study by Lee and Rees (2020) showed that employees at different levels construct their own subjective realities, influenced by the prevailing norms and practices (cues) within the organisational culture. According to Uijen (2016), the importance of impact one's personal perspectives as part of and their experiential learning in group sensemaking cannot be overstated, as compared to just depend only on external models. This suggests that when implementing OD initiatives to change the organisational culture, it is vital to identify and address the current organisational norms and practices that have shaped employees' identities. Cristofaro (2022) pointed that to encourage better cooperative sensemaking with a group, it is critical to acknowledge the interdependence of one's emotions, cognitive associations, and the sensemaking process by cultivating collective comprehension and facilitate proficient communication. Thus, the findings indicate that in group sensemaking, individuals determine their realities subjected to the influence of organisational cues, emphasising the importance of one's perspectives and experiential learning.

Hoyte et al.'s (2019) argument suggests that entrepreneurial individuals display cognitive cause maps, which include a set of cues that they identify and prioritise as vital for implementing tasks associated with their novel business ideas. Cunningham and Anderson (2018) suggested that new entrepreneurs should try adapting to environmental signals and

reconstructing their operational processes, besides a strong belief in traditional ways and practices. Ng and Clercq's (2021) study indicate that the tendency of workers to generate great ideas can be influenced by their interpretation of contextual cues caused by employees' perception of signals in the working environment significantly attributed to individual organisation. Cues contribute significantly in the sensemaking process of establishing an entrepreneurial venture, allowing individuals to create causal maps, improve ideas, and exchange concepts via sense-giving and sensemaking cycles (Hoyte et al., 2019; Cristofaro, 2022). The study shows that cues does play a vital role in shaping the cognitive considerations of entrepreneurial individuals as they find ways to comprehend and interpret their business ventures. Entrepreneurs' cognitive maps, leadership agility, adaptative strategies, idea creations, and knowledge sharing within entrepreneurial ecosystem are influenced by various signals (cues), including contextual cues and the meaning attributed to one's initiative.

Understanding cues in sensemaking can assist to operate an organisation. Organisations can better manage uncertainties and challenges by acknowledging cognitive influences in thinking and sensemaking. Individuals can use environmental signals and new data to make informed decisions. This means accepting openness towards minor disruptions and major inconsistencies in organisational practices, business procedures, and customers' interpretations. Individuals can develop personal perspectives through experiential learning and collaboration by acknowledging cues' effects on sensemaking. Entrepreneurial employees can use cues to identify and prioritise key decisions for their innovative initiatives, adapt to environmental signals, and adapt traditional methods and practices into their operational procedures.

2.1.1.7. Plausibility

The role of plausibility and intuition in sensemaking is a strategic framework that requires the interpretation, assignment of meaning, and selecting the choice of actions. The study of sensemaking appeared to prioritise plausibility over accuracy, and its effectiveness can be influenced by external circumstances (Weick, 1995; Song et al., 2023). Sensemaking is driven by individual players who seek reasonable, coherent and memorable plausible solutions or answers that begin with interpreting environmental signals (cues) and establishing plausible

explanations to assign meaning to develop appropriate workable actions (Rogers and Vardaman, 2022).

Individuals' behaviours within an organisation are influenced by plausible and meaningful explanations. Ala-Laurinaho, Kurkia and Abildgaardb (2017) stress the importance of developing understandings, behavioural analysis approaches, and forward-looking views in advancing the frameworks. According to Ancona (2011), the sensemaking process encompasses generating plausible interpretations and meanings, subjecting them to audit through collaboration and experimentation, and subsequently modifying or discarding ideas in favour of more effective ideas or solutions that account for a dynamic environment changes. Thus, sensemaking involves the development of a coherent and probable interpretation of one's reality to collectively develop a satisfying narrative that assist to make sense of the change, encouraging individual to act and sustain their engagement (Christianson, 2019; Rogers and Vardaman, 2022). Therefore, sensemaking in organisations is driven by individuals' need for plausible and satisfying explanations that involves an on-going developing of understanding, application of behavioural techniques, and future-focused views, generating interpretations that are examined in detail and potentially modified in response to a changing environment to create a coherent storyline that promotes change appreciations and encourages continued organisational participations.

At the organisational level, according to a study by Ala-Laurinaho et al. (2017), work communities must develop and create a coherent, plausible story where the narrative accurately reflects the prevailing circumstances and organisational environment. Plausible mapping arises from collective sensemaking within a group, and it facilitates the convergence of the team's efforts and resources towards a common goal (Ancona, 2011). According to Weick (1995) the sense-making process equates to making maps in that it devises multiple plausible alternatives of reality. Participants are more willing to participate in the sensemaking engagement and contribute to the development of a plausible solutions if they find the issues relevant and meaningful (Seidl and Werle, 2018). Thus, to effectively create and direct behaviours towards a task or a cause, the probable and convincing narratives must align with the collective experiences of its associates while also allowing for necessary adaptability to evolve as the circumstances unfolds (Sherman and Roberto, 2020). These arguments suggest

that, in order for sensemaking to work in a workgroup, they must develop a credible and cohesive understanding of the situations that is reflective of the organisational context. These studies showed that collaborative sensemaking can facilitate towards common goals by investigating diverse scenarios and nurturing team cohesion. The depth and breadth of engagement can be increased by having agendas that are relevant and meaningful while encouraging constructive behaviour with the use of discussions that align with shared organisational cultural experiences. This will facilitate the agility to changing circumstances.

In entrepreneurship, the shifting focus of sensemaking between cognitive considerations and workable practice results in enactments such as new products ideas or novice ventures, after which entrepreneurial individuals frequently think of plausible accounts of their experiences to influence others' sensemaking by employing language, metaphors, and rhetoric as tools (Hoyte et al., 2019). According to Song et al. (2023), their studies indicated that the sensemaking process, which prioritises plausibility over accuracy, is vital in allowing organisations to navigate regulatory and technological challenges in order to promote innovation for effective change and adapt to changing situations. Perhaps, one of the famous existential crisis studies is Weick's concept of "cosmology" incidents (Weick, 1993) which states that when faced with a "cosmology" event, organisations rely on sensemaking to reestablish an understanding of their world, creating plausible answers to explain the dramatic changes and help restore confidence and order. Organisations can survive and manage episodes of melt down by creating plausible explanations, even in the face of intense uncertainty and challenges (O'Grady, Ortons and Christensen, 2018). To help businesses improve their readiness and adaptability in any highly uncertain, low-success outcomes, but high-impact situations, Derbyshire (2022) advocated for the use of plausibility-based scenario planning, which is similar to Weick's (1995) approach of developing plausible narratives rather than perfectly projecting outcomes. Therefore, sensemaking, which prioritises plausibility over precision, is essential in entrepreneurship and innovation, providing a strong method for organisations to navigate challenges and promote positive change; this is especially useful in managing extreme uncertainties and high-impact situations, transforming existential happening into opportunities for strategic planning, actions and development.

Plausibility in sensemaking enables firms to solve and negotiate the complexities of organisational internal and external challenging environments, nurturing an innovation, adaptability, and resilience organisational culture. Management will be in a better position to engage stakeholder understanding and expectations by having plausible narratives about their strategic actions and decisions. This helps to align the with the organisation's vision and objectives. The emphasis on plausibility rather than accuracy caters for better flexibility and agility, making organisations more resilient to unforeseen challenges and enhanced the capability of capturing emerging opportunities. Furthermore, based on plausibility-scenario planning, leaders can actively improve business preparedness for highly uncertain and potentially high-impact events, thereby improving overall resilience for strategic success. Thus, plausibility in sensemaking is a strategic key action for organisations to manage an increasingly volatile and unpredictable business landscape.

2.1.2 Sensemaking Applicability in Educational Institutions

The various studies on sensemaking showed that sensemaking is a dynamic process that could enable individuals and organisations in HEPEIs to address complexities and uncertainties by constructing meaning through these seven elements. Table 1: Summary of sensemaking elements, actions, and outcomes (adapted from Weick, 1995; Cristofaro, 2022) indicated that the notion of:

- “Identity (ID)” exerts a significant impact on the self-conceptions and actions of individuals, thereby playing a crucial role in shaping entrepreneurial mindsets and decision-making processes (Stigliani and Elsbach, 2018; Rerup, Gioia and Corley, 2022). HEPEI leaders can differentiate themselves from publicly funded competitors by promoting a strong sense of organisational identity. For example, emphasising HEPEIs' roles as credible alternative education providers who develop students' unique skills can help them build a distinct brand. Such self-conception helps to strengthen mutual trust between leaders and employees, establishing alignment between organisational goals and strategic actions.
- The act of “Retrospection (RS)” enables the analysis of previous occurrences and personal encounters, thereby offering valuable perspectives to make informed and calculated choices (Wetzel and Dievernich, 2014; Dawson and Sykes¹, 2019; Hay,

Parke and Aleksandra Luksyte, 2021). HEPEI leaders can reflect on past student recruitment trends, regulatory changes, or EduTrust audit challenges (Training Partners Gateway, 2020) to identify areas for improvement while reinforcing strengths. Reflecting on successful university partnerships, for example, can provide insights into developing new collaborations, allowing HEPEI to create new programmes, sustain enrolment, and generate additional revenue streams in a competitive Singapore PEI market.

- “Social Interactions (SI)” enhance collaborations, helping leaders create a shared understanding of organisational challenges and align efforts toward collective goals (Rogers and Vardaman, 2022; Turner et al., 2023). For HEPEIs, this could imply encouraging cross-departmental collaboration and cooperation to address quality assurance compliance or student engagement issues. For example, collaborative efforts to streamline student orientation processes can improve clear information updates about regulatory adherence across academic, student support, and administration, resulting in higher student satisfaction and increased trust, credibility, and performance.
- “Enact Sensible Environments (SE)” promotes a supportive framework for efficient comprehension by establishing an environment that fosters open discourse, collaboration, and diverse perspectives (Blakcoria and Psychogios, 2021; Andrews, 2021). HEPEIs could foster an environment that encourages employees to participate in decision-making to improve strategic planning. For example, involving academic faculty and administrative support in discussions about regulatory changes or developing innovative course offerings results in more comprehensive and innovative solutions.
- The “Ongoing Process (OP)” provides a continuous process to facilitate the organisational adaptability to make necessary adjustments in response to evolving situations and allows the continuous examination and re-examination of information, past experiences, and cues (Zhang and Soergel, 2014; Ivanova-Gongne and Torkkeli, 2018; Yngve, 2022). This element is critical for HEPEIs to stay competitive, especially when dealing with fluctuating student visa approvals. For

example, HEPEIs admission should constantly monitor and track international student mobility trends and be prepared to adjust marketing resources, plans and strategies in response to market demands to sustain their student enrolments and revenue bases.

- The steps of extracting “Meaning Cues (MC)” from past and current information leads to better comprehension of issues and facilitates leaders’ ability to make informed decisions (Ancona, 2011; Hoyte et al., 2019; Cristofaro, 2022). HEPEI leaders can identify emerging opportunities or threats by analysing signals from marketplace, cues such as changes in global student mobility trends, changes in government policies, competitors’ programme offerings and marketing activities. Recognising the growing changes and demand for Artificial Intelligence (AI) skills and knowledge, as well as hybrid learning formats, could prompt HEPEIs to develop innovative courses, adjust pedagogy, and delivery methods to attract tech-savvy students.
- “Plausibility (PI)” drives intuition as a driving force in the development of logical interpretations and the navigation of ambiguous situations (O’Grady, Ortons and Christensen, 2018; Derbyshire, 2022; Song et al.,2023). HEPEI leaders often encounter uncertainties and market volatility caused by unpredictable policy changes, unknown student visa approval rates, or market shifts. The emphasis on plausible interpretations will help leaders make timely decisions to mitigate risks or seize opportunities. For example, during the abrupt dissolution of the Committee of Private Education (CPE), the PEI regulatory governing unit since 2010, on October 1, 2009, to shift direct responsibility to the SkillsFuture Singapore (SSG) statutory board (SkillsFuture Singapore, 2024), HEPEI leaders can use intuition to prioritise and strengthen compliance activities while maintaining a focus on quality assurance standards and business continuity.

From the perspective of HEPEI, these seven elements are useful to ensure that leaders can respond effectively to operational challenges, make informed decisions, and foster organisational resilience in adapting to strategic challenges in Singapore’s PEI sectors.

Table 1: Summary of Sensemaking Elements, Actions and Outcomes (adapted from Weick, 1995; Cristofaro, 2022)

Sensemaking elements	Actions	Outcomes
Identity (ID)	Constructions of identity	Recognise and understand the importance of personal and organisational identity.
Retrospection (RS)	Reflection on events	Engage in introspection and examine past events and experiences to make sense of them.
Social interactions (SI)	Collaboration with people	Foster social interactions and collective activities to shape shared understanding and meaning.
Enact Sensible Environment (SE)	Enacting a conducive environment	Enacting sensible environments to construct a favourable context that supports an effective interpretation of situations
Ongoing process (OG)	Continuous analysis and reanalysis	Continuously adapt and refine sensemaking processes over time to navigate complexities.
Meaningful Cues (MC)	Extraction of data	Gather and interpret meaningful cues from the environment to inform sensemaking activities.
Plausibility (PI)	Developing reasonable and coherent explanations	Leverage the power of plausibility and intuition to navigate uncertainties, foster innovation, and influence others' sensemaking processes.

2.1.3 Key Debates and Conflicts in the Application of Sensemaking

As discussed above, sensemaking appeared to have become a strong concept in entrepreneurial decision-making, supporting leaders to address ambiguity, and uncertainty and interpret complex organisational and business environments (Weick, 1995; Cristofaro, 2022). However, its application in entrepreneurship is subjected to certain contests, with arguments and debates surrounding its social, cognitive, and contextual dimensions within its business environment. The following will discuss these conflicting views on sensemaking in entrepreneurial decision-making by addressing some of sensemaking's practical concerns, theoretical ambiguities, and contextual dependencies.

2.1.3.1. Theoretical Tensions: Rationality vs. Intuition in Sensemaking

One area of debate in entrepreneurial sensemaking is whether a leader should follow an intuitive or a rational approach. Traditional views by Fisher and Neubert (2023) argue that entrepreneurs tend to use logical, structured decision-making supported by analytical reasoning and strategic forecasting for plausible solutions. However, Hoyte et al. (2019) argue

that sensemaking is largely an intuitive and reflective (retrospective) process, where they construct meaning after decision-making and not through deliberate planning. This challenges the classical rational decision-making model, emphasising the role of emotions, heuristics, and cognitive biases (Cristofaro, 2022).

Recent empirical research suggests that decision-making within an enterprise context is a combination of both rational and intuitive components, influenced by environmental complexity and previous experience (Ng and Clercq, 2021; Song et al., 2023). Entrepreneurs use retrospective sensemaking to justify decisions made after the fact, creating stories that are consistent with organisational goals (Weick, 2020). Wade and Griffiths (2022) argue that overreliance on intuition can lead to thinking distortions, overconfidence, and confirmation bias, reducing decision-making. Additionally, Knight et al. (2024) indicated that atmosphere and affective dynamics also play a role in entrepreneurial sensemaking, where decision-making styles are also influenced by collective moods and organisational culture.

2.1.3.2. Social vs. Cultural Influences on Entrepreneurial Sensemaking

Scholars have also pointed out that another contested area in sensemaking is the area of social vs. individual process. Although Weick's (1995) original framework has framed sensemaking as a phenomenon that is socially constructed, some research, such as Cunningham and Anderson (2018), state that business decision-making is largely centered around individual and influenced by their identity, ambitions, and level of risk tolerance.

On the contrary, Ribeiro-Soriano and Kraus (2018) and Turner et al. (2023) both found that decision-making is group-based and socially embedded that involved interactions with stakeholders, investors, and networks influencing decision and actions. A study by Joy et al. (2023) on entrepreneurial teams indicated that collective sensemaking supports better shared knowledge that reduces uncertainty in critical decisions making. Conflicting views by Christianson (2019) and Stieglitz et al., (2018) argue that overly dependence on group social signals causes “groupthink”, where people tend to conform to dominant group perspectives that decrease efforts in exploring more innovative ideas.

For example, Fisher et al. (2022) study based on venture capital funding rounds, they observed that entrepreneurs and investors often have conflicting perspectives of the venture’s potential,

leading to interpretation and decision-making gridlock. This conflict is even more profound in culturally diverse teams, where differing worldviews and cultural values can hinder cohesive and conclusive sensemaking (Stam et al., 2022).

From a cultural point of view, studies found that cultural diversity impacts how people engage in sensemaking. Means and Mackenzie Davey (2023) and Vu (2023) found that organisations with multicultural work groups interpret business challenges differently, impacting shared sensemaking. It has been discovered that sensemaking strategies that work in a Western context may not always work in other cultural and organisational environments and that staff diversity frequently incorporates individual beliefs into decision-making, increasing the complexity of the sensemaking process (Vu, 2023).

2.1.3.3. Practical Conflicts: Sensemaking as an Adaptive vs. Fixed Process

Business often encounters highly unstable environments, requiring leadership agility and operational adaptability. Recent studies establish that sensemaking is an adaptive and continuous process, and leaders need to have on-going process to monitor in order to revise their strategies based on new information (Weick, 2020; Penttilä et al., 2020). This contradicts the research by Gover and Linda (2018) and Uijen (2016), who found that sensemaking can become inflexible and fixed when one hold tightly to initial interpretations and end up having resistance to updating their cognitive construct when encountering further changes. This observation is particularly evident in startup founders' behaviour, where they hold on to outdated data and assumptions and is indifference to clear warning signs due to their strategic stagnation (Kim, Toh and Baik, 2022).

Moreover, there is also an ongoing argument regarding the effectiveness of storytelling or narratives in entrepreneurial sensemaking. It is noted that business leaders frequently develop believable (plausibility) but selective stories or narratives to attract investors and convince stakeholders (Derbyshire, 2022). Recent research by Knight et al. (2024) also found that corporate culture, style of leadership, and power dynamics have added influence to the complexity of the discussion. While storytelling does improve legitimacy and could mobilise operational resources, used unethically, it can also risks distorting the truth, causing false-

positive, unrealistic expectations and reduces effective decision-making (Christianson, 2019; O'Grady, Ortons and Christensen, 2018).

2.2. Entrepreneurial Orientation (EO) in Organisational Context

The concept of Entrepreneurial Orientation (EO) is a crucial component in the study of entrepreneurship, encompassing the cognitive and strategic affinity of both individuals and organisations attitudes towards entrepreneurial behaviours (Montiel-Campos, 2018). The concept of EO encompasses multiple dimensions, including the inclination for individual's proactive behaviour, one's risks-tolerance appetite, tendency towards novelty, self-discipline and regulation, and assertive competitiveness (Cho and Lee, 2018; Filipowicz and Okreglicka, 2021). The available evidence indicates that implementing EO has a positive influence on multiple aspect of firm performance including enhanced innovation and growth.

According to Wach, Głodowska and Maciejewski (2018), the traditional view of EO originally only have three dimensions: (1) proactiveness, (2) risk-taking, and (3) innovativeness (Miller, 1983; Covin and Slevin, 1991). Lumpkin and Dess introduced the inclusion of two other dimensions namely (4) autonomy and (5) competitive aggressiveness (Lumpkin and Dess, 1966). Scholars have indicated that the level of EO in an organisation is influenced by the behaviour of staff and management, as well as an organisation's entrepreneurial activities. Covin and Slevin (1991) mentioned that EO refers to an organisation's strategic orientation toward entrepreneurial behaviours and activities.

From a management perspective, entrepreneurial orientation (EO), according to Liu and Xi's (2022) study, reveals a significant association between the Chief Executive Officer's (CEO) entrepreneurial orientation and firm performance, indicating that EO exerts a substantial influence on the overall functioning of organisations. Shahzad et al. (2022) found that EO and innovation performance are positively correlated and sequentially influenced by employee behaviour and organisational dynamics. By understanding and leveraging the dimensions of EO, managers can make informed decisions to enhance the performance and growth of an organisation, especially in the face of rapid and unpredictable changes in the business environment (Sorama and Joensuu-Salo, 2022).

EO is seen as a strategic decision-making style and specific practises that an organisation uses to differentiate themselves from its competitors (Montiel-Campos, 2018). According to Mondal and Chakrabarti (2021), their research identified that the adoption of EO is a strategic attitude that requires a willingness to take risks, be proactive, and preference for innovation towards a positive effect on the overall performance of an organisation. Soares and Perin (2020) and Gupta, Mortal and Yang (2018) found in their studies that there is a strong positive and direct correlation between the implementation of EO and organisational performance. It has been established that possessing an organisational entrepreneurial orientation is a vital in gaining successful performance outcomes, such as the development of novel products, excellent financial and intangible business advantages, and elevated social performance (Cho and Lee, 2018).

Therefore, in general, EO in an organisation can be said to be a strategic decision-making style and distinctive practices employed by firms to differentiate themselves, characterised by a willingness to take risks, a proactive approach, and a propensity for innovation, leading to improved organisational performance and outcomes.

2.2.2. Principles of EO, Debates and Conflicts in the Application of EO Elements

Lumpkin and Dess (1996) popular conceptual model are used by many scholars to investigate and study EO interventions and the EO elements' direct and indirect impacts on a firm's performance that are often subjected to environmental and organisational influence (Korpysa, 2019; Filipowicz and Okreglicka, 2021; Mondal and Chakrabarti, 2021; Mostafiz, Hughes and Sambasivan, 2022). Based on the study of Lumpkin and Dess (1996), the Five Dimensions of EO model comprises the following dimensions:

- Autonomy (AT)
- Innovativeness (IN)
- Risk Taking (RT)
- Proactiveness (PA)
- Competitive Aggressiveness (CA)

The conceptual framework of EO, adapted from Lumpkin and Dess (1996) and Mondal and Chakrabarti (2021), is depicted in Figure 3: The five dimensions of EO (adapted from Lumpkin and Dess, 1966; Mondal and Chakrabarti, 2021) are discussed below.

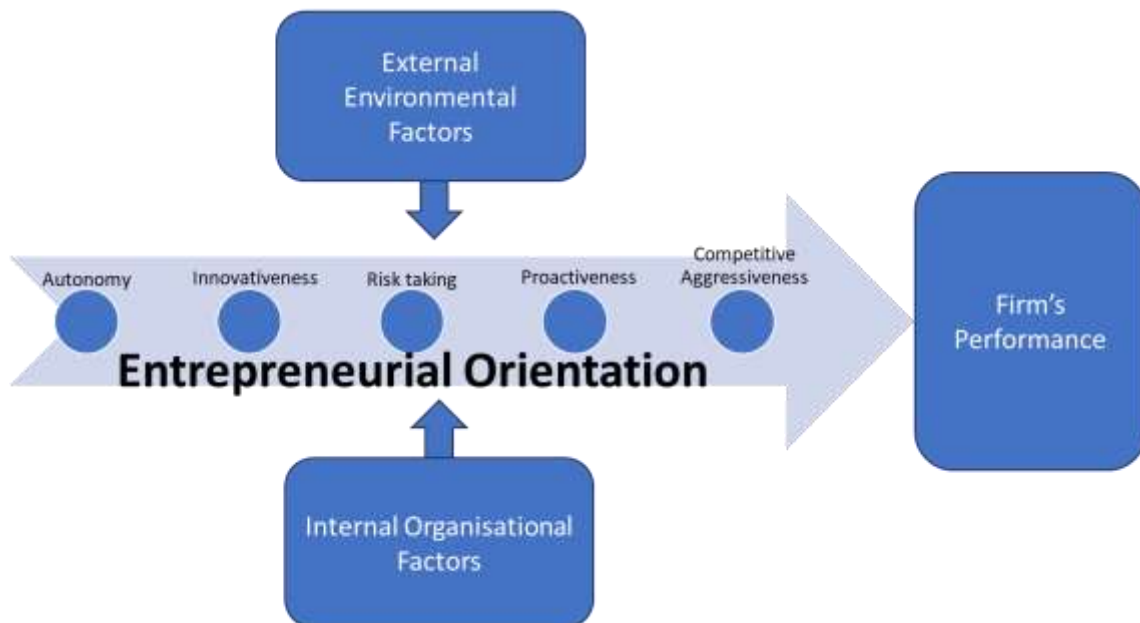


Figure 3: The five dimensions of EO (adapted from Lumpkin and Dess, 1966; Mondal and Chakrabarti, 2021)

EO

has generated increasing interest in strategic management and entrepreneurship since the 1980s (Soares and Perin, 2020). The term "entrepreneurial orientation" (EO) has been utilised to denote the approach and manner in which firms that undertake entrepreneurial activities engage in their strategy-making processes (Lumpkin and Dess, 1996; Lumpkin and Dess, 2001). EO is a term used to define the methods and approaches used by an organisation to improve its tendency towards entrepreneurial activities (Lim and Kim, 2019).

2.2.2.1. *Autonomy (AT) of EO*

EO's autonomy is defined as an individual or organisation's ability to independently establish and execute decisions and actions to pursue any given opportunities (Korpysa, 2019). Autonomy fosters individual's proactive and innovative behaviour in EO, according to Lumpkin and Dess (1996). Recent studies have shown that autonomy drives strategic adaptability and business decision-making (Wach, Głodowska and Maciejewski, 2018; Mostafiz, Hughes and Sambasivan, 2022).

Lama et al. (2024) argue that autonomy helps entrepreneurs respond faster to market changes and innovation opportunities by allowing them to act independently of external barriers. This supports Doblinger and Class (2022), who state that autonomy fosters entrepreneurial proactiveness and business competitiveness. Entrepreneurial psychology research also shows that autonomy motivates and empowers employees to take on challenges (Usadha et al., 2022).

Autonomy benefits entrepreneurship but affects its effectiveness in industry sectors, company size, and cultural context (Hakala, Sirén and Wincent, 2016; Katsaitis and Zampetakis, 2024). The Jankelova (2022) study warns against excessive autonomy, stating that a lack of coordination and accountability causes organisational inefficiencies, strategic misalignment, and entrepreneurial team conflicts. Others believe autonomy boosts staff resilience by reducing organisational rigidity and improving adaptability in difficult situations (Messikh, 2023).

The contextuality of autonomy in EO determines how decision-making aligns with organisational structure and strategic priorities. Chuyala (2022) found that autonomy accelerates innovation and experimentation in high-growth, technology-intensive industries, making firms more competitive in fast-changing markets. Autonomy causes unpredictability, decreasing efficiency and organisational order in traditional businesses that value stability and standardised processes (Ozigi, 2024).

Recent studies show that autonomy and social capital influence entrepreneurial outcomes (Lama et al., 2024). According to Usadha et al. (2022), autonomy allows staff to make independent decisions, but networking and collaboration are still essential for resource management, market intelligence, and organisational resilience. Thus, autonomy should be considered part of an entrepreneurial framework that includes networking, proactiveness, and innovation (Doblinger and Class, 2022).

In addition, institutional and cultural factors affect autonomy greatly. In cultures that value collectivism and hierarchical decision-making, autonomy may be reduced or require structural changes (Wach, Głodowska and Maciejewski, 2018). However, individualistic cultures and

decentralised business environments encourage entrepreneurial independence and self-initiative (Hakala, Sirén and Wincent, 2016).

EO relies on autonomy for innovation, strategic agility, and decision-making flexibility. Its impact depends on the industry, organisational structure, and culture.

2.2.2.2. Innovativeness (IN) of EO

According to Lumpkin and Dess (1996) and Wales, Covin and Monsen (2020), innovativeness in EO is defined as an organisation's commitment to promoting organisational creativity, encouraging experimentation, and pursuing novel ideas targeted at creating new products, services, and best practices. EO foundation is essentially driven by innovation, proactiveness, and risk-taking, and several studies have found a compelling positive relationship between EO and organisational performance outcomes (Gupta, Mortal, and Yang, 2018; Mondal and Chakrabarti, 2021; Mostafiz, Hughes and Sambasivan, 2022).

The ability of firms to innovate continuously is an important determinant of an organisation's competitive advantage and long-term sustainability (Hernandez-Perlinsa et al., 2020). The element of innovativeness in EO involves developing new products as well as rethinking business models, improving operational efficiency, and enhancing adaptability to business changes (Putri & Affandi, 2024). Organisation that prioritises innovation-driven EO actions are found to have better market positioning, higher customer satisfaction and improvement in loyalty, and enhanced organisational resilience in changing business environments (Hernandez-Perlinsa et al., 2020). However, while some studies stated that innovativeness in EO increases competitive advantage (Jankelova, 2022), others argue that innovativeness could potentially cause resource limitations, increased financial risk, and barriers that comes with failure rates due to market unpredictability and unsustainable cost structures (Kaouache et al., 2024). This contradicts the conventional view that innovativeness directly leads to business growth and success.

It is observed in industry-specific research s that the positive impact of innovativeness depends on the type of industries and sectors. For example, in the hospitality sector, companies that have higher levels of EO-driven innovation demonstrate better business differentiation and customer experience, satisfaction and engagement (Hernández-Perlins et

al., 2020). However, in high-tech industries, companies have to work at balancing EO-driven risks with strategic resource management to avoid financial losses due to unsuccessful innovations (Kiyani and Ijaz, 2024). Suder's (2024) study shows that businesses with continuous excessive EO-driven innovativeness increase innovation fatigue, as it could disrupt organisational stability and strategic focus. Similarly, Putri and Affandi (2024) state that fast innovation cycles can cause managerial burnout and staff disengagement, particularly in resource-constrained smaller businesses. In contrast, Kaouache et al. (2024) state that moderate levels of EO-driven innovativeness are proven to give more sustainable growth patterns. This view aligns with Wales, Covin and Monsen (2020), who prefer that companies aim for a strategic equilibrium between revolutionary and gradual innovation within EO frameworks.

Innovativeness in EO promotes business agility and competitive advantage, but its success depends on sectoral and organisational circumstances, requiring a balanced, context-specific strategic approach.

2.2.2.3. Risk-taking (RT) in EO

Risk-taking as an element of EO looks at a firm's propensity to take high-risk ventures, make substantial resource investments without guaranteed returns, and take bold strategic initiatives (Miller, 1983; Covin and Slevin, 1991; Wales, Covin and Monsen, 2020). Risk-taking is a key attribute in EO, just like innovativeness and proactiveness, and it plays an important role in shaping organisational performance and competitive advantage (Gupta, Mortal and Yang, 2018; Mondal and Chakrabarti, 2021; Mostafiz, Hughes and Sambasivan, 2022).

Risk-taking in EO has always been about companies pursuing new business opportunities, investing in innovation, and undertaking a good level of financial commitments despite the presence of uncertainty (Cho and Lee, 2018). The traditional view suggests that companies with a high degree of EO are more willing to take risks to achieve higher or superior outcomes (Miller, 1983). Recent research counters this classic view by suggesting that risk propensity should be balanced with business environmental scanning and strategic decision-making to avoid negative outcomes (Li and Ahlstrom, 2019). Using prospect theory, Li and Ahlstrom (2019) find that cognitive biases and subjective probability assessments significantly influence

decision-making under uncertainty, showing new entrepreneurs' willingness to take higher risks in low-probability situations due to overconfidence in potential growth, while experienced entrepreneurs take fewer risks. This demonstrates that there is a learning process and that people use cognitive shortcuts when making risk-oriented decisions. In addition, Bernoster, Mukerjee and Thurik (2020) highlight the role of affect in entrepreneurial risk-taking, indicating that positive affect increases people's risk-taking, while negative affect leads to lower risk-taking behaviours and decision-making. Such findings suggest that one's emotions could actively influence risk-taking propensities, particularly in making high-stress business decisions and uncertain environments.

While EO studies generally agree on the importance of risk-taking, empirical studies vary in business and organisational contexts. Wales, Covin and Monsen (2020) state that risks boost firm performance by encouraging innovation and market growth. However, Kock and Gemünden (2021) warned that over-risking can drain precious resources, misalign strategy, and expose finances. (Nawaiseh et al., 2023) and Li and Ahlstrom (2019) agreed that risk-taking in EO is vital and should be measured along a range by adjusting risk strategies based on previous successes and failures rather than treated as an acceptance or rejection mode, emphasising adaptive risk management. Bernoster, Mukerjee and Thurik (2020) suggest that leaders in high-regulatory environments have lower-risk appetites than those in less restrictive environments. Given the conflicting perspectives on risk-taking, scholars emphasise the need for a balanced approach that aligns risk propensity with strategic foresight (Wales, Covin and Monsen, 2020). Kock and Gemünden (2021) propose that firms should engage in calculated risk-taking by considering the impact of market intelligence, leveraging core capabilities, and using real-time decision-making frameworks.

Overall, the arguments on risk-taking in EO is seen as context-dependent, influenced by the industry, cultural, and technological factors shaping its influence on business performance. While risk-taking is necessary as a driver of EO, it is noted that aggressive risk-taking or uncalculated risk taking can lead to business failure. Therefore, organisations should adopt enterprising and learning-oriented actions to risk-taking, encompassing cognitive, emotional, and strategic dimensions into their decision-making processes.

2.2.2.4. Proactiveness (PR) in EO

Proactiveness in EO is a firm's ability to take initiatives faster than competitors by having the capability to identify, pre-empt, and capture market opportunities before competitors do (Cho and Lee, 2018; Chen et al., 2020). According to Mostafiz, Hughes and Sambasivan (2022), it is a vital component of EO, allowing firms to push for forward-thinking strategies that drive competitive advantage. According to Gupta, Mortal, and Yang (2018), proactiveness, along with innovation and risk-taking, plays a significant role in shaping business and organisational growth and performance.

Recent studies, such as Milovanović (2023), indicate that proactiveness is extremely important for firms operating in an uncertain and highly competitive marketplace, as it allows leaders to be ahead of industry and business trends and adapt to consumer needs and demands. Empirical evidence suggests that firms with more proactive employees tend to show extremely good financial outcomes, driven by organisational innovativeness resulting in new products caused by engaging in strategic forecasting (Chew, 2024). However, Knezović et al. (2023) caution that excessive proactivity may lead to over-investment in risky ventures and may impact long-term business sustainability.

The extent to which proactiveness improves business performance across industries and contexts is disputed. EO studies show that proactiveness leads to market leadership and better organisation performance, but Ogundare and Merwe (2024) found that regulatory changes, company size, and market conditions also matter. In line with this view, Satar, Alshibani and Alarifi (2024) found that bureaucratic barriers make it hard for SMEs in highly regulated markets to turn proactiveness into business results.

Additionally, the global digital transformation has complicated organisational proactiveness. According to Satar, Alshibani and Alarifi (2024), firms needing digitalisation must be proactive in to scope of new technologies to meet fast-changing consumer preferences. However, Chew (2024) found that proactiveness in digital transformation may backfire if strategic agility is not used to act ahead of competitors and adapt quickly to changing needs. Another view from Satar, Alshibani and Alarifi (2024) mentions that the effectiveness of proactiveness is

influenced by the depth and breadth of strategic knowledge management (SKM) within organisations to capitalise on proactive initiatives to capture the full benefits of proactiveness.

Traditional views support the strategy that firms who proactively pursue opportunities enable them to differentiate themselves in the market and sustain long-term growth (Jiang, Wang and Jiang, 2019). Recent research by Ogundare and Merwe (2024) also supports the view that proactive businesses are in a better position to create new market niches, enhance customer relationships, and go beyond incremental innovations. However, Milovanović (2023) argues that organisations should be cautioned by balancing proactiveness with strategic risk monitoring, as aggressive proactivity without a careful market feasibility study can lead to overstressing a firm's resources.

However, proactiveness is deemed by scholars as playing a critical and pivotal role in enhancing organisations' EO in achieving innovation, competitive advantage and digital transformation. Its effectiveness is influenced by external and internal factors, such as regulatory environments, the digital landscape, and knowledge management abilities.

2.2.2.5. Competitive Aggressiveness (CA) in EO

Competitive aggressiveness within EO refers to the intensity of efforts with which companies are willing to challenge competitors in the marketplace, either by overtaking competitions using innovative price leadership strategies or aggressive expansion actions (Lumpkin and Dess, 1996). Paulus and Hermanto (2022) state that competitive aggressiveness determines a company's ability to proactively pre-empt and tackle business threats, ensuring market leadership and sustained growth. This EO component is often associated with EO's autonomy and is a topic of scholarly debate due to its importance in industries and organisational contexts (Wach, Głodowska and Maciejewski, 2018).

Several studies established that competitive aggressiveness is an essential success determinant of business performance. According to Chelliah, Aravindan and Muthaiyah. (2023), CA is a key driver of SME success when using competitive market positioning, cost strategies, and aggressive pricing to sustain profitability and establish strong market penetration. Similarly, Gjorevska (2023) mentions that CA contributes in promoting faster market adaptation, enabling companies to adjust quickly and effectively to business changes

and industry disruptions. Milovanović's (2023) study indicates that CA is a necessary and effective strategy when organisation faced intensive competitions.

However, some scholars challenged CA's advantages, indicating that overly used of CA may result in diminishing returns. According to Heena and Bedi (2022), companies that aggressively use CA strategies, such as entering into price wars or market exclusiveness, could cause long-term uncertainty, creating a negative impact, including resource depletion and risk to branding. Kiyani and Ijaz (2024) suggest that companies should strive to balance competitive aggressiveness with strategic collaboration to mitigate possible market saturation and internal inefficiencies.

Recent studies indicate that competitive aggressiveness does allow companies to gain strategic benefits by way of enhancing their brand equity and recognition in the marketplace. Kusa (2023) indicates that CA helps firms develop strategies to proactively differentiate their products and service offerings, particularly for businesses that have high technological innovation. Supporting this view, Dele-Ijagbulu, Moos and Eresia-Eke. (2021) states that businesses using high CA levels are shown to have outperformed their competitors when they leverage strategy with aggressive marketing, invest in R&D, and establish strong product differentiation in the marketplace.

However, according to Paulus and Hermanto's (2022) recent research, excessive CA, such as hyper-aggressive market actions, may lead competitors to engage in strong retaliatory strategies, such as legal disputes, or implement unsustainable aggressive price reductions. Furthermore, Gercans (2021) cautioned against excessive use of CA because it may create barriers to useful collaborative opportunities and business partnerships, limiting long-term growth. Nonetheless, Chelliah, Aravindan and Muthaiyah (2023) stated that when combined with innovation and proactiveness, CA improves business positioning and allows for strategic agility, acting as a key mediator between EO and company performance. Despite the fact that CA is effective for short-term gains, Kiyani and Ijaz (2024) argue that it should be combined with adaptive business models to ensure long-term success. Milovanović (2023) found that organisations that use a balanced CA strategy, combining competitive pressure and cooperative market behaviour, outperform those that rely solely on aggressive competition.

While competitive, aggressive strategy is a vital EO factor that boosts firms' business performance and competitive resilience, CA outcomes vary by context. CA should be balanced with sustainable market strategies to avoid resource overinvestment and industry resentment. Integrating CA with innovation, proactiveness, and cost leadership strategies is a way to maximise CA's effectiveness, keeping organisations competitive and adaptable over time.

2.2.3. Exploring the Interrelationship Between EO Elements and Sensemaking in HEPEI Leadership Decision-Making

Each EO dimension in its respective uniqueness contributes to organisational agility in decision-making; however, their impact could be strengthened through sensemaking. The following are possible mutual interconnections between EO and Sensemaking elements as illustrated in Table 2: Entrepreneurial Orientation (EO) Dimensions and Strategic Interventions for HEPEI Leadership:

2.2.3.1. *Autonomy and Identity:*

Autonomy in EO is defined as giving an individual or a group the freedom to take independent action in various decision-making (Lumpkin and Dess, 1996). This aligns with Weick's (1995) framework of identity, where individual leaders define their roles in relation to their strategic choices. In this aspect, for HEPEI leaders, autonomy is crucial in developing innovative activities, collaborative partnerships and academic programmes that distinguish their private education institutions from competitors (Mondal and Chakrabarti, 2021). HEPEI Leaders must define their institutions' unique value propositions (USP) to differentiate themselves in a competitive private education market. Autonomy allows them to drive strategic decisions that align with their institution's mission while fostering academic and operational independence (Lumpkin and Dess, 1996; Mondal and Chakrabarti, 2021).

2.2.3.2. *Innovativeness, Meaningful Cues and Plausibility:*

Innovativeness in EO drive the development of new products, services, or processes to achieve competitiveness (Gupta, Mortal and Yang, 2018). This element links to Weick's Sensemaking's Meaningful Cues, where individual leaders interpret external signals to identify operational and business directions and needs (Cristofaro, 2022). From the perspective of HEPEI leaders, they have to monitor industry trends, student needs, and private education regulatory

changes to innovate effectively. Innovativeness in HEPEI involves the pursuit of new educational models, digital transformations, and pedagogical advancements (Gupta, Mortal and Yang, 2018). Through Plausibility, HEPEI leaders assess the feasibility and potential impact of new initiatives, ensuring that innovations align with institutional strengths and regulatory constraints (Cristofaro, 2022).

2.2.3.3. Risk-Taking, Retrospection and Plausibility:

EO's Risk-taking pushes for investment in high-uncertainty opportunities with the aim for potentially high returns (Miller, 1983). Weick's (1995) Plausibility element allows individual leaders to assess if it's worth taking the risk based on available data and information. In this aspect, Weick's (1995) Retrospection involves reviewing past failures and successes to help leaders refine risk-taking strategies, such as accreditation renewals and programme development of HEPEI (Cristofaro, 2022). This learning experience enhances HEPEI leaders to balance robust ideas and bold initiatives with pragmatic decision-making and actions. With this notion, HEPEI leaders need to frequently embark on calculated risks decisions launching initiatives such as differentiated curriculum offerings, market expansion strategy and international student recruitment partnerships, relying significantly on historical data to justify decisions in a retrospective approach (Mondal and Chakrabarti, 2021).

2.3.3.4. Proactiveness and Enacting a Sensible Environment:

Proactiveness in EO requires organisation pre-empting and anticipating future opportunities by acting early instead of reacting to market situations and conditions (Cho and Lee, 2018). This aligns with Weick's (1995) framework element of "Enacting a Sensible Environment", where leaders strive to create favourable environmental conditions to encourage positive change management (Cristofaro, 2022). In this aspect, HEPEI leaders need to proactively seek out potential growth opportunities and trends, such as technological trends, employment skills needs and industry-partnership collaborations, to maintain competitiveness and student demand relevance. By Enacting a Sensible Environment, HEPEI leaders can drive an education ecosystem conducive to change, allowing proactive ideas, such as curriculum adaptation and student experience strategies, to take effect seamlessly across the HEPEI (Cristofaro, 2022).

2.2.3.5. Competitive Aggressiveness and Social Interactions:

Competitive aggressiveness in the EO's key objective is to create a strategy that can outperform the competition (Paulus and Hermanto, 2022). This connects with the Social Interactions of Weick's (1995) sensemaking framework, as implementing competitive strategies is often influenced by stakeholder engagement and driven by market forces (Cristofaro, 2022). In this aspect, HEPEI leaders need to significantly engage with university partners, industry collaborators and recruitment agents, leveraging strategic alliances to strengthen HEPEI's market positioning. HEPEI institutions must actively engage industry stakeholders to maintain competitive positioning (Paulus and Hermanto, 2022). Social interactions facilitate knowledge exchange, collaboration, and strategic alliances that empower institutions to adopt an aggressive market stance while leveraging partnerships for growth (Cristofaro, 2022). Through effective sensemaking, HEPEI leaders can foster an entrepreneurial culture that enhances institutional adaptability and long-term viability. Table 2: Entrepreneurial Orientation (EO) Dimensions and Strategic Interventions for HEPEI Leadership, the following provides a summary:

Table 2: Entrepreneurial Orientation (EO) Dimensions and Strategic Interventions by HEPEIs

EO Dimension	Sensemaking Element	Strategic Interventions by HEPEIs	References
Autonomy	Identity	Encouraging HEPEI leaders to look at their institution's Unique Value Proposition (USP) to differentiate their HEPEI. Giving autonomy in decision-making for curriculum innovation and strategic partnerships.	Lumpkin and Dess (1996); Mondal and Chakrabarti (2021)
Innovativeness	Meaningful Cues, Plausibility	Monitoring the trends of the HEPEI in student preferences, sector demands, and related regulatory changes. Creating better educational models and digital transformations. Assessing feasibility of innovations against organisational strengths and compliance needs.	Gupta et al. (2018); Cristofaro (2022)
Risk-Taking	Retrospection, Plausibility	Encouraging calculated risks in programme development, curriculum design, market expansion, and international student recruitment. Learning	Miller (1983); Weick (1995); Cristofaro (2022); Mondal and Chakrabarti (2021)

		from previous experiences to refine risk strategies.	
Proactiveness	Enacting a Sensible Environment	Identifying future growth opportunities such as technological changes, skills demand, and partnership collaborations. Creating a conducive work environment for possible change engagement.	Cho and Lee (2018); Cristofaro (2022)
Competitive Aggressiveness	Social Interactions	Collaborating deeper with university partners, industry partners, and student recruitment agents to enhance market positioning. Building strategic alliances and promoting an entrepreneurial organisation culture.	Paulus and Hermanto (2022); Cristofaro (2022)

2.3. Growth Mindsets of Entrepreneurship (GME) in Organisational Context

The concept of the growth mindset, made popular by psychologist Carol Dweck, refers to the belief that one's cognitive abilities can be developed through self-disciplines effort, life-long-learning, and perseverance (Sharma, 2021). Researchers have demonstrated that individuals who possess a growth mindset tends to have a heightened tendency to accept challenges with enthusiasm, persistence towards overcoming obstacles, and view failures as opportunities for growth and progress (Burnette et al., 2020; Dang and Liu, 2022). In addition, studies have consistently showed the need of cultivating a specific mindset if one wishes to have entrepreneurial success. This mindset promotes the growth of vital qualities such as resilience, agility, and a willingness to enter into a calculated risk-taking venture (Billingsley et al.,2021).

The field of mindset research started from the exploration of learning strategies used by individuals within an educational institutional context (Caniëls, Semeijn and Renders, 2018). The term "Growth Mindsets" in the study of EO refers to the strategic decision-making and actions taken and the specific operational practises implemented by a company to gain a competitive advantage over competitions (Montiel-Campos, 2018). Therefore, it is important to explore this element within the context of entrepreneurship related activities to better comprehend the relations of growth mindsets within an entrepreneurial framework.

There exists a large body of research that studies the definition of "Entrepreneurship". As argued by Prince, Chapman and Cassey (2021), the current definitions of entrepreneurship encompass a diverse range of concepts including views that entrepreneurship consist of the identification and exploitation of opportunities, the creation and operation aspect of enterprises, the ability to address uncertain circumstances, and the obvious tangible aspect of going after financial gains. The aforementioned definitions encompass a range of viewpoints that are representative of the broad spectrum of perspectives within the realm of entrepreneurship, which also transcend its boundaries. Nevertheless, the notion of EO entails the requirement for a proper mindset among individuals and organisations. This is because the impact of an entrepreneurial mindset on the process of sensemaking can result in heightened entrepreneurial perceptions, actions, and outcomes (Shepherd & Patzelt, 2011).

According to Blanka (2019) study has exhibited that main values associated to the entrepreneurial value construct are ones 'perseverance, ambition, creativity, risk-taking, and optimism, seen as key impacts on the successful entrepreneurial outcomes of innovation. These successful outcomes are also determined to be directly correlated to leadership, creativity, personality, intelligence, and entrepreneurial aptitude. It is found that the adoption of a growth mindset in employees is closely linked to these values, requiring organisations to enhance the needs of staff and a greater tendency to offer support (Rogers et al., 2023). Moreover, it is shown that organisations entrepreneurial mindset success is influenced by factors, such as financial resources availability, social networks, inquisitive behaviours, and responses to performance (Fatima and Bilal, 2019). These factors will require leaders exhibiting leadership competency, thinking innovatively, and taking advantage of individual personality traits, intelligence, and entrepreneurial capabilities. Critically, the ability to identify opportunities, a vital element of entrepreneurial performance, is greatly impacted by the influence of individual leaderships and contextual elements. This underpins the importance of leadership, creativity, personality traits, intelligence, and entrepreneurial aptitude in optimising the potential of an individual and organisation as a whole for achieving success (Alim et al., 2022).

The field of mindset research investigates the understanding that human abilities are not predetermined or fixed (Dweck and Yeager, 2019). Thompson (2020), citing the work of Dweck

and Leggett (1988), defines the framework of growth mindset as the belief that people have to potentially improve their skills through their own efforts. This belief promotes a positive view on future development towards people's ability to strategically assign their efforts towards achieving desired goals and outcomes. According to Dweck and Yeager (2019), the concept of the growth mindset defines human abilities are not fixed but rather possess the capacity for improvement through ongoing learning and development. The impact of growth mindsets is suggested to be dependent on one's perception of what opportunities can bring in promoting personal growth and development for both themselves and those they support (Rogers et al., 2023). Mindsets have been accepted as key factor in organisation performance evaluations, coaching and training of employees, performance of staff and leaders, performance negotiations, exhibit of enthusiasm, and satisfaction with both work and life (Caniëls, Semeijn and Renders, 2018).

Many scholarly studies have observed that individuals who have good growth mindset are perceived to have attributes such as intelligence and future potential, they are seen as adaptable and subject to improvement through diligent effort and effective strategies. On the other hand, individuals with a fixed mindset are viewed as resistant to change, thereby exhibiting a decreased willingness to learn from their mistakes (Caniëls, Semeijn Renders, 2018; Bligh, Kohlesb and Yan, 2018; Burnette et al., 2020; Zhaoa et al., 2021). According to Bligh, Kohlesb and Yan (2018) studies indicate that individuals who have growth mindsets tend to view negative feedback as more valuable and less frightening. Consequently, they are more willing to give more effort to understand, comprehend and incorporate feedback into their job. While individuals with fixed mindsets show the opposite actions to negative feedback. Rogers et al. (2023) indicated that the existence of a growth mindset within the organisation is associated with an increased inclination among staff to prioritise and support coworkers and exhibit a willingness to help.

Therefore, the growth mindset points to an individuals' strong belief in their capacity to improve their abilities through personal efforts, improving themselves in areas such as performance, training, leadership, and overall job satisfaction.

According to Kuratko, Fisher and Audretsch (2021), having an entrepreneurial mindset allows individuals to create original ideas, skilfully overcome obstacles, create inventive solutions, and actively leverage on opportunities. Asenge, Diaka and Soom (2018) state that possessing an entrepreneurial mindset enhances one's ability in acquiring, assessing, and choosing right knowledge, which allows individuals to identify and pursue potential business opportunities. In view, this can also improve entrepreneurial outcomes, such as the performance of a firm. The study conducted by Abun et al. (2022) established a positive relationship between entrepreneurial mindset, organisational environment, and individual work performance. Reinforcing, a study conducted by Ersarı and Naktiyok (2022) also determined that there is a positive correlation between an entrepreneurial mindset and both entrepreneurial leadership and business performance.

The interconnected dimensions of cognition, behaviour, and emotions that make up the entrepreneurial mindset impact one another and are influenced by the environment in which they are expressed (Kuratko, Fisher and Audretsch, 2021). A study by Giotopoulos, Kontolaimou and Tsakanikas (2017) indicated that the influence of the perception of business opportunities on the occurrence of high-quality entrepreneurship holds particular significance in times of unfavourable economic circumstances.

The ability to recognise opportunities, a propensity for taking risks, creative thinking and innovation, a forward-looking perspective, critical thinking and problem-solving abilities, as well as effective communication and collaboration skills, are all parts of an individual's entrepreneurial mindset, according to Staicu (2021). Similar observations were made by Chen et al. (2020), who claimed that the entrepreneurial mindset includes a focus on entrepreneurial leadership and orientation skills that are exemplified by qualities like passion, persistence, foresight, initiative, creativity, and a willingness to take risks. The ability to quickly perceive, react, and organise resources is thus referred to as having an entrepreneurial mindset, even in circumstances marked by ambiguity and unpredictability (Kwapisz et al., 2022).

In view, the entrepreneurial mindset participates actively in generating innovative concepts, addressing changes and challenges, and seizing growth opportunities, which are impacted by

interrelated factors of individuals' cognition, behaviour, and emotions. All of which impact ones' knowledge and skills collections, organisational performance, and the conducive work environment.

According to the research conducted by Pidduck, Clark and Lumpkin (2021), the formation of opportunity beliefs in individuals with an entrepreneurial mindset entails the amalgamation of cognitive, affective, and introspective aspects that align with a recognised objective opportunity. Similarly, Kuratko, Fisher and Audretsch (2021) indicated that interventions aimed at enhancing entrepreneurial mindsets should encompass “cognitive, behavioural, and emotional” dimensions, as depicted in Figure 4: Thinking, Acting, and Feeling Aspect of Entrepreneurial Mindsets (Kurato et al., 2021)

- The cognitive aspect - pertains to the utilisation of mental models by entrepreneurial individuals for the purpose of cognitive processing (“Thinking”).
- The behavioural aspect - refers to the way individuals with entrepreneurial inclinations actively engage in the identification and pursuit of opportunities (“Acting”).
- The emotional aspect - pertains to the subjective experiences and feelings that individuals with an entrepreneurial mindset encounter within the entrepreneurial context (“Feeling”).

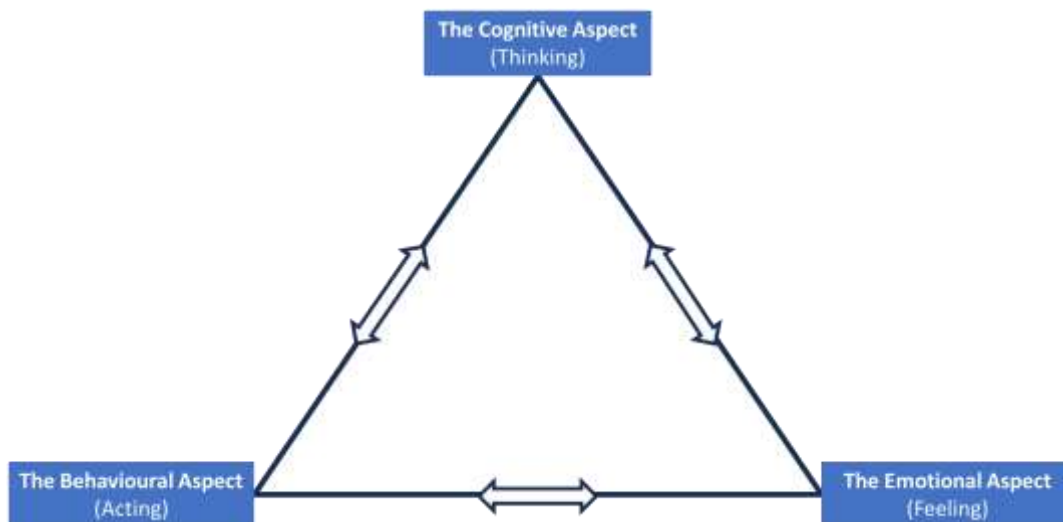


Figure 4: Thinking, Acting, and Feeling Aspect of Entrepreneurial Mindsets (Kurato et al., 2021)

Li, Ozdemir and Heslin (2022) have observed that in circumstances characterised by resource constraints, the implementation of growth mindset interventions presents a viable and

economically efficient strategy for cultivating entrepreneurial qualities among employees. The growth mindset interventions can cultivate the belief that personal qualities can be developed (Burnette et al., 2022b). Organisations can derive substantial advantages from interventions that target the enhancement of "Interest, Ideation, and the utilisation of Emotion and/or Perseverance" within the organisational context, with the ultimate goal of fostering entrepreneurial intentions, according to the findings of Kwapisz et al. (2022).

The aforementioned scholarly research indicates that promoting growth mindsets among individuals and organisations can yield advantages to fostering innovative thinking, engaging in calculated risk-taking, and achieving organisational success. This underscores the significance of managers embracing a growth mindset and implementing interventions to promote entrepreneurial behaviour and cultivate an entrepreneurial culture. According to Burnette et al. (2022a), interventions aimed at promoting a growth mindset have been found to effectively cultivate stronger growth mindsets and, to a certain extent, influence psychological and behavioural processes associated with desired outcomes.

2.3.1 Principles of GME, Debates and Conflicts in Applications of GME

Billingsley et al. (2021) coined the term Growth Mindsets of Entrepreneurship (GME) to include research on both growth and entrepreneurial mindsets. A growth mindset holds that people can improve their skills and abilities through hard work and smart strategies

(Thompson, 2020). An entrepreneurial mindset allows people to create new ideas, overcome challenges, and take advantage of opportunities (Kuratko, Fisher and Audretsch, 2021). Rogers et al. (2023) found that both mindsets affect workplace growth and advancement.



Figure 5: Growth Mindset of Entrepreneurship (adapted from Billingsley et al., 2021)

Above, Figure 5: Growth Mindset of Entrepreneurship (adapted from Billingsley et al., 2021) depicts the theoretical framework. Leadership, creativity, personality, intelligence, and entrepreneurial ability affect GME, according to this framework.

Billingsley et al. (2021) define "mindsets" as a variety of motivations, competencies, and cognitive mechanisms that distinguish entrepreneurs from non-entrepreneurs. In entrepreneurship research, the five elements of the entrepreneurial mindset (leadership, creativity, personality, intelligence, and entrepreneurial ability) of GME are often mentioned as components in nurturing an organisations' culture of entrepreneurial orientation and growth mindsets. These mindsets are discussed below demonstrating their impact on HEPEI leaders' entrepreneurial decision-making success:

2.3.1.1. Mindsets of Leadership

Nielsen et al. (2019) study indicated a positive correlation between effective leadership and employees' entrepreneurial intentions and the tendency to initiate innovative ideas. Effective leadership in GME was characterised by initiative taking, exhibiting a pioneering mindset, and showing of proactive behaviour. Han and Stieha (2020) study stated that the demonstration of growth mindsets in leaders in a workplace has a positive impact on the organisation, particularly to encourage the instilling of engagement among subordinates. Valimareanu and Horga (2021) study observed that organisations exhibiting transformational system within the context of entrepreneurship, where the process is characterised by the interdependence of the quality of this growth mindsets and organisational leadership, will significantly improves competitiveness and organisational advancement. Therefore, according to Han and Stieha (2020), a corelation exists between a growth mindset and transformational leadership, leading to a significant improvement in overall employee engagement.

The mindsets of leaders within HEPEIs is critical in navigating the highly uncertain and regulated business environment of the private education sector. There is need for HEPEI leadership to drive organisational innovation, improve student experience and foster closer strategic collaborations. Zhang et al. (2023) study of leadership mindsets within Chinese corporations indicated that a leader's growth mindset can develop organisational resilience by transforming corporate culture that encourages innovation and strategic agility. However,

Zhang et al. (2023) stated that care must be taken to make sure that leaders are not being overconfident and underestimating the risk involved causing leaders to overlook operational limitations. In the context of HEPEI, these views are vital in balancing academic quality standards, regulatory demands, audit compliance, and market competitiveness.

Similarly, a recent study by Arham et al. (2023) supports leadership that puts a growth mindset as a core component alongside adaptability and emotional intelligence based on a study of post-pandemic leadership resilience in Malaysian SMEs. In HEPEIs, we can argue that a growth mindset drives leaders to look at student-centric innovations, such as industry-aligned curricula and competency-based pedagogy. Nevertheless, Arham et al. (2023) state that in some areas, rigid organisational structures and a fixed mindset would still be beneficial, such as certain administrative policy areas, to maintain stability and regulatory compliance.

Amit et al. (2024) pointed out that leaders who encourage a growth mindset will have more innovative staff that are more proactive in decision-making. In the view of HEPEIs, this is important when promoting collaborations with industry stakeholders, designing forward-thinking courses and enhancing student employability outcomes. However, Amit et al. (2024) caution that leaders who overly focus on strategic adaptability and continuous expectation to adjust to evolving trends and improvement may experience decision fatigue.

Despite the many studies confirming the significant advantages related to having a growth mindset in leadership, such as the studies by Stieha (2020) and Valimareanu and Horga (2021), conflicting views exist (Zhang et al., 2023; Amit et al., 2024). Nevertheless, together, these perspectives confirmed the importance of a growth mindset applicability in the context of HEPEI leadership, reinforcing its critical role in encouraging entrepreneurial initiatives, strategic adaptability and organisational resilience in the dynamic HEPEI operating environments.

2.3.1.2. Mindsets of Creativity

According to study by Kwapisz et al. (2022), there is a consistent and significant positive relationship among entrepreneurial employees when it comes to ideation, entrepreneurial action, and entrepreneurial intent. This finding indicates that creativity is a leading attribute often observed among these entrepreneurial individuals. In addition, according to research

by Karwowski et al. (2019), the cultivation of a character to focus on the engagement towards innovation pursuits is linked to the cultivation of a growth mindset towards creativity (Han and Stieha, 2020). Therefore, in HEPEI, it can be stated that fostering creative leadership is vital in overcoming regulatory challenges, resources limitation and changing market trends by designing better curriculum and student engagement strategies.

However, a study by Jeong, Gong and Zhong (2022) mentions that creativity is not a prediction for positive outcomes. Their research on employee-experienced crises indicated that an employee's creative mindset will stimulate creativity, however, it may also lead to cognitive overload increasing performance anxiety. In HEPEIs, this study provides an important insight that pointed out that overly focus on continuous innovation without having a suitable structured consideration may cause decision fatigue in staff across organisation.

Bratnicka-Mysliwiec and Ingram (2022) state that while having a creative leadership organisation fosters adaptability, explorations and experimentation, company need to have enough resources to support creativity; otherwise, resource limitations may lead to constraints that suppress creativity. This can be observed in the HEPEI, where leaders facing external revenue concerns are unable to access to any government funds and often face budgetary problems reducing the likelihood of implementation of novel ideas. The study conducted by Valimareanu and Horga (2021) demonstrated that current organisations often encounter a lack of resources, particularly in the area of "human capital," which encompasses the of lack of leadership in developing concepts, expertise, entrepreneurial mindset, and innovation. Thus, while a growth mindset promotes creativity, level of resource availability influences innovation effectiveness.

Blanka's (2019) research finds a significant positive correlation between higher levels of creativity impact the increased levels of idea generation. To engage in innovative entrepreneurship, Giotopoulos, Kontolaimou and Tsakanikas (2017) suggest that individuals need to have good environmental data and information, have the needed creative abilities, and demonstrate novelty in their initiatives. However, a study by Tkacz, Agirre-Aramburu and Lizartza-Martin (2023) offers a conflicting view, they state that intrapreneurship with a high degree of innovative-orientation tends to create modifications to enhance existing business

environments rather than truly creating brand new market disruptions. This finding is a critical observation that has a direct influence on HEPEIs, where HEPEI leadership has to balance creative initiatives with business feasibility and organisational transformations.

Despite these debates, the importance of a creative mindset in HEPEI leadership remains vital for HEPEIs (Kwapisz et al., 2022; Karwowski et al., 2019). Nevertheless, organisation need to prevent the uncontrollable creative initiatives as unrestrained and overly creative freedom without manageable constraints and clear goals often lead to inefficiency and disconnected outcomes in solutions (Sokol, 2024). Jeong et al. (2022) also caution against the concept that creativity alone guarantees organisational performance and success.

Therefore, HEPEI leaders need leadership agility that not only integrates a structured process to encourage creativity but making sure there are adequate resources to support the process. A balance must be struck between encouraging innovative thinking and maintaining strategic alignment.

2.3.1.3. Mindsets of personality

Studies have indicated positive correlation between the having an entrepreneurial mindset and the exhibition of various personality traits (Pidduck, Clark and Lumpkin, 2021). The influence of an individual's personality on entrepreneurial behaviours and performance has been identified in previous research (Kwapisz et al., 2022). Kuratko, Fisher and Audretsch (2021) state that individuals with an entrepreneurial inclination strive for financial autonomy, personal independence, and professional contentment. According to Pidduck, Clark and Lumpkin (2021), who referenced the research conducted by Davis, Hall and Mayer (2016), the traits associated with an entrepreneurial personality include self-confidence, independence, a preference for limited restrictions, deviation from societal norms, a willingness to take risks, a propensity for proactive behaviour, strong enthusiasm, and a strong desire for achievement.

Personality traits play a vital role in shaping entrepreneurial orientation (EO) and decision-making processes, recent meta-analysis study by Howard and Boudreaux (2024) on entrepreneurial personality identified seven core traits “innovativeness, risk-taking, achievement orientation, locus of control, proactiveness, self-efficacy, and autonomy orientation” and find that these traits significantly influence entrepreneurial outcomes,

including attitudes, intent, and business outcomes. Similarly, Alim et al. (2022) revealed that variations in personality traits, social networks, and cognitive styles exert a substantial influence on the capacity of entrepreneurs to identify and discern opportunities. For HEPEI leaders, these traits will impact decision-making autonomy and willingness to explore new educational models and determine the level of proactive adaptation to regulatory changes.

Verdú-Jover et al. (2023) state that although personality traits are important, traits like resistance to change and ability to adapt could reduce EO, as demonstrated by their study of SME CEOs, which shows that resistance to change limits adaptability, while proactive adaptation improves business performance. This finding highlights challenges for HEPEI leaders, who often need to balance stringent regulatory compliance with the need to embark on entrepreneurial innovation as workable disruptive concepts often meet bureaucratic resistance.

Resilience is increasingly being studied, Nasser's (2021) finds that the conflicts exist in entrepreneurial resilience, indicating leaders with a higher-risk tolerance may either drive success or expose organisation to vulnerabilities. While HEPEI requires leaders to have high resilience and higher risk-taking ability to address emerging opportunities, such as digital transformation, it is found that overdependence on resilience could overstretch resources in high-stake initiatives or ventures. This observation aligns with Ahmad, Ahmad and Alam (2024), who advise organisation against taking risks to capture short-term benefits over long-term business sustainability. Thus, HEPEI need to have a balance internal and external such as regulatory influences, pre-empt student preferences and manage staffs' expectations with a stabilise approach balancing workable disruptive decision-making and careful risk calculation.

Chugh et al. (2024) indicate that leaders' high self-efficacy and robust locus of control in entrepreneurial situations tend to enhance stronger leadership characteristics and resilience in addressing business barriers and challenges. In HEPEIs, these traits are vital when encouraging innovativeness in HEPEI's curriculum development or addressing academic accreditation issues. However, an overly strong internal locus of control, while taking upon higher individual accountability, may create overconfidence in leadership, reducing

collaborative opportunities and the ability to take advantage of social capital (Zhang et al., 2023; Nasser, 2021).

Personality and EO management in HEPEI leadership are not an easy area to manage. Although, Organisational pursuit of innovativeness, proactiveness, and resilience provide agility (Howard and Boudreaux, 2024), but overconfidence, resistance to change, and aggressive risk-taking pose organisation risks (Zhang et al., 2023). HEPEI leaders need to establish a good balance between entrepreneurial eagerness with organisational stability to foster a sustainable growth mindset that supports academic excellence and market positioning outcomes

2.3.1.4. Mindsets of Intelligence

According to Burnette et al. (2020), intelligence and personality are significantly considered as indispensable factors in entrepreneurship, they play a pivotal role in achieving success. According to the research conducted by Pidduck, Clark and Lumpkin (2021), the nurturing of an entrepreneurial mindset involves the understanding of one's capabilities (feasibility) and aspirations (desirability). Kuratko, Fisher and Audretsch (2021) state that the absence of proactive cognitive engagement, such as thoughts, intentions, motivations, learning, and intelligence, hinders the establishment of economic value within entrepreneurial initiatives. This argument pointed out the vital consideration and the importance of intelligence as a pivotal foundation for entrepreneurial success in HEPEI.

In addition, according to Dang and Liu (2022), leaders who see agility in exercising intelligence are more willingly to see challenging and difficult tasks as opportunities for self-enhancement and skills development. These views are essential in HEPEI, where leaders and educators must encourage innovative thinking and entrepreneurial capabilities to add value to benefit students.

Recent interest in the role of digital and financial literacy in entrepreneurship, Sirine and Indriana (2024) asserts that the integration of intelligence with digital and financial literacy, alongside problem-solving skills, enhances entrepreneurial capabilities, provided there is robust support from practical application and conducive environmental factors, including organisational support and employee exposure to the industry. Interest in emotional

intelligence is a vital component of entrepreneurial orientation. The study by Nawaz et al. (2024) on university students' entrepreneurial intentions indicates that self-regulation and emotional resilience are essential factors in entrepreneurial decision-making in addition to cognitive intelligence. This pointed out that having a variety of intelligence types are vital for HEPEI to sustain its business model and achieve success.

Another area of argument surrounds the issues of fixed and growth intelligence mindsets. According to Dang and Liu (2022), individuals with a fixed mindset often depend just on their existing cognitive strengths and avoid situations that may challenge their limitations in exercising their abilities. On the other hand, individuals who view challenges as opportunities for intellectual enrichment tend to have higher involvement in entrepreneurial activities. Despite studies indicating the importance of having a intelligence mindset, Mohammadi, Ghasemi and Sarmadsaeedi (2024) state that having intelligence alone does not guarantee success, it must be supported by competitive intelligence and strategic thinking from having industry awareness and market agility. The study indicates that HEPEI leaders should adopt a more flexible mindset in preparation for strategic adaptability and resilience when require as they are essential for survival.

Sahin and Gurbuz (2020) mention combining intelligence with cross-cultural competencies for higher greater international business success rate. This insight is especially useful for HEPEI leaders, who need to prepare students for global entrepreneurial and job opportunities. However, their research said that cognitive intelligence must combined with practical experience to take advantage of entrepreneurial learning, otherwise, it may result in theoretical learning only (Sahin and Gurbuz, 2020).

It is undeniable that intelligence is vital for decision-making, problem-solving, and innovation pursuit, but it must be supported by emotional intelligence, cultural intelligence adaptability, and practical application (Nawaz et al., 2024; Sirine and Indriana, 2024). For HEPEI, integrating intelligence with entrepreneurial strategic considerations allows more effective navigation around complex business landscapes (Dang and Liu, 2022; Mohammadi, Ghasemi and Sarmadsaeedi, 2024). Thus, improving entrepreneurial success outcomes, HEPEI leaders need

to adopt a holistic approach that includes that develop employees' cognitive, emotional, practical, and strategic intelligence.

2.3.1.5. Mindsets of Entrepreneurial Ability

Entrepreneurial ability can be defined as an individual's readiness, preparedness, and innovativeness to organise and manage a novel business venture while accepting all related risks to achieve financial goal and growth (Schultz, 1980; Cheng and Tian, 2017; Civelek et al., 2022). Sun et al. (2023) has stated that entrepreneurial ability can be developed through exposure to experiential learning, business and organisational experiences, and strategic entrepreneurship policies. These perspectives align with the growth mindset of entrepreneurship, which states that people's entrepreneurial skills and knowledge can be improved through upgrading, upskilling and continuous learning along with \ adaptive strategies (Rogers et al., 2023; Sharma, 2021).

Burnette et al. (2020) suggest that individuals can alter their perspectives of entrepreneurial ability through specific interventions and constant exposure to various business entrepreneurial ecosystems. This supports the concept that education and past experience can positively improve an individual's entrepreneurial competence. In line with this view, Sedeh, Abootorabi and Zhang (2021) recommend that organisations should have some form of mentorship, funding opportunities, and organisational support to enhance their entrepreneurial capacity. From the perspective of HEPEI, senior leaders should strive to increase the exposure of junior staff by encouraging job-shadowing opportunities to learn and also support more calculated risk-taking and provide incremental funding support for novel practical and workable ideas.

From a macro perspective, Sun et al. (2023) indicate that government policies and macroeconomic conditions can contribute to shaping entrepreneurial ability by promoting an environment conducive to business idea creation. HEPEI could explore any government incentive programmes, particularly training opportunities to develop entrepreneurial skills. This suggestion is supported by Muchaku and Magaiza's (2022) study of entrepreneurship training programmes within higher education institutions, which found significant improvement in students' confidence in their entrepreneurial abilities, thus reinforcing the

importance of structured training in contributing to entrepreneurial ability development. From the perspective of HEPEI context, training could be easily implemented as access to trainers and implementing an internal skills academy to focus on learning entrepreneurial competence are not difficult to be established.

However, conflicting perspectives on entrepreneurial education success, such as Oppedal Berge and Pires (2020), point out that structured entrepreneurship programmes that are skewed towards theoretical knowledge may not be able to translate into practical real-world applications caused by the unpredictable business environments. Agreeing with this view, Schuh et al. (2024) advise strongly against encouraging entrepreneurial ability without practical application, as it may create unrealistic expectations, potentially causing disappointment to people who aspire to be entrepreneurial. In the context of HEPEIs, entrepreneurial ability is particularly relevant as institutions not only can provide entrepreneurial competence to their own staff, but the institution could also aim to equip students with entrepreneurial skills as part of learning outcomes to face the dynamic business landscapes. For this to work, Lia et al. (2023) said support systems in enhancing entrepreneurial ability and pairing with real-world exposure to develop practical applications alongside theoretical knowledge must be in place.

Scholars have concluded that entrepreneurial ability is a vital component of business success (Schultz, 1980; Cheng and Tian, 2017; Civelek et al., 2022), however, its competence development is impacted by factors such as entrepreneurial education, policy, and practical application experiences. For HEPEIs, fostering an environment that nurtures entrepreneurial ability in the context of intrapreneurship through experiential learning and policy alignment (Berge and Pires, 2020; Schuh et al., 2024) is important to ensuring the entrepreneurial ability to address the challenging HEPEI sector.

2.3.2 Exploring Interrelationships between GME and Sensemaking in HEPEI Leadership Decision-Making

The Growth Mindset of Entrepreneurship (GME) and sensemaking complement each other's role in overall leadership decision-making within HEPEIs. Leaders should find ways by

integrating an entrepreneurial mindset with sensemaking processes to address the sector's regulatory constraints, competitions, and the evolving global educational marketplace.

According to Billingsley et al. (2021), an entrepreneurial mindset requires individual resilience, adaptability, and opportunity recognition, all of which are vital HEPEI agility. Within HEPEIs, these cognitive dimensions help to determine strategic actions for business growth. Sensemaking, as introduced by Weick (1995), offers HEPEI leaders a framework to interpret complex ambiguous situations and realities to align organisational plans and directions impacted by external and internal operational and business demands (Cristofaro, 2022).

2.3.2.1. Identity Formation and Strategic Leadership

Sensemaking involves identity development (Weick, 1995), where HEPEI leaders construct their respective roles to define their institutional vision, mission and school positioning. An employee with a well-defined institutional identity aligned with job roles will offer better student recruitment experience, design programme differentiation from competitors, and ensuring quality assurance compliance and meeting regulator's audits (Stigliani and Elsbach, 2018). It is observed that when organisations take an integrated approach to a growth mindset it encourages GME leadership towards organisational resilience, strategic agility in response to market dynamics and shifts (Sharma, 2021).

2.3.2.2. Retrospective Sensemaking and Entrepreneurial Ability

Retrospective learning as part of sensemaking allows HEPEI leaders to evaluate past strategic decisions and previous success or failure encounters, refining strategic actions for programme accreditation, student engagement, and curriculum design innovation (Wetzel and Dievernich, 2014). Reflection on experiences supports the creation of better institutional responses and better GME's Entrepreneurial Ability to market needs and government regulations (Dawson and Sykes, 2019).

2.3.2.3. Enacting a Sensible Environment for Innovation

Enactment of a Sensible Environment in a sensemaking framework refers to frequently creating organisational realities rather than passively responding to situations (Nardon and Hari, 2022). HEPEI leaders, by implementing innovative learning ecosystems, digital transformation, and partnership collaborations, can capture opportunities to foster GME's

innovativeness towards sustainable growth (Blanka, 2019). HEPEI as an “Entrepreneurial institution” will be able to proactively create supportive environments for staff, students and management to cultivate innovation and sectoral relevance.

2.3.2.4. Social Interactions and Intelligence in Decision-Making

Social sensemaking, as defined by Weick (1995), is essential for organisational leadership, enabling HEPEI leaders to actively engage staff, faculty, students, industry partners, and regulatory bodies in co-creating knowledge (Rogers and Vardaman, 2022). Having a culture of collaboration tapping into GME’s Intelligence concept allows for better development of courses and services aligned with industry needs and promotes business adaptability (Hoyte et al., 2019).

2.3.2.5 Ongoing Adaptation and Strategic Entrepreneurial Agility

The ongoing perspective of sensemaking enables HEPEIs to remain competitive in dynamic educational environments involved when there is continuous improvement (Yngve, 2022). HEPEI Leaders who exhibit GME’s Entrepreneurial Agility will continuously analyse student mobility trends, education policy changes, and technological advancements. Entrepreneurial agility supports institutions to refine strategic actions in catering to market changes and regulatory compliance needs (Ivanova-Gongne and Torkkeli, 2018).

2.3.2.6. Extracting Meaningful Cues for Innovative Decision-Making

Leaders having elements of GME often display their innovativeness by tapping on extracting meaningful cues from external environments to support innovation and institutional sustainability (Cristofaro, 2022). Identifying changes and shifts in market demand, regulatory updates, and student preferences allows HEPEIs to introduce innovative academic programmes and strategic student initiatives (Hoyte et al., 2019) to enhance organisation performance.

2.3.2.7. Plausibility, Retrospection and Personality Traits

Plausibility, as compared to absolute accuracy, underscores Weick’s (1995) sensemaking framework, often reflecting on past experiences (Rogers and Vardaman, 2022). HEPEI leaders need to establish compelling institutional narratives that align strategic goals with industry needs and policy expectations with a GME’s Personality Traits such as “Resilience”, “Risk-

Taking” and “Adaptability” This approach according to Sherman and Roberto (2020) mitigates business and operational uncertainty while allowing HEPEIs to leverage entrepreneurial opportunities. Table 3: GME Elements and Relevant Sensemaking Elements in HEPEI Leadership summarised the sensemaking principles and GWE elements that can cultivate an entrepreneurial culture in HEPEIs.

Table 3: GME Elements and Relevant Sensemaking Elements in HEPEI

Growth Mindset of Entrepreneurship (GME) Elements	Relevant Sensemaking Elements	Application in HEPEI Leadership
Leadership Mindset	Identity Formation	HEPEI leaders need to define their school’s unique positioning and strategic aims to differentiate in the private education marketplace. (Stigliani and Elsbach, 2018; Sharma, 2021)
Creative Mindset	Meaningful Cues	HEPEI Leaders recognise sectoral trends and regulatory changes to design innovative courses and better student engagement strategies. (Cristofaro, 2022; Hoyte et al., 2019)
Personality Traits (Resilience, Risk-Taking, Adaptability)	Retrospection Plausibility	HEPEI Leaders reflect on past decisions, reflect on events, balancing risk-taking with regulatory compliance and operational feasibility. (Wetzel and Dievernich, 2014; Dawson and Sykes, 2019)
Intelligence (Cognitive and Emotional Intelligence, Strategic Thinking)	Social Interaction Ongoing Processes	HEPEI Leaders’ decision-making is enhanced through collaboration with staff, faculty, students, and industry players, ensuring agility in response to challenges and changes. (Rogers and Vardaman, 2022; Ivanova-Gongne and Torkkeli, 2018)
Entrepreneurial Ability (Opportunity Recognition, Business Acumen)	Enactment of a sensible environment Ongoing Processes	HEPEI Leaders create proactive strategies and actions to implement sustainable business models, alliances and partnerships, and growth initiatives. (Nardon and Hari, 2022; Blanka, 2019)

2.4. Linking Sensemaking, Growth Mindsets of Entrepreneurship (GME) and Entrepreneurial Orientation (EO)

Entrepreneurial Orientation (EO) has been established as a strategic decision-making framework that organisations use to establish entrepreneurial opportunities and sustain competitiveness. As illustrated by the reviews of scholarly literature in this chapter, HEPEIs needs to view EO activities as vital for driving innovation, ensuring strategic agility, and responding to regulatory and market changes in recruiting students globally (Wach, Głodowska and Maciejewski, 2018; Miller, 1983; Covin and Slevin, 1991; Lumpkin and Dess, 2001). The following discussions examines how sensemaking, GME, and EO interact, with linkage to implications for HEPEI leadership

It is clear that sensemaking influences EO by identifying how people interpret opportunities and signals (cues), organisational challenges, and market forces changes (Cunningham and Anderson, 2018; Ribeiro-Soriano and Kraus, 2018). It depends on mindsets of leadership, creativity, personality, intelligence, and entrepreneurial ability to guide entrepreneurial decision-making and adaptive strategies (Nielsen et al., 2019). In short, GME affects EO through five dimensions (Wach, Głodowska and Maciejewski, 2018; Mondal and Chakrabarti, 2021; Paulus and Hermanto, 2022):

1. EO's Autonomy: It encourages independent actions through decision-making and new ideas or fostering new market exploration.
2. EO's Innovativeness: It drives originality, encourage experimentation, and create novel product or service design and development.
3. EO's Risk-taking: It enables calculated risks that is essential for entrepreneurial decision-making to capture and seek out opportunities.
4. EO's Proactiveness: It facilitates anticipating, pre-emption and acting on potential opportunities or deal with emerging issues before competitors react to them.
5. EO's Competitive Aggressiveness: It enhances market penetrations, speed in responsiveness and drives strategic competitive advantage over competitions.

In the context of HEPEI leaders, these EO dimensions are critical in creating and implementing institutional strategic actions such as embark on developing and designing innovative

curricula or courses, managing quality assurance standards and regulatory challenges, and driving overall HEPEI's growth and performance.

The five EO dimensions also support one another with autonomy influencing individual identity towards GME's Innovativeness mindset, while proactiveness allows individual in taking calculated risk, and competitive aggressiveness drives continuous market adaptation to be ahead of competitions (Wales, Covin and Monsen, 2020; Cho and Lee, 2018; Chen et al., 2020). Thus, HEPEI leadership will need to balance EO elements in decision-making while ensuring staff stay proactive to align with institutional goals for sustainability.

Sensemaking frameworks are shaped by GME, enhancing EO by allowing leaders to capture opportunities, make informed decisions and address business uncertainty. In the context of HEPEI, this means adjusting to student market uncertainties, industry-academic partnership collaborations, and student expectations while still being able to deliver financial targets and meet regulatory compliance (Gupta, 2019; Cunningham & Anderson, 2018).

A growth mindset is evidenced by studies to foster entrepreneurial behaviour by driving resilience, self-efficacy, and agility (Li, Ozdemir and Heslin, 2022; Valomareanu and Horgas, 2021). Studies indicate that entrepreneurial growth mindsets foster potential opportunity identification, risk mitigation and tolerance, and drive innovation (Nikou et al., 2019). For HEPEI leadership, this will allow the development of an organisational culture of innovation among staff, management and students, including opportunities for embedding entrepreneurial mindsets and skills into academic and administrative structures.

It is noted that managers with a growth mindset tend to drive better innovation initiatives, are more willing to face strategic risk-taking and engage more in entrepreneurial actions (Bhardwaj, Sushil and Momaya, 2011). One area is to encourage HEPEI to embark on student entrepreneurship programmes and drive industry partnerships to align with global education trends (Shen, Osorio and Settles, 2017).

Sensemaking's Identity and EO's Autonomy could see HEPEI Leadership Leaders fostering an autonomous identity among staff and students to establish an environment that promotes accountability and independent decision-making, self-directed learning, and proactive organisational leadership (Avolio et al., 2004; Wach, Głodowska and Maciejewski, 2018; Weick

et al., 2005). For example, HEPEI will encourage more academic entrepreneurship, empowering faculty in curriculum development and providing autonomy in pedagogical and delivery innovation.

Sensemaking's Meaningful Cues and EO's Innovativeness would be able to allow HEPEI to tap on understanding environmental cues to assist the institution leaders in anticipating government regulatory changes, technological enhancement needs and student learning outcomes (Lee and Rees, 2020). Sensemaking can play a vital role in strategic positioning and helps HEPEI leaders balance traditional academic delivery with innovative teaching models (Ancona, 2011). This will enable the Institutions to develop market-relevant curricula, provide foresight in accreditation standards, and adapt to digital and even Article Intelligence advancements.

Retrospection in sensemaking allows better-controlled risk-taking by helping HEPEI leaders learn from previous school decisions, revenue models, and academic policies (O'Connell, 1998; Wetzel and Dievernich, 2014). HEPEI leaders are encouraged to evaluate prior challenges to guide future initiatives, product restructurings, and accreditation processes in support of long-term strategic planning to minimise overall risks.

Plausibility in Sensemaking needs EO's Proactiveness so that HEPEI can deal with ambiguous scenarios during decision-making that need leaders to depend on intuition, experiences, and market data analysis (Sadler-Smith, 2016). In a situation where a plausibility-driven approach is needed to ensure adaptive responses to global education uncertainty and shifts (Weick, 1993, 1995), the action will assist leaders in developing business contingency plans, balancing investments in innovation with feasibility and taking pre-emptive measures for business continuity during crises.

Sensemaking's Social Activity could drive sensible EO's Competitive Aggressiveness strategy in HEPEI to strengthen market positioning in HEPEI by promoting interdisciplinary research and driving alumni networks and industry partnerships (Rogers and Vardaman, 2022). It is noted that institutions that foster knowledge-sharing enhance faculty engagement, industry relevance, and competitiveness (Turner et al., 2023) for stronger global market positioning in international student recruitment.

The ongoing process is a sensemaking element that drives GME Entrepreneurial Adaptability in HEPEI, where sensemaking is continuous to ensure organisational responsiveness to emerging trends, such as technologies, student demographics, and global accreditation standards (Rogers and Vardaman, 2022). HEPEI Leaders who embed entrepreneurial agility in their governance models and strategic frameworks help strengthen organisational resilience, improve adaptability to market shifts, and enhance long-term strategic success.

Finally, “Enacting a Sensible Environment” as a Sensemaking strategy allows HEPEI to develop a continuous learning-oriented culture (Blanka, 2019) where leaders encourage idea experimentation, employee upskilling, and student-led activities. Also, schools that create an innovation-friendly ecosystem enhance competitiveness (Weick, 2020; Seidl and Werle, 2018) and foster innovation in education delivery.

The summary of the potential links between EO, GME, and Sensemaking are illustrated in Table 4: Sensemaking, GME, and EO in HEPEI Leadership.

Table 4: Sensemaking, GME and EO in HEPEI Leadership

Sensemaking Element (Weick, 1995)	GME Element (Billingsley et al., 2021)	EO Dimension (Lumpkin and Dess, 1996; Mondal and Chakrabarti, 2021)	HEPEI Leadership Implications	References
Identity	Leadership	Autonomy	HEPEI leaders promote staff autonomy, academic governance, and decentralized decision-making to encourage entrepreneurship agility and innovation.	Avolio et al. (2004); Weick et al. (2005); Wach, Głodowska and Maciejewski (2018)
Meaningful Cues	Creativity	Innovativeness	HEPEI leaders use environmental signals to anticipate sectoral changes, emerging education trends, technology advancements, and student requirements,	Ancona (2011); Lee and Rees (2020); Cristofaro (2022)

			ensuring strategic adaptability.	
Retrospection	Personality	Risk-taking	HEPEI leaders analyse previous decisions, revenue models, and academic policies to refine strategy, minimise risks, and innovate courses and offerings.	O'Connell (1998); Wetzel and Dievernich (2014); Dawson and Sykes (2019)
Plausibility	Intelligence	Proactiveness	HEPEI leaders rely on data-driven insights, scenario planning, and adaptive decision-making to pre-emptively address challenges in higher education.	Sternberg (2003); Sadler-Smith (2016); Weick (1993, 1995);
Social Activity	Entrepreneurial Ability	Competitive Aggressiveness	HEPEI fosters collaborative knowledge-sharing, strong employer partnerships, and alumni networking to boost competitive positioning.	Rogers and Vardaman (2022); Stigliani and Elsbach (2018); Turner et al. (2023)
On-Going Process	Creativity	Adaptability	HEPEI leaders embed continuous learning, strategic flexibility, and digital transformation initiatives to ensure institutional sustainability.	Rogers and Vardaman (2022); Ivanova-Gongne and Torkkeli (2018); Zhang and Soergel (2014)
Enacting a Sensible Environment	Leadership	Proactiveness, Competitive Aggressiveness	HEPEI institutions cultivate entrepreneurial ecosystems, faculty-led ventures, and student-driven innovation to remain competitive.	Weick (2020); Seidl and Werle (2018); Blanka (2019)

2.5. Research Theoretical Framework

The notion of EO carries substantial significance for organisations that aspire to thrive in swiftly evolving business environments. The primary aim of this theoretical framework is to illustrate the reciprocal association between sensemaking, EO, and GME. The application of the Sensemaking framework as a methodological approach is employed to assess the cognitive processes of PEI leaders in the context of EO and its impact on the development of GME.

The research findings from literature reviews displayed in Tables A to G in following pages serve as the foundation for developing a theoretical framework shown in Figure 5: Research Theoretical Framework (Sensemaking, GME and EO) below that seeks to examine the interaction among organisational GME, EO, and the seven dimensions of Weick's sensemaking concepts: individual identity, retrospection, enacting sensible environments, social activities, ongoing process, meaningful cues, and plausibility, as a catalyst to develop GME to enhance EO in organisations.

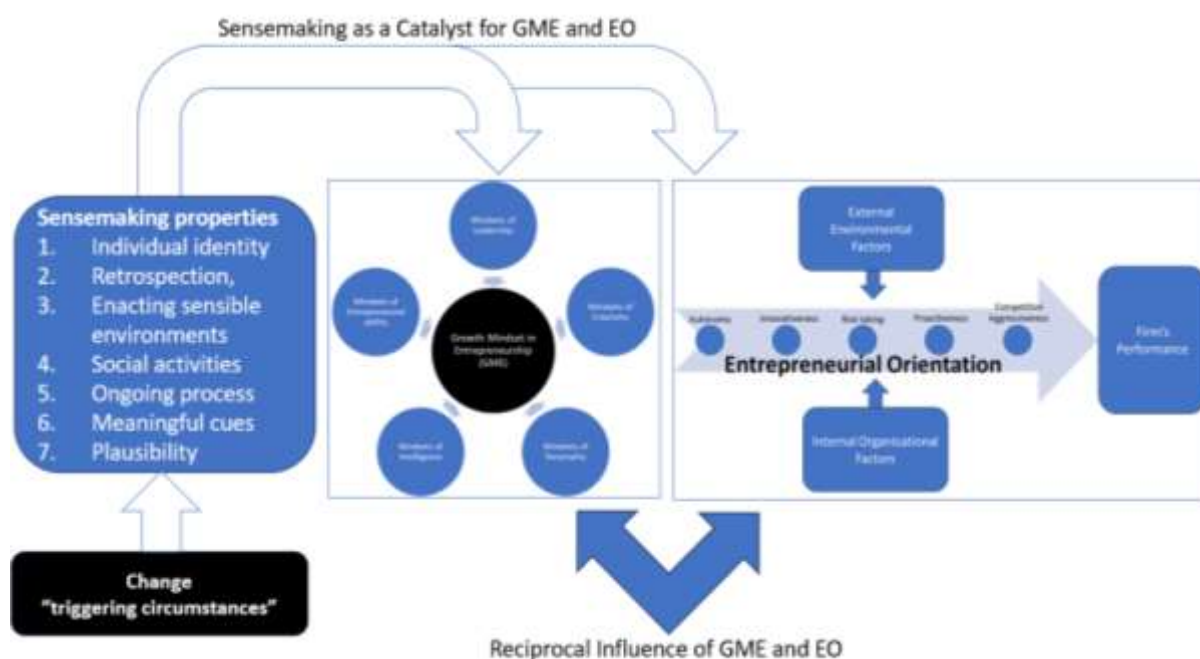


Figure 6: Research Theoretical Framework (Sensemaking, GME, and EO)

The presented theoretical framework, as shown in Figure 6: Research Theoretical Framework (Sensemaking, GME, and EO) above, suggests that the formation of entrepreneurial mindsets

and subsequent decision-making processes are influenced by individual identity, which functions as a component of sensemaking. There is a suggestion that individuals who possess a robust sense of identity are more likely to demonstrate autonomy in their entrepreneurial pursuits, as they possess a comprehensive understanding of their values and purpose. This phenomenon is aligned with the “Autonomy” element of EO. Similarly, GME’s elements of leadership, creativity, personality, intelligence, and entrepreneurial ability, have an impact on the respective frameworks of EO and sensemaking elements (Weick, 1995; Stigliani and Elsbach, 2018; Hoyte et al., 2019).

Ability to establish significant cues play a vital role in the sensemaking process and contribute to the development of EO. The ability to perceive and evaluate and analyse significant cues from the surrounding environments enables people to recognise potential opportunities, predict market trends, and make well-informed decisions and options. The dimension of innovativeness within the EO construct is closely related to the utilisation of meaningful cues. Organisations that actively use sensemaking and effectively leverage meaningful cues are more likely to nurture a culture of creativity and encourage active pursue of experimentation with novel offerings, services, and procedures (Ancona, 2011; Cristofaro, 2022).

Retrospection, as an integral element of the sensemaking process, involves engaging in an introspective analysis of past events and experiences to extract significance and acquire valuable insights. Through the practice of reflective analysis, both individuals and organisations are allowed to extract valuable insights from past accomplishments and setbacks. This practice facilitates the enhancement of individuals' decision-making abilities and the reinforcement of entrepreneurial orientation dimensions, such as autonomy and risk-taking propensity. Continuous engagement in introspection is of utmost importance in the ongoing development of individuals' personal traits and entrepreneurial skills, enabling them to adapt and improve (Wetzel and Dievernich, 2014; Dawson and Sykes, 2019).

Plausibility, as an integral aspect of the sensemaking process, entails the construction of rational and cohesive justifications derived from a combination of intuitive insights and logical reasoning. The understanding of plausibility holds pivoting importance in the comprehension of the breadth and depth of a situations caused by ambiguity. Furthermore, it acts as a catalyst

for cultivating innovation, creativity and exerting influence on the proactive dimension of EO. Organisations using plausibility can better position themselves strategically by offering credible justifications based on intuitive decisions, which allows them to adopt a proactive stance, recognise emerging trends, and exploit favourable opportunities and circumstances (O'Grady, Ortons and Christensen, 2018; Derbyshire, 2022).

Social activity needs to be an integral aspect of sensemaking as it plays an active role in establishing active interactions and collaborations that in turn influences an individual's understanding in the constructing of meaning to a situation. Social interactions is vital to fostering the exchange of ideas, perspectives, and knowledge, thereby promoting individual creativity, autonomy, and competitive aggressiveness within the framework of EO. Organisations have the potential to develop their EO through the cultivation of a collaborative organisation culture and the facilitation of social interactions via enactment. This approach allows HEPEI to gather the collective intelligence and diverse views of its staff according to Rogers and Vardaman (2022) and Turner et al. (2023).

The on-going aspect of evaluating and reanalysis inherent in the continuous process of sensemaking are vital for adapting and improving sensemaking processes over time. This diretrends andes people to effectively navigate complex circumstances, remain aware of emerging trends, and adapt entrepreneurial initiatives accordingly. The development of an agile, adaptive, responsive entrepreneurial mindset is the result of ongoing sensemaking, as suggested by the research conducted by Zhang and Soergel (2014), Ivanova-Gongne and Torkkeli (2018), and Yngve (2022).

The enactment of a sensible environment is a vital aspect within the process of sense-making. A relational environment creates a favourable situation within an organisation context that promotes efficient sensemaking. Organisations have the potential to develop individuals' cognitive processes linked to comprehension and meaningful activities through the establishment of an atmosphere that promotes open dialogue, collaborative efforts, and the incorporation of varied perspectives. The presence of a favourable setting encourages the development of an entrepreneurial environment that facilitates the pursuit of experiments, the acquisition of knowledge, and the exploration of innovative opportunities. Consequently,

this enhances the beneficial impact on the EO and growth mindsets within an organisation (Blakcoria and Psychogios, 2021; Andrews, 2021).

Therefore, the theoretical framework presented above demonstrates the vital role sensemaking play, where it is used as a method to evaluate the impact of EO on the GME of an HEPEI in Singapore. This framework allows the examinations of valuable insights that could provide clues into the enhancement of entrepreneurial behaviour in the organisation by integrating sensemaking as a cognitive process and establishing connections and understanding its relationship with EO and GME.

2.6. Research Gap

2.6.1 Notable lack of current research

There is a notable lack of research investigating how senior HEPEI leaders in the Singapore private education sector in Singapore employ strategic frameworks, such as Weick's (1995) sensemaking model, to address challenges faced by HEPEIs.

2.6.1.1. No study conducted in Singapore on private education sectors' leadership

HEPEIs operate in a highly complex business environment requiring HEPEI leaders to navigate a lot of market limitations and constraints in regulatory competitiveness coupled with financial limitations while promoting education innovation and sustainability. Weick's (1995) sensemaking framework, which emphasises seven key elements such as identity, retrospection, enacting sensible environments, meaningful cues, ongoing process, plausibility and Intuition, and social activities offers a robust theoretical lens for understanding HEPEI leadership decision-making in ambiguous and uncertain contexts (Cristofaro, 2022; Hoyte et al., 2019).

Similarly, Entrepreneurial Orientation (EO) and Growth Mindsets of Entrepreneurship (GME) are established as drivers of HEPEI innovation and organisational resilience (Lumpkin and Dess, 1996; Billingsley et al., 2021), but their application in Singapore's HEPEI sector or in the private education space has never been investigated.

Nonetheless, research highlights that effective leadership in resource-constrained environments of an SMEs could benefit from integrating sensemaking elements with EO and

GME to improve business and operational productivity, agility, and competitive advantage (Blanka, 2019; Niemi et al., 2022). It is found that HEPEI leaders should use more brainstorming activities and reflect on past successes and failures (Weick 2020), they may be able to encourage better entrepreneurial ideas and solutions and close the gap between EO and GME.

2.6.1.2. No study on how market drivers affect the private education sector

Due to the influences of the external economic and student mobility environment and the need to meet regulatory compliance, senior leaders in HEPEI may have to increase their depend on their intuition (plausibility in sense-making) for decision-making and strategic guidance. Karl E. Weick's sensemaking theory is able to offer a valuable framework for investigating how individuals comprehend issues in ambiguous circumstances and interpret complex issues to solve problems, allowing organisation to navigate uncertainty and make informed, calculated decisions (Magala, 1997; Kramer, 2017; Weick, 2020). However, there is a need to have the capacity to interpret cues within the framework of sensemaking as it is vital in comprehending business issues holds substantial importance.

2.6.2 First study on the Singapore HEPEI sector

The evolving, ambiguous and complex challenges within Singapore's private education sector necessitate the application of Weick's sensemaking elements to gain valuable insights into the behaviours of HEPEI leaders as they manage complex internal and external challenges. This approach will clarify the alignment of leadership practices with the sensemaking framework's seven elements (identity, retrospection, enacting sensible environments, social interactions, ongoing process, meaningful cues, and plausibility), allowing the fostering of entrepreneurial orientation (EO) and growth mindsets of entrepreneurship (GME) (Lumpkin and Dess, 1996; Covin and Slevin, 1989; Weick, 2020; Niemi et al., 2022).

2.6.2.1. Pioneering research on sensemaking within HEPEIs

Based on research and concepts of sensemaking, Entrepreneurial Orientation (EO), and Growth Mindsets of Entrepreneurship (GWE), integrating these concepts can enhance the entrepreneurial leadership ability of HEPEI leaders to interpret various business, operation and environmental signals. This integration could enhance organisational and employees'

resilience and drive innovation in HEPEIs, with an end goal of improving organisational strategic decision-making so that HEPEIs are able to thrive in a competitive, uncertain, and resource-constrained private educational landscape.

2.6.2.2. First time establishing applicable strategies for HEPEI sensemaking leadership, EO and GME

These gaps in the literature reviews established the need for further investigation, and this will be the first study to investigate how HEPEI leaders use entrepreneurial concepts and sensemaking constructs to navigate challenges in the Singapore private education sector. The research aims to contribute to a better insight and understanding of how private education institutions adapt to problems in order to achieve operational and business sustainability while also providing actionable insights for HEPEI leaders.

Given the context in which Singapore's HEPEIs operate, it is vital to provide actionable strategies that enhance HEPEI leaders' agility and growth mindsets. By filling gaps in existing studies, this research aims to provide HEPEI leaders with applicable and practical tools for dealing with complex regulatory policies, as well as financial constraints and operational limitations. Finally, the study also aims to educate HEPEI leaders and policymakers on how to collaborate in order to promote the sector's long-term viability and contribution to Singapore's larger education ecosystem. The connections between the identified problems, research objectives, and significance highlight this study's integrated approach to generating effective results.

3. Research Methodology

3.1 Overview

This chapter sets out the methodological scaffolding that underpins the study of sensemaking-driven entrepreneurship in Singapore's higher-education private-education institutions (HEPEIs).

Guided by an interpretivist paradigm, leadership cognition is treated as socially constructed meaning work. Therefore, a qualitative multi-case design centred on semi-structured interviews is employed. 20 senior leaders, inclusive of CEOs, directors, board members and functional heads were recruited from 11 EduTrust-certified HEPEIs from the corpus.

Prior to the main data collection, a pilot study comprising five interviews was conducted to refine the interview guide and confirm saturation thresholds (Guest, Bunce, & Johnson, 2006). Each interview explores how senior leaders construct and interpret key elements of sensemaking—identity, meaningful cues, retrospection, enactment, social interaction, ongoing processes, and plausibility—as conceptualised by Weick (1995, 2020). These elements are examined in relation to the dimensions of entrepreneurial orientation, including autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness (Lumpkin & Dess, 1996; Mondal & Chakrabarti, 2021).

In addition, the interviews investigate how these sensemaking processes shape growth-mindset entrepreneurship attributes, specifically leadership, creativity, personality, intelligence, and entrepreneurial ability (Billingsley et al., 2021). Through this focus, the pilot phase ensured that the interview framework captured both cognitive and strategic practices relevant to HEPEI leaders, aligning with existing evidence that organisational sensemaking is a precursor to adaptive entrepreneurship and innovative behaviour (Ancona, 2011; Cristofaro, 2022).

Interviews are audio-recorded, transcribed verbatim and coded in NVivo through Braun and Clarke's thematic procedure, moving from open coding to cross-case pattern matching. Trustworthiness is ensured via member checks, peer-code audits, a version-controlled audit

trail and reflexive journaling. Ethical clearance, anonymity protocols and secure data storage comply with university and EduTrust requirements.

The chapter closes by acknowledging design limitations, chiefly self-report bias and context-specificity, while laying the foundation for Chapter 4's empirically grounded findings. Collectively, the approach ensures analytic depth while preserving the contextual richness essential for illuminating novel, practice-ready leadership insights.

3.2. Research Philosophy

Section 3.1 framed leadership cognition in HEPEIs as socially constructed meaning work. This section sets the philosophical bedrock that guides the methodological choices detailed next in Section 3.3.

3.2.1 An Interpretivist–Constructivist Frame

An interpretivist ontology holds that organisational reality is negotiated and shifting rather than fixed (Guba & Lincoln, 1994). Leadership actions become sensemaking performances embedded in local context, echoing Weick's view of meaning as something leaders "enact" through cue selection, plausibility testing, and continual revision (Weick, 1995; Weick, 2020). A constructivist epistemology complements this stance by claiming that knowledge arises through dialogue between researcher and participant, not detached measurement (Berger & Luckmann, 1966). Creswell and Creswell (2017) emphasise that reality is apprehended through human experience; interpretivism therefore probes subjective perspectives to illuminate complex social processes.

Interpretivism has been shown to reveal nuanced decision dynamics in comparable settings. Knight et al. (2024) traced how executives' emotional undercurrents shaped strategy in an e-bank. Gkeredakis et al. (2024) mapped collective ethical sensemaking in public-health entities. Zhao and Stiles (2024) unpacked joint-venture tensions by capturing multiple, context-bound viewpoints. These exemplars validate the choice to investigate how senior PEI leaders navigate regulatory pressure, competition, and resource constraints—conditions unique to Singapore's private higher-education sector (Bryman & Bell, 2011; Alharahsheh & Pius, 2020).

Interpretivism aligns with the study's twin foci: entrepreneurial orientation (EO) and growth-mindset entrepreneurship (GME). Traits such as autonomy, proactiveness, or creativity emerge only through thick, situated narratives. By foregrounding leaders' own language, the inquiry captures how sensemaking frames fuel these behaviours inside EduTrust-regulated environments. Thick description supplies the contextual scaffolding readers need to judge transferability (Lincoln & Guba, 1985).

The paradigm also informs analytic choices. Braun and Clarke's reflexive thematic analysis treats the researcher as a co-constructor of meaning, preserving interpretive depth while imposing procedural rigour (Braun & Clarke, 2006). Credibility is bolstered through member checking, peer review, triangulation with audit documents, and a version-controlled audit trail, in line with Patton's guidance on qualitative rigor (Patton, 2015). Such safeguards echo the trustworthiness protocols introduced in Section 3.1 and comply with EduTrust ethical expectations. Positioning the inquiry within an interpretivist–constructivist frame ensures philosophical coherence from research questions to coding practice.

3.2.2 Deductive Qualitative Orientation

The inquiry is anchored in three established lenses—sensemaking (Weick, 1995, 2020), entrepreneurial orientation (EO) (Covin & Slevin, 1989; Lumpkin & Dess, 1996), and the growth mindset of entrepreneurship (GME) with its five facets of leadership, creativity, personality, intelligence, and entrepreneurial ability (Billingsley et al., 2021). Adopting a deductive stance ensures these constructs drive the research questions, shape the interview guide, and structure the initial coding template (Saunders, Lewis, & Thornhill, 2019). Deductive, theory-led qualitative work has proven effective in clarifying complex, under-explored phenomena (Fife et al., 2022; Van Hilten, 2021).

A qualitative, interpretivist design complements this logic for three reasons. First, semi-structured interviewing captures the tacit, situational cognition of senior leaders that quantitative instruments struggle to surface (Hennink, Hutter, & Bailey, 2020). Semi-structured interviews were preferred to focus groups or surveys because they (i) elicit confidential strategic narrative, (ii) permit flexible probing, and (iii) yield comparable yet personalised accounts (Hammarberg, Kirkman & Lacey, 2016). Second, qualitative data

preserve the temporal and contextual flow essential for tracing how sensemaking episodes translate into EO and GME practices (Kesti & Pietiläinen, 2024). Third, interpretive analysis excels at revealing multi-layered meanings and process logics, which aligns with the study's aim to illuminate the subtle links among context, cognition, and entrepreneurial action in HEPEIs (Sukhov et al., 2021; Bryman & Bell, 2011).

Together, the deductive frame and qualitative approach provide a rigorously scaffolded yet flexible platform for generating rich, theory-informing insights.

3.3 Research Design

20 in-person, semi-structured interviews with senior leaders including owners, CEOs, directors, board members, and functional heads constitute the core dataset (Appendix C). Interview duration ranged from 30 to 45 minutes, providing sufficient depth while minimising respondent burden (Kvale, 2007). All sessions were held on the leaders' campuses between April 2024 and July 2025, recorded on an encrypted digital device, and transcribed verbatim. ID codes (S1–S20) replace names to ensure anonymity, and recordings, transcripts, and field notes are stored on a password-protected university server that meets EduTrust data-protection requirements. The selection of participants is shown in Table 5: Inclusion criteria for Senior HEPEI Participants.

A five-interview pilot (Appendix C's Table: Pilot study participants) across three institutions preceded the main wave. Feedback from these pilots refined question wording, flow, and theoretical coverage, and the exercise confirmed that thematic saturation would likely emerge before twenty interviews (Guest, Bunce, & Johnson, 2006). The final interview guide (Appendix B) translates the study's deductive scaffolding into four plain-language domains, including Culture of Entrepreneurship, External Factors, Individual Traits, and Social Dynamics. These map cleanly onto Weick's (1995, 2020) seven sensemaking elements, the EO dimensions (Covin & Slevin, 1989; Lumpkin & Dess, 1996), and the five GME attributes of leadership, creativity, personality, intelligence, and entrepreneurial ability (Billingsley et al., 2021).

3.4 Research Participants

Qualitative studies that target “elite” informants typically pair purposive sampling (to pinpoint people who hold the knowledge sought) with snowball referral (to reach hard-access peers through trusted networks) (Creswell & Creswell, 2017; López, 2023). That dual logic guided this project.

Purposive stage. Selection began with clear inclusion criteria reflected in the table below. These criteria ensure respondents possess both strategic discretion and longitudinal exposure to Singapore’s compliance regime, matching the constructs of sensemaking, entrepreneurial orientation (EO), and the growth mindset of entrepreneurship (GME).

Table 5: Inclusion criteria for Senior HEPEI Participants

Criterion	Operationalisation	Rationale
A. Employment Status	Employment in a higher-education private-education institution (HEPEI) accredited with a four-year EduTrust award	<ul style="list-style-type: none"> Limiting participants to leaders employed in four-year EduTrust HEPEIs ensures exposure to mature, audited quality systems across the scheme’s seven criteria and continuous improvement cycles, which is essential for informed sensemaking about governance, student protection, and strategy (SkillsFuture Singapore, 2023; SkillsFuture Singapore, 2024). This common benchmark improves comparability across institutions and anchors interpretations in a shared compliance context.
B. Senior Role	Owners, C-suit (CEOs, COOs, etc), Directors, Senior Managers, Heads across executive, academic and operational functions and Members of Boards (Academic and Exam Boards)	<ul style="list-style-type: none"> Senior members possess decision rights through which EO dimensions such as autonomy, proactiveness, and competitive aggressiveness are enacted institution-wide (Lumpkin & Dess, 1996). Such actors qualify as elites with privileged access to economic and symbolic resources, making them the most information-rich narrators of strategic cognition (López, 2022).
C. Leadership Experience	Minimum two-year tenure in the current HEPEI.	<ul style="list-style-type: none"> This secures prolonged engagement with local culture and at least one EduTrust monitoring/renewal cycle, supporting credible, reflective accounts rather than snapshot impressions (Lincoln & Guba, 1985; SkillsFuture Singapore, 2024).

		<ul style="list-style-type: none"> • Prolonged engagement and persistent observation are classic techniques for enhancing credibility and dependability in qualitative research.
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Screening for Criterion A. After gaining Formal permission (Appendix A) in 2022, the researcher was allowed access to the client database of *EduValue Pte Ltd.* (<https://eduvalue.com.sg/>), Singapore’s leading PEI compliance consultancy. to its 37 EduTrust-certified clients, 29% of the certified market (SkillsFuture Singapore, 2024). Out of the 37, 24 (65%) were accredited with a four-year EduTrust award.

Screening for Criterion B and C. For each prospective participant, institutional websites were used to confirm EduTrust status and organisational role titles, and LinkedIn profiles were consulted to verify current appointment and tenure; where discrepancies appeared, confirmation was sought by e-mail before scheduling. This triangulated check ensured all inclusion criteria were satisfied.

Snowball stage. Early volunteers nominated additional senior peers, expanding institutional and functional breadth. This referral step enlarged role diversity while preserving information richness, consistent with best practices for elite qualitative sampling (Saunders, Lewis, & Thornhill, 2019). Personalised e-mails outlining study aims, confidentiality, and logistics were sent to CEOs or Academic Board chairs.

3.5 Pilot Study

3.5.1 Purpose and Rationale

A pilot was undertaken to test and tune the methodology before full deployment. In qualitative work, pilots are used to assess clarity, flow, timing, ethics, access, and the adequacy of prompts against the theoretical frame, with changes then reported explicitly (Schachtebeck, Groenewald, & Nieuwenhuizen, 2018; Rose et al., 2019). Because the study explores an under-examined leadership niche, an exploratory pilot was also appropriate for surfacing blind spots and refining constructs-in-use (Mason, Augustyn, & Seakhoa-King, 2010; Olawale et al., 2023). The pilot therefore served two roles: instrument refinement and feasibility confirmation.

3.5.2 Procedures, sample, and timing

Five in-person semi-structured interviews were conducted in April–May 2024 with senior leaders from three EduTrust four-year HEPEIs (S2, S3, S5, S7, S8). Verified durations ranged from 22:46 to 28:56 minutes (mean \approx 25.06 minutes), deliberately shorter than the planned main interviews to enable rapid iteration (Kvale, 2007; Gill et al., 2008; Alshenqeeti, 2014). The pilot study participant’s list is attached in Appendix D.

Participants received information sheets and signed consent forms; audio was recorded on an encrypted device and transcribed verbatim. Interviewees were coded with pseudonyms and institutions with PEI numbers to preserve anonymity. Access through EduValue’s network was confirmed as workable, and the invitation script and scheduling process were stress-tested.

The pilot guide operationalised Weick’s seven elements (i.e., Identity, Retrospection, Enactment, Social Interaction, Ongoing Process, Meaningful Cues, and Plausibility), while probing links to EO (autonomy, innovativeness, risk-taking, proactiveness, competitive aggressiveness) and GME (leadership, creativity, personality, intelligence, entrepreneurial ability) (Weick, 1995, 2020; Lumpkin & Dess, 1996; Billingsley et al., 2021; Mondal & Chakrabarti, 2021). Pilot study questions were phrased in plain language (Table 6) to elicit concrete episodes rather than abstract opinion.

Exploratory research questions are structured according to the seven components of Weick’s (1995) framework, as well as studies by Billingsley et al. (2021), Lumpkin and Dess (1966), and Mondal and Chakrabarti (2021), as presented in Table 7. Pilot Study’s Overarching Perspectives study below include questions designed to examine the influence of sensemaking on entrepreneurial orientation (EO) traits (Autonomy, Innovativeness, Risk Taking, Proactiveness, and Competitive Aggressiveness (Billingsley et al., 2021)) and Growth Mindset of Entrepreneurship (GME) characteristics (Leadership, Creativity, Personality, Intelligence, and Entrepreneurial Ability (Lumpkin and Dess, 1966; Mondal and Chakrabarti, 2021)).

Piloting in this theory-explicit form is recommended when concepts are tightly specified: it maximises content validity early, exposes blind spots, and reveals where prompts invite only abstractions rather than episodes (Rose et al., 2019; Social Research Update 35, 1998).

Table 6: Pilot Study Questions

Wieck's (1995) Sensemaking Framework	Pilot study exploratory questions aligned to Wieck's (1995) sensemaking for the understanding of PEI experiences linking to EO (Billingsley et al.2021) and GME (Lumpkin and Dess, 1966; Mondal and Chakrabarti, 2021)
Identity (ID)	In what manner do you perceive your roles in addressing challenges?
Retrospection (RS)	In what ways do your experiences and decisions shape your actions?
Enact Sensible Environment (SE)	In what manner do you, as HEPEI leaders, impact your organisational directions?
Social Interactions (SI)	In what manner does your organisation promote collaboration amongst the staff?
Ongoing Process (OP)	In what manner do you, as HEPEI leaders, adjust to evolving external and internal challenges?
Meaningful Cues (MC)	To what extent are you attuned to signals or triggers that affect your decision-making processes?
Plausibility and Intuition (PI)	How do you, as HEPEI leaders, assess the viability and feasibility of your decisions?

3.5.3 Pilot Insights

The following are the key findings:

1. Identity (ID): from trait talk to role-bound autonomy.

Across the five pilot interviews, identity talk clustered around entrepreneurial traits: “brave,” “hungry for ideas,” “persistent,” “proactive,” and “willing to share opinions.” These descriptors signal a valued identity prototype within HEPEIs - staff who take initiative for student success despite constraints. The pattern coheres with evidence that entrepreneurship is shaped by social context and local expectations that normalise particular self-views and action scripts (Martínez-Martínez, 2022). Identity is not merely self-description; it channels attention and action by filtering cues and legitimising certain moves over others (Vough, Caza, & Maitlis, 2020). It also accelerates responses through cognitive shortcuts that protect the self-concept, which can be adaptive under time pressure yet risky if disconfirming information is ignored (Schildt, Mantere, & Cornelissen, 2020).

For EO and GME, the implication is twofold. First, an entrepreneurial identity enables autonomy and proactiveness because actors feel authorised to move early and experiment. Second, if identity is framed predominantly as personal boldness, autonomy may be individualised rather than systematised, producing pockets of initiative but uneven diffusion.

This insight prompted the final instrument to connect identity explicitly to decision rights and guardrails (CE-1/2/3): who may initiate, who approves, and what protections exist for prudent risk. It also motivated probes that translate identity into GME behaviours for examples how leaders cultivate creativity, leadership, and entrepreneurial ability through mentoring, budget lines, and recognition mechanisms—so identity is evidenced in practice, not only asserted in adjectives (Billingsley et al., 2021; Lumpkin & Dess, 1996).

2. Retrospection (RS): differentiating reflective learning from path dependence.

Pilot narratives mixed examples of constructive learning (“we started new programmes to diversify”) with path-dependent moves (“we follow what the sector has always done”). Several leaders linked caution to resource scarcity, “play a safe game”, which can dampen innovativeness even as it protects revenue. Retrospection becomes valuable when it connects past events to present relevance, strengthening the rationale for action and sharpening criteria for change (Hay, Parke, & Luksyte, 2021). Conversely, over-reliance on tried-and-tested formulas narrows search and reduces the variance of entrepreneurial bets, a dynamic associated with weaker opportunity discovery after failure (Ucbasaran et al., 2013).

The methodological response was to add temporal sequencing prompts (i.e., *cue > discussion > decision > review*), and counterfactual probes (“when did the same approach fail; what did you do differently?”). These additions force articulation of mechanisms rather than generic claims and allow coding of retrospective cycles, learning triggers, and risk-recalibration. Analytically, the refined coding book distinguishes retrospective justification (using history to legitimise continuity) from retrospective learning (using history to alter course). This distinction is central for RO2 because the former tends to stabilise risk-taking at low levels, whereas the latter supports innovative repositioning and proactiveness. For RO3, we expect reflective learning to correlate with GME–intelligence (analytical sensemaking) and GME–leadership (sponsoring change), while justification-heavy narratives may correlate with lower creativity investments.

3. Enacting a sensible environment (SE): from good intentions to enabling mechanisms.

The most concrete pilot material appeared under enactment. Leaders described creating contexts that make entrepreneurial action easier: project-ideation schemes for staff, design

workshops, cross-functional forums, and partnerships with employers for student recruitment. Frequent references to student success link enactment to an institutional theory of change: better learning experiences leading to stronger outcomes, fostering reputational pull and resulting in enrolment growth. This is consistent with the view that organisations can engineer sensemaking environments by supplying frames, resources, and interaction arenas that allow people to comprehend and act on strategic challenges (Seidl & Werle, 2018). It also aligns with research showing that building employees' psychological capital and providing tools and training increases innovative work behaviour, which is an antecedent of EO (Fatima & Bilal, 2019).

However, pilots rarely specified how ideas travel from workshops to decisions, who has veto power, or what evidence thresholds must be met. Without these mechanisms, enactment risks remaining aspirational. Accordingly, the final schedule inserts SD follow-ups that trace the decision pathway from social interaction to institutional choice: forums used, criteria applied, approvers involved, and implementation checks. CE-3 now asks for activities that embed entrepreneurship (e.g., micro-grants, release time, incubation partnerships), allowing coding of enactment as resource-backed capability rather than culture talk alone. In EO terms, enactment mechanisms should correspond with innovativeness, proactiveness, and competitive aggressiveness when they lower the cost of experimentation and speed decision cycles. In GME terms, they provide observable supports for creativity and entrepreneurial ability, moving beyond rhetoric to measurable practices.

4. Social Interactions (SI): informal affordances, idea pipelines, and decision conversion.

SI emerged as the one of the most salient elements. Leaders repeatedly referenced management sponsorship for creativity, open ideation, "any staff can come up with an idea", and routines that foreground listening to "all stakeholders," teaming to "bring new students," and even informal "makan" sessions that thicken ties. Taken together, these practices signal more than collegiality: they are interaction infrastructures that lower the cost of voicing ideas, surface weak signals early, and mobilise cross-functional action. Sensemaking theory treats meaning as fundamentally social, produced through cycles of noticing, interpreting, and legitimising; sense-giving by leaders then stabilises preferred meanings and channels

attention (Weick, 1995; Stigliani & Elsbach, 2018). Turner et al.'s (2023) Multifaceted Sensemaking Theory sharpens this by locating social activity across reasoning (sensing, meaning-making, sense-giving), action (future-scoping, movement, evaluation) and transition via counterfactuals. The pilot evidence fits this arc: informal gatherings foster sensing, open forums enable meaning-making, and sponsorship plus teaming provide the movement that converts ideas into trials.

For EO, rich SI should correlate with proactiveness (faster mobilisation around cues) and competitive aggressiveness (coordinated outreach to employers and agents). Where SI includes explicit decision pathways (i.e., who can approve, what evidence is required) the same networks also institutionalise autonomy and innovativeness rather than leaving them to chance. For GME, SI practices cultivate leadership (sponsoring and sense-giving), creativity (diverse inputs), and entrepreneurial ability (learning to navigate the organisation to get ideas funded). The pilot, however, was thinner on traceability from talk to decision. Hence the final instrument should ask how ideas travel from “makan” to mandate, requesting specific examples so SI can be coded not only as cultural warmth but as a governance mechanism that reliably turns social energy into strategic outcomes (Stigliani & Elsbach, 2018; Turner et al., 2023).

5. Ongoing Process (OP): cadence, checkpoints, and adaptive capacity

Pilot statements, including “continuous adaptation and regular updates,” “adapt to changes even if it means cutting down resources,” “benchmark against competitors’ actions,” and “adapt to changes slowly to ensure module outcomes”, portray cadence as the real asset. Leaders emphasised rhythm over one-off reform: regular meetings, progressive tweaks to programmes, and cyclical reviews of enrolment sources. This is classic ongoing sensemaking: actors continuously refresh shared understanding, communicate revisions, and realign action as fresh information arrives (Rogers & Vardaman, 2022). Process-oriented phrasing also reveals how HEPEIs defend academic quality while pivoting commercially, “slowly to ensure module outcomes”, a deliberate pacing choice that balances EO’s proactiveness with risk control. From a mechanism view, OP contributes to EO by institutionalising checkpoints (what is monitored, how often, and by whom) that lower adjustment costs and keep innovativeness

alive without destabilising delivery. It likewise supports GME by normalising iterative learning and leadership through review routines that legitimise experimentation.

The literature reinforces this logic. Continuous sensemaking involves examining and re-examining cues and experiences, enabling organisations to stay aligned with moving environments (Zhang & Soergel, 2014; Ivanova-Gongne & Torkkeli, 2018; Yngve, 2022). The pilot, however, was light on the plumbing of cadence: who convenes which review, what indicators trigger a course correction, and how academic guardrails are applied when revenue pressure climbs. The final instrument therefore includes additional prompts to the process of adaptation. In findings, OP evidence will be judged stronger where leaders can show repeated cycles with documented pivots rather than generic claims of “adapting,” signalling genuine adaptive capacity rather than rhetorical resilience (Rogers & Vardaman, 2022).

6. Meaningful Cues (MC): diversifying signal portfolios

Interviewees displayed high alertness to external triggers: “government policy,” “COVID impact,” “Chinese market influences,” “competitive landscape,” and “government regulations significantly affect operations.” This vigilance is appropriate in a compliance-intensive sector, and theory explains why: cues provide the frames of reference that stabilise cognition and allow action-relevant predicates to be attached (Holt & Cornelissen, 2014). Yet heavy reliance on policy and market signals risks cue monoculture. When organisations privilege a narrow band of external signals, they may overlook internal or relational cues (e.g., micro-withdrawal rates in specific modules, agent sentiment shifts, employer feedback) that often surface earlier and at finer resolution. Studies show that organisations that actively seek and integrate variegated cues are likelier to innovate and experiment with new services and processes (Ancona, 2011; Cristofaro, 2022). For EO, diversified cue portfolios strengthen innovativeness and proactiveness by seeding more hypotheses and enabling faster, lower-cost tests. For GME, diverse cues exercise intelligence and creativity, pushing teams to connect disparate data into workable options.

The instrument was therefore revised to force breadth and depth. EF items now request the top three cues across external and internal domains. This structure enables coding of (a) cue diversity, (b) translation to action, and (c) error-recovery competence. In analysis, institutions

that pair policy vigilance with granular internal analytics and stakeholder signals are perceived to exhibit stronger EO profiles and more mature GME practices than those scanning primarily for regulatory edicts (Ancona, 2011; Cristofaro, 2022).

7. Plausibility and Intuition (PI): speed with guardrails

Leaders repeatedly valued speed, “quick decision-making is essential,” the need to be “quick and witty to outmanoeuvre competitors”, while acknowledging hazards: “quick decision making can lead to confusion,” and resource limits mean “playing safe with known paths.” This tension is the heart of Weick’s argument: under uncertainty, action is driven by plausibility, not precision; organisations move on the “good-enough” story and refine as feedback arrives (Weick, 1995). Supporting this observation, O’Grady et al. (2018) and Song et al. (2023) showed that plausibility and intuition drive logical interpretations and ambiguous scenario navigation. Thus, HEPEIs that prioritise plausibility and intuition drive logical interpretations in ambiguous situations. Studies by Weick (1995) and Derbyshire (2022) found that entrepreneurship and innovation require sensemaking, which prioritises plausibility over precision, to navigate uncertainties and foster change, especially in managing extreme uncertainties and high-impact events, transforming existential crises into strategic planning and development opportunities. Strategy work likewise frames plausibility thresholds as practical decision gates in ambiguous settings (O’Grady, Orton, & Christensen, 2018), and recent research shows that intuition, when disciplined by experience and feedback loops, supports rapid, coherent action in volatile contexts (Song et al., 2023). Derbyshire (2022) extends this to extreme uncertainty, where scenario discipline and plausibility checks convert existential threat into strategic opportunity. The pilot suggests many HEPEIs already use fast plausibility; what is less visible are the guardrails that keep speed from degrading into churn. A summary of the findings is shown in Table 7 below:

Table 7: Summary of Pilot Study Findings

Sensemaking element	Pilot Evidence	Core insight	EO linkage	GME linkage
Identity (ID)	“Brave,” “hungry for ideas,” “proactive,” “persistent,” “willing to share opinions.”	Identity prototype is entrepreneurial; initiative prized	Autonomy, Proactiveness, Innovativeness.	Leadership, Creativity, Entrepreneurial ability.

		despite constraints.		
Retrospection (RS)	“Follow what the sector has always done,” vs. “Started new programmes to diversify.”	Coexistence of learning loops and path dependence.	Risk-taking calibration: Proactiveness when course corrections occur.	Intelligence (analytical review), Leadership (sponsoring change).
Enactment (SE)	Ideation schemes, design workshops, cross-functional forums, employer partnerships; student success as driver.	Strong intent to enable action via contexts and resources.	Innovativeness, Proactiveness, Competitive aggressiveness.	Creativity, Entrepreneurial ability, Leadership.
Social Interaction (SI)	“Management support for creativity,” “any staff can propose,” “listen to all stakeholders,” “team up to bring new students,” “makan sessions.”	Interaction infrastructure lowers voice cost, spreads weak signals, mobilises action.	Faster Proactiveness; stronger Competitive aggressiveness via coordinated outreach.	Leadership, Creativity, Entrepreneurial ability.
Ongoing Process (OP)	“Continuous adaptation,” “benchmark competitors,” “adapt slowly to ensure module outcomes.”	Cadence and checkpoints valued; balance between agility and academic guardrails.	Sustains Innovativeness and Proactiveness without destabilising delivery.	Leadership (normalising iteration) and Intelligence (evidence-led updates).
Meaningful Cues (MC)	“Government policy,” “COVID impact,” “China market,” “competitive landscape,” “regulations affect operations.”	High vigilance to external cues.	Proactiveness, Competitive aggressiveness when scanning is diverse and actionable.	Intelligence, Creativity (connecting disparate signals).
Plausibility & Intuition (PI)	“Quick decisions essential,” “quick can cause confusion,” “play safe with known paths,” “quick and witty to outmanoeuvre.”	Preference for speed with intuition; awareness of confusion risk.	Risk-taking (calculated), Proactiveness.	Leadership (judgment), Intelligence (feedback discipline).

Abbreviations: **EO** = Entrepreneurial Orientation; **GME** = Growth Mindset of Entrepreneurship

3.5.4 Contributions and Limitations

Methodologically, the pilot confirmed several design assumptions:

1. Construct coverage. All seven sensemaking elements appeared spontaneously across interviews, validating content coverage. Leaders readily connected identity, cues, and plausibility to strategic actions and EO traits, and discussed staff development practices aligning with GME.
2. Access feasibility. Senior leaders were willing to speak on-record about strategy, compliance, and risk provided anonymity was guaranteed; the EduValue introduction eased trust.
3. Ethics and logistics. Consent, on-site recording, and secure transfer procedures functioned smoothly. A same-day memo routine proved practical for reflexive noting.
4. Duration target. A 30–45-minute window for the main study was judged optimal. Pilots shorter than 30 minutes occasionally curtailed follow-ups needed to capture counterexamples and mechanisms.

The pilot also revealed gaps and led to refinements adopted for the main study and analysis:

1. Prompting for internal cues. Early answers overweighted external signals (e.g., CPE policy, China market shifts). A new probe was inserted: *“Which internal metrics, anecdotes, or incidents triggered action?”*—to balance external with internal meaning cues (Ancona, 2011; Cristofaro, 2022).
2. Counterfactual and deviant-case prompts. Leaders tended to present success narratives. Two standard follow-ups were added: *“Describe a time the same approach failed,”* and *“What did a colleague do differently?”* This supports attention to discrepant cases in analysis (Braun & Clarke, 2006).
3. Temporal sequencing. To capture retrospection and enactment as processes, a short chronology prompt was inserted, *“Walk me through the decision from first cue to action to review—who did what when?”*, which supports process tracing.

3.6 Research Instrument

3.6.1 Pilot Insights

The pilot instrument deliberately mirrored Weick's seven elements word-for-word to test *content coverage* and *construct alignment* before committing to fieldwork. Using headings such as Identity, Retrospection and Plausibility gave a direct check on whether senior HEPEI leaders naturally spoke to each element and whether those narratives connected to EO (autonomy, innovativeness, risk-taking, proactiveness, competitive aggressiveness) and GME (leadership, creativity, personality, intelligence, entrepreneurial ability). Piloting in this theory-explicit form is recommended when concepts are tightly specified: it maximises content validity early, exposes blind spots, and reveals where prompts invite only abstractions rather than episodes (Rose et al., 2019; Social Research Update 35, 1998). The pilot confirmed coverage—each element surfaced—but it also showed friction: technical labels slowed rapport, encouraged trait adjectives (“brave,” “proactive”) instead of decision mechanisms, and overweighted external cues. Those observations justified a redesign to improve face and ecological validity while retaining a one-to-one mapping to the theoretical frame.

The final schedule therefore rephrased the instrument into four plain-language domains—Culture of Entrepreneurship (CE), External Factors (EF), Individual Traits (IT), and Social Dynamics (SD). This reduces cognitive load for elite interviewees, speeds entry into concrete examples, and preserves the ability to code back to Weick, EO and GME. CE captures identity, enactment and ongoing process; EF targets meaningful cues, plausibility and retrospection; IT elicits identity, intuition and risk orientation; SD centres social interaction and the pathway from talk to decision. Recasting questions into everyday language is consistent with guidance for semi-structured elite interviews: respondents offer richer, situated accounts when prompts match their vernacular and invite story-form answers (Kvale, 2007; Hennink, Hutter, & Bailey, 2020). The change thus trades jargon for usability without surrendering theoretical fidelity.

Three specific pilot findings triggered targeted edits:

First, leaders fixated on policy and market signals; little was said about internal or relational cues (module-level outcomes, agent sentiment, employer feedback). Because cues anchor

frames for action, a cue monoculture risks myopic strategy (Holt & Cornelissen, 2014). EF items were rewritten to force triangulation: respondents must name and evidence external, internal and relational cues, plus describe at least one misleading cue and course correction. This operationalises diversified scanning associated with experimentation and innovation (Ancona, 2011; Cristofaro, 2022).

Second, identity talk was vivid but individualised. Trait language did not show how identity translates into decision rights, guardrails and delegation—the levers through which EO's autonomy and proactiveness scale beyond heroics. CE questions were therefore sharpened to ask who can initiate, who approves, what budget lines exist, and how prudent risk is protected. This aligns with research showing identity channels attention and action yet also creates selection biases that need counterweights (e.g., formal authority boundaries) to avoid blind spots (Vough, Caza, & Maitlis, 2020; Schildt, Mantere, & Cornelissen, 2020; Lumpkin & Dess, 1996).

Third, leaders valued speed but acknowledged confusion from moving too fast. Weick argues that in uncertainty, plausibility rather than precision justifies action; strategy scholars similarly treat plausibility as a practical decision criterion, provided feedback loops exist (Weick, 1995; O'Grady, Orton, & Christensen, 2018). The final guide therefore adds probes on thresholds (“what makes a case ‘good enough’ to pilot?”), back-testing, and risk partitioning (safe-to-fail trials before scale-up). This keeps intuition but couples it with guardrails, echoing work on fast, experience-informed judgment in volatile contexts and on scenario discipline under extreme uncertainty (Song et al., 2023; Derbyshire, 2022).

The redesign also strengthens analytic tractability. The pilot revealed success-narrative bias; accordingly, each domain now has standard counterfactual prompts (“a time it failed,” “who disagreed and why”) to surface discrepant cases—core to reflexive thematic analysis (Braun & Clarke, 2006). Chronology prompts (cue → forum → decision → review) were added to support process coding and cross-case matrixing of cadence and checkpoints. These changes tie directly to the deductive logic: RO1 (alignment with sensemaking) is evidenced through narratives mapped to the seven elements; RO2 (influence on EO) is captured where those narratives specify autonomy design, innovation routines, risk calculus, proactiveness and

competitive moves; RO3 (influence on GME) is demonstrated where concrete leadership, creativity, personality fit, intelligence and entrepreneurial ability practices are reported. The pilot thus did what a good pilot should: it protected theory coverage, exposed usability faults, and produced a field-ready instrument that elicits episodes, mechanisms and safeguards, not just values.

Finally, using different question wordings across pilot and main study is methodologically orthodox. Pilot instruments are prototypes whose job is to identify failure points—terminology that confuses, order effects that prime answers, prompts that invite generalities—so that the main instrument can be simpler, clearer and better aligned with the analytic aims (Social Research Update 35, 1998; Rose et al., 2019). Reporting the changes, rather than pooling pilot data with findings, follows best practice and enhances transparency. The resulting four-domain schedule keeps the theoretical skeleton intact while delivering higher respondent comprehension, richer examples, and cleaner coding. That is precisely the outcome the pilot stage is designed to secure.

3.6.2 Design Rationale

The final set of 12 interview questions shown in Appendix B. The final instrument retains the theoretical skeleton of Weick's seven elements linked to EO and GME yet translates it into four practitioner-facing domains: Culture of Entrepreneurship (CE), External Factors (EF), Individual Traits (IT) and Social Dynamics (SD).

The ordering is deliberate. CE sits first because culture institutionalises behaviours and signals what “counts” as entrepreneurial action. EF follows because leaders repeatedly anchor decisions in policy and market shifts. IT then captures how personal dispositions shape interpretation and risk posture. SD operates across all three as the social scaffold through which cues are shared, meanings are negotiated, and decisions are authorised. This sequence reduces cognitive load for elite interviewees while preserving a clean back-mapping to Weick, EO and GME. It also corrects weaknesses observed in the pilot, namely trait talk without mechanisms, external-cue bias, and speed without guardrails (Weick, 1995; Lumpkin & Dess, 1996; Holt & Cornelissen, 2014; Rogers & Vardaman, 2022; Cristofaro, 2022).

- **Culture of Entrepreneurship (CE)**

The conceptual framework emphasises the significance of entrepreneurial orientation traits (such as autonomy, proactiveness, and risk-taking) in promoting entrepreneurial cognition and behaviours within private educational institutions. The pilot findings highlighted the importance of staff initiatives, innovation, and bravery in fostering an environment conducive to entrepreneurship.

CE target's identity, enactment and ongoing process. The three CE questions in Appendix B ask leaders how entrepreneurship is understood, how the institution supports or hinders it, and which methods or activities build it. These prompts turn pilot trait talk into institutional design evidence. They invite descriptions of decision rights, guardrails and resources that convert aspiration into capability. This is consistent with the claim that EO traits, especially autonomy, proactiveness and risk-taking, are strongest where culture and routines enable initiative and disciplined experimentation (Lumpkin & Dess, 1996). It also reflects evidence that investments in people's psychological resources and tools raise innovative behaviour, which is the proximal pathway to EO (Fatima & Bilal, 2019). The rationale is therefore clear. CE elicits the mechanisms that scale an entrepreneurial identity beyond heroic individuals: who can initiate, who approves, what budgets exist, and how prudent risk is protected.

1. External Factors (EF)

The conceptual framework encompassed sensemaking's "meaningful cues" and demonstrated that external factors, including government regulations, market trends, and competition, were frequently referenced by participants. EF operationalises meaningful cues, plausibility and retrospection. The pilot showed strong attention to government regulation, market dynamics and competition, but thin coverage of internal or relational signals.

EF Q1–Q3 therefore ask for the main outside influences, for how the institution adapts, and for examples of decisions taken. The logic is to force triangulation of cues and to surface the thresholds that make a case "good enough" to act, followed by the review that confirms or corrects that move. This design is grounded in sensemaking theory. Cues stabilise cognition and frame interpretation; diversified cue sets reduce myopia and foster innovation and testing (Holt & Cornelissen, 2014; Ancona, 2011; Cristofaro, 2022). Rogers and Vardaman (2022) add

the process requirement: leaders must renew collective understanding over time, not once. The EF block therefore advances RO1 by evidencing cue use and plausibility work, RO2 by linking cue portfolios to proactiveness and risk-taking, and RO3 by revealing the intelligence work that underpins GME.

2. Individual Traits (IT):

IT focuses on identity, intuition and retrospection as expressed in personal style. The three IT questions ask how traits shape decisions, how quick thinking matters in a fast environment, and for instances where traits improved outcomes. The pilot demonstrated why IT must be kept but sharpened. Leaders readily describe courage and persistence; the analysis requires the translation to behaviour. This is compatible with Cristofaro's (2022) review that individual cognition and affect shape sensemaking and decisions, and with Martínez-Martínez's (2022) view that social context channel's entrepreneurial identity. It also ties to EO and GME: traits influence risk-taking and autonomy, while GME is visible when leaders develop intelligence, leadership and creativity in their teams.

3. Social Dynamics (SD):

The conceptual framework underlined the essential roles of staff collaboration, interactive communication, and organisational teamwork as pivotal elements in facilitating the sensemaking process and fostering creativity in HEPEIs. SD captures social interaction, enactment and ongoing process. The three SD questions seek how relationships generate ideas, how networks influence adoption, and how openness and teamwork are encouraged.

The pilot showed SI as the most cited element, yet with weak traceability from talk to decision. The SD block corrects this by asking for the idea-to-decision pathway with examples. This is tightly aligned with Stigliani and Elsbach's (2018) observation that sensemaking and sense-giving are social cycles of observation, interpretation and evaluation, and with Turner et al.'s (2023) framing of social activity across sensing, meaning-making, movement and counterfactual transition. SD therefore strengthens RO1 by evidencing collective meaning work, RO2 by linking collaborative mobilisation to proactiveness and competitive aggressiveness, and RO3 by exposing leadership and creativity practices that develop entrepreneurial ability.

Below is the summary of the objectives of these questions:

1. **Social Dynamics (SD)** questions strive to explore relationships between people and their connections to sensemaking variables that foster collaboration and creativity.
2. **Individual Traits (IT)** questions examine how staff characteristics facilitate their interpretation of cues and their navigation of complexities and challenges.
3. **Culture of Entrepreneurship (CE)** questions focused on the HEPEI's attempts that promote entrepreneurial thinking and behaviour.
4. **External Factors (EF)** questions examine the HEPEI's external elements and their effects on shaping leaders' decision-making and strategic tactics.

Taken together, the four domains produce a closed loop: EF provides cues, IT shapes judgment, SD converts talk to authorised decisions, and CE embeds routines and protections that institutionalise EO and build GME capabilities. The pilot justified every change: it confirmed construct coverage but exposed the need for mechanisms, breadth of cues, and guardrails. The instrument now includes counterfactuals and chronology in every domain, supporting reflexive thematic analysis and process coding (Braun & Clarke, 2006).

3.7 Data Collection

3.7.1 Sample characteristics

The study draws on 20 senior leaders from 10 EduTrust-accredited HEPEIs. Institutions span four private universities, three specialised colleges, and three transnational-education hubs. Roles include two owners, four CEOs/COOs, three Academic Board members, one group managing director, six programme or department heads, and two senior marketing/strategy directors. Participants bring deep sector knowledge: median tenure 15 years (range 7–28), with at least two years in the current role. This composition concentrates strategic authority and governance experience. It ensures narratives contain the mechanisms of interest, including decision rights, compliance constraints, market plays, and resource choices, rather than opinions detached from action.

3.7.2 Sample Size

For the main research, thematic saturation in elite samples commonly emerges between 12 and 18 interviews (Guest, Bunce, & Johnson, 2006). An initial target of 18 was set to protect

analytic depth; saturation was observed and documented after 13 interviews, and fieldwork closed at 20 interviews. This decision accords with the “information power” principle, which prioritises relevance and richness over sheer numbers (Scârneci-Domnişoru, 2024).

3.7.3 Procedures

Interviews were held in person, on campus between April 2024 and July 2025. Face-to-face sessions aided rapport, allowed observation of contextual cues, and supported flexible probing; all recommended for elite interviewing where tacit knowledge is at stake (Kvale, 2007). Meetings took place in private rooms. At the start, the interviewer restated the study aims, anonymity provisions, and the right to pause or skip questions. The semi-structured guide was followed adaptively to pursue rich episodes. Typical flow began with CE to anchor identity and routines, moved to EF to surface cue portfolios and plausibility thresholds, then to IT for risk calibration and learning, and closed with SD to trace idea-to-decision pathways. Each session targeted 30–45 minutes.

All sessions were audio-recorded on an encrypted device. Files were uploaded the same day to a password-protected university server and removed from the recorder. Transcription was verbatim. Each transcript was checked against the audio to correct inaudible and confirm quotations. Identifiers were handled conservatively. Personal names, institutional names, specific programmes, and any proprietary figures were masked at transcription. Participants were assigned non-sequential pseudonyms (e.g., S1, S3, S6) and institutions labelled PEI 1...PEI 17 to reduce re-identification risk. A single encrypted linkage file is held only by the principal investigator. Data handling follows the university policy and aligns with EduTrust data-protection clauses. Access is limited to the research team. No data are stored on personal devices.

3.7.4 Research ethics

In any research, especially in applied studies involving real organisations and participants, it is imperative to prioritise ethical considerations to ensure adherence to the integrity of the research process and the safeguarding of the rights (Schaber, 2018) of HEPEI and participants. Drolet et al. (2023) state that ethical considerations in research necessitate "integrity, transparency, and credibility" to safeguard participants' rights and prevent research

misconduct, thus encouraging confidence and dependability. Research ethics must also cater to participants' security, respect, and cultural vulnerability, particularly in studies on sensitive topics (Shaw et al., 2020).

Laryeafio and Ogbewe (2023) emphasised that during the interview process in qualitative research, participants must retain anonymity, participation should be voluntary, privacy and confidentiality must be safeguarded, the option to withdraw should be available, and the prevention of misuse of findings are critical ethical considerations. In this context, the following measures are implemented to safeguard the organisation and participants in this research:

1. Informed consent.

Participants received an information sheet and provided written consent before recording. At the start of each session, consent was reaffirmed verbally and captured on audio. The process emphasised voluntariness, the right to decline questions, and the right to withdraw without penalty, consistent with guidance on moral permissibility and participants' autonomy (Schaber, 2018; Laryeafio & Ogbewe, 2023).

2. Confidentiality and anonymity.

Given competitive dynamics among HEPEIs, strict confidentiality was mandatory. Transcripts were de-identified at source; names of people, institutions, programmes, and proprietary figures were removed. Reports use non-sequential pseudonyms for individuals (S1...S20) and generic PEI labels. Audio files are not shared externally. These safeguards follow best practice for qualitative work involving sensitive disclosures (Reid et al., 2018; Drolet et al., 2023; Laryeafio & Ogbewe, 2023).

3. Minimising harm.

Potential psychological, financial, or legal risks were mitigated by instructing participants not to disclose confidential commercial strategies or financials; any inadvertent disclosures were redacted during transcription. Participants could pause or skip questions at any time (Gençten, 2021; Shaw et al., 2020).

These measures provide a defensible ethical foundation for studying senior HEPEI leaders, balancing openness needed for analytic depth with robust protections for individuals and institutions (Drolet et al., 2023).

3.8 Data Analysis

Analysis followed Braun and Clarke's reflexive thematic analysis (TA). Themes are treated as patterns of shared meaning organised by a central concept, generated through active interpretation rather than discovered as fixed entities. Coding was both semantic (what is said) and latent (assumptions and mechanisms implied). Counts are reported, were useful, only as indicators of salience, not as evidence of causation (Braun & Clarke, 2006; Lincoln & Guba, 1985).

3.8.1 Thematic Analysis Steps

3.8.1.1. Familiarisation.

Audio was replayed while reading verbatim transcripts. Margin notes captured candidate concepts, language choices, and early tensions. A same-day memo followed each interview to register reflexive observations and provisional linkages; memos were date-stamped and versioned (Braun & Clarke, 2006).

3.8.1.2. Generating initial codes.

First-cycle coding applied the scaffold above to the entire corpus. Coding was inclusive and overlapping where segments legitimately touched multiple elements. Both semantic (explicit content) and latent (implied mechanism) codes were used. Code definitions specified inclusion/exclusion rules and exemplar lines to support consistent application.

Code definitions, inclusion and exclusion criteria:

For Thematic Analysis, preassigned codes (Oliveira, 2023), specifically the use of Weick's (1995) elements and framework of sensemaking, EO and GME are used for this research. This offers a structured methodology that could be used to address the research questions (RQ 1 to RQ3).

This approach ensures that the analysis remains aligned with the conceptual framework while allowing for the emergence of insights from the data (Oliveira, 2023). Appendix D shows the

general code definitions, inclusion and exclusion criteria used as a reference when tagging data to the codes.

3.8.1.3. Searching for themes.

NVivo was used to ensure disciplined retrieval and pattern testing:

- Case classifications recorded institution type and participant role to enable segmented analysis.
- Matrix coding queries mapped co-occurrence between Sensemaking codes and EO/GME codes, supporting the identification of linkage patterns without reducing interpretation to counts.
- Coding comparison on a subset of transcripts supported peer auditing of the codebook; discrepancies prompted refinement of definitions rather than pursuit of mechanical agreement, consistent with Reflexive Thematic Analysis (RTA) in qualitative research.
- Annotations and see-also links connected the final narrative to specific coded extracts, sustaining a transparent chain of evidence.

NVivo matrix coding queries explored co-occurrence between Sensemaking nodes and EO/GME nodes to locate candidate linkage patterns (e.g., which elements most frequently paired with each EO dimension). Query outputs informed, but did not determine, candidate themes; interpretive memos articulated the central organising concept of each candidate (Miles et al., 2020).

3.8.1.4. Reviewing themes.

Candidates were checked against both coded extracts and the full dataset. Weak or overlapping themes were pruned, merged, or split.

Defining and naming themes:

Each accepted theme was finalised with (see Appendix D)

- a concise definition;
- the set of contributing codes;
- conditions of presence/absence; and

- explicit links to the theoretical frame.

3.8.1.5. Addressing discrepant cases in themes

It is important in qualitative study, any discrepant, deviant cases or outliers such as narratives that contradict the main patterns are examined as they are vital for refining and validating of the narrative's interpretations in order to a credible study (Patton, 2015; Lincoln & Guba, 1985). According to Creswell & Poth (2018) it is important that procedures like peer checking and diligently identifying contradictions in coding for more accurate qualitative analysis to support credible conclusions.

In order to tackle such issues, the steps are as follows (Braun & Clarke, 2006, Nowell et al., 2017; Lincoln & Guba, 1985; Creswell & Poth, 2018):

- Step 1: Active identification of narratives (data) that challenges emerging themes or patterns at the coding stage.
- Step 2: Where there are contradictions, the narratives are noted and reviewed through reflective memos ensuring they are not suppressed by main themes or subthemes.
- Step 3: Decides whether to integrate, adapt, or explain any outliers observed, and justify the rationale.
- Step 4; Interpret these discrepant cases contextually to determine if they are an exception, emerging perspectives or represent tensions.

For example, in one interview, S11 mentioned that he found his HEPEI's trainers were not in favour of a shortened training program as they are concern about reduced learning quality, however, the institution went ahead with the change since management felt that it is needed to satisfy market needs. Despite trainers' objections, the change actually resulted in better student outcomes as it involved using digital tools for efficiency. This case, under normal reading may be misunderstood as a simple misalignment with market and digital trends. But reading deep, the strong objections by the trainers represented a critical discrepant concern about tensions between innovation and conventional approaches in pedagogical settings.

Another example, an interview with S5 indicate that most HEPEI leaders cited regulatory constraints as a business issue, S5 viewed regulation as necessary to enhance institutional

quality standards. S5's positive perspectives prompted a re-framing of "regulatory constraints" into a dual theme of "Regulatory and Government Influence" versus "Management Support for Innovation. By studying deeper into contrasting views, a more holistic picture of HEPEI's organisational dynamics and stakeholder views can be achieved that lead to supporting more trustworthy conclusions.

3.8.1.6. Producing the report.

Themes are reported with clear claims, warranted by quotations and supported by cross-case tables in Chapter 4 Research Findings and Chapter 5 Discussion and Analysis of Findings. Any numerical summaries are explicitly labelled as salience indicators.

3.8.2 Trustworthiness: Reliability and Validity

Following Lincoln and Guba's framework, quality was addressed through credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (objectivity). The specific procedures used, their purposes, and how they map to these criteria are set out below (Lincoln & Guba, 1985; Shenton, 2004; Nowell, Norris, White, & Moules, 2017).

3.8.2.1. Credibility.

- Member checking (targeted). A concise summary of the emergent findings was sent to six interviewees with the prompt, "Does this reflect what you meant?" Clarifications were incorporated; no substantive retractions were requested. This step tests the plausibility of interpretations with data providers and reduces the risk of misrepresentation (Lincoln & Guba, 1985; Nowell et al., 2017).
- Peer review of coding (20%). A colleague independently reviewed approximately one-fifth of the NVivo-coded material, commenting on code choice and boundary conditions. Disagreements prompted refinement of code definitions rather than pursuit of mechanical agreement, consistent with reflexive TA. This introduces a second analytic lens and challenges idiosyncratic readings (Shenton, 2004).

3.8.2.2. Dependability.

- Version-controlled audit trail. All key artefacts, including audio, transcripts, memos, codebook versions, coding queries, and theme decisions, were stored with date-

stamped versioning. Each codebook changes records the rationale and affected transcripts, creating a transparent “breadcrumb trail” from raw talk to theme. This enables external audit of the analytic pathway and supports procedural stability over time (Lincoln & Guba, 1985; Miles, Huberman, & Saldaña, 2020).

3.8.2.3. *Confirmability.*

- Reflexivity statement and memos. A succinct positionality statement discloses the researcher’s background in the private-education sector and possible influences on questioning and interpretation. Throughout analysis, reflexive memos documented assumptions, surprises, and decision points. The combination demonstrates that findings are grounded in the dataset and not solely in researcher preference (Lincoln

Together these provisions provide a balanced assurance of trustworthiness: participants verified that interpretations reflect their meaning (credibility); an auditable, versioned record documents analytic decisions (dependability); reflexive documentation demonstrates neutrality of procedure (confirmability). This suite is appropriate for reflexive thematic analysis in an interpretivist design (Braun & Clarke, 2006; Nowell et al., 2017; Lincoln & Guba, 1985).

3.8.3 Alignment to research objectives

These steps deliver a transparent, defensible analysis that remains tightly coupled to the theoretical framework and to RO1–RO3 (Braun & Clarke, 2006; Lincoln & Guba, 1985; Miles et al., 2020; Weick, 1995; Lumpkin & Dess, 1996; Billingsley et al., 2021).

- **RO1 (Sensemaking alignment).** Reporting aggregates evidence under the seven Sensemaking children, with cross-case tables indicating where each element is elaborated by procedures captured in mechanism codes.
- **RO2 (Sensemaking > EO).** Linkage matrices and resulting themes specify which Sensemaking elements most consistently pair with each EO dimension; the write-up states the organising concept for each linkage.

- **RO3 (Sensemaking > GME).** Parallel mapping identifies how Sensemaking practices are associated with the five GME facets, focusing on leadership and capability-building routines.

3.9 Methodological Evaluation

This section appraises the design in terms of trustworthiness: credibility, transferability, dependability and confirmability, and balances strengths with transparent limitations and the mitigations used. The aim is not perfectionism but defensible adequacy for an interpretivist, elite-interview study (Lincoln & Guba, 1985; Shenton, 2004; Nowell, Norris, White, & Moules, 2017).

3.9.1 Methodological strengths

3.9.1.1. Elite access and role diversity.

Fifteen senior leaders from ten EduTrust HEPEIs were interviewed, spanning owners, C-suite executives, Academic Board members, a group managing director, programme heads and senior strategy roles. This spread concentrates decision authority and governance exposure, the preconditions for gathering mechanism accounts: decision rights, thresholds, cadence, resourcing, rather than opinion alone. Thick contextual description of institutions, roles and tenure supports readers' transferability judgements (Shenton, 2004).

3.9.1.2. Face-to-face, semi-structured interviews with chronology and counterfactual probes.

In-person interviews increased rapport, afforded observation of contextual cues, and enabled flexible probing. Chronology prompts (*cue > forum > decision > review*) and counterfactuals ("a time it failed, who disagreed and why") systematically surfaced discrepant cases. This is consistent with guidance for elite interviewing where tacit knowledge, impression management, and strategic ambiguity are common (Kvale, 2007; Hennink, Hutter, & Bailey, 2020).

3.9.1.3. Reflexive Thematic Analysis

Braun and Clarke's reflexive thematic analysis was implemented with a version-controlled codebook, mechanism sub-codes, peer review of about 20% of coded material, targeted member checks, and a complete audit trail linking audio, transcripts, memos, queries and theme decisions. This architecture strengthens dependability and confirmability and aligns

with TA trustworthiness checklists (Braun & Clarke, 2006; Nowell et al., 2017; Miles, Huberman, & Saldaña, 2020).

3.9.1.4. Deductive Evaluation

Data collection, coding and reporting were anchored to Weick's seven sensemaking elements, EO's five dimensions, and GME's five facets (Weick, 1995; Lumpkin & Dess, 1996; Billingsley et al., 2021). Matrix queries in NVivo supported systematic exploration of Sensemaking and EO/GME linkages without reducing interpretation to counts, maintaining theoretical fidelity while allowing inductive refinement.

3.9.2 Methodological Limitations and Mitigations

The following appraisal distinguishes sample limitations from design limitations, and for each states the concrete mitigations adopted.

(A) Sample limitations and mitigations

Context specificity (Singapore; EduTrust regime).

A compliance-intensive environment shapes which cues are salient, how risk is framed, and the pace at which change is authorised. Findings should therefore be read as analytic generalisations rather than population estimates. To mitigate over-reach, the thesis provides thick description of the regulatory and market context and specifies the conditions under which each mechanism appeared to hold, enabling readers to judge transferability to non-EduTrust or non-Singapore settings (Shenton, 2004; Slack & Draugalis, 2001; Serra & Torrell, 2022).

Access and sample-frame bias.

Using the EduValue client frame can tilt the sample toward better-governed, compliance-savvy HEPEIs, potentially under-representing fragile or non-certified providers. This was addressed by applying purposive inclusion criteria that targeted senior decision authority across multiple provider types, extending recruitment through snowball referrals to widen institutional and functional breadth, and reporting rich sample characteristics so that readers can assess fit to other contexts. The analysis advances mechanisms and boundary conditions, not prevalence claims (Shenton, 2004; Saunders, Lewis, & Thornhill, 2019).

Sample size and saturation.

Elite access constraints naturally limit scale, and smaller samples may narrow viewpoint diversity. Saturation in relatively homogeneous elite samples commonly occurs within 12–18 interviews (Guest, Bunce, & Johnson, 2006). Saturation was monitored iteratively; when no new first-order codes appeared after Interview 13, two additional interviews were conducted to test boundary conditions by institution type and role. The study explicitly adopts the information-power principle, prioritising focus, specificity and dialogue quality over headcount (Hennink, Hutter, & Bailey, 2020).

Scarcity of local scholarship and commercial data.

Peer-reviewed work at the intersection of sensemaking, EO and GME in Singapore PEIs is limited, increasing the risk of over-extrapolation. The study therefore anchors claim in established theory, Weick's sensemaking, EO, and GME, and draws cautiously on adjacent sectors to scaffold inference. External validity limits are stated explicitly, and findings are positioned as first-cut mechanisms to be tested and refined by subsequent studies (Creswell & Creswell, 2017; Ancona, 2011; Holt & Cornelissen, 2014; Fatima & Bilal, 2019; Cristofaro, 2022).

(B) Design and process limitations and mitigations

Interpretivist subjectivity.

Interpretation is necessarily theory-laden and researcher-influenced (Creswell & Creswell, 2017). To protect credibility and confirmability, the study maintained a reflexive stance throughout: same-day memos recorded assumptions and surprises; approximately 20% of coded material underwent peer review to challenge boundary decisions; and member checks with six informants confirmed that short summaries reflected intended meaning. These procedures make the reasoning path reviewable and restrain idiosyncratic readings (Lincoln & Guba, 1985; Nowell et al., 2017).

Social desirability and impression management.

Senior leaders may offer polished narratives that favour success stories. The interview protocol guaranteed anonymity, embedded counterfactual prompts (“a time it failed,” “who disagreed and why”) to elicit mechanisms rather than slogans. Where disclosure might identify an institution, the thesis paraphrases in the text while preserving verbatim extracts in the secure audit trail, balancing protection with traceability (Reid et al., 2018; Drolet et al., 2023).

Recall bias.

Strategy episodes reconstructed after the fact can conflate justification with learning. Interviews therefore insisted on concrete episodes with dates, thresholds and forums, and the coding scheme distinguished retrospective justification from retrospective learning (Hennink et al., 2020; Braun & Clarke, 2006).

Framework complexity and potential oversimplification.

Weick’s seven elements are interrelated: slicing them into codes risks segmenting what practitioners experience as a flow (Weick, 1995). To reduce this danger, the codebook examined co-occurrence patterns across Sensemaking × EO/GME. Peer review focused on code-boundary clarity rather than mechanical agreement, consistent with reflexive TA (Braun & Clarke, 2006; Miles, Huberman, & Saldaña, 2020).

Together, these mitigations do not remove all constraints, but they bound the risks and make them inspectable. The design’s strengths, including elite access, in-person depth, counterfactual probing, and a governed, reflexive analytic workflow, provide a robust basis for the study’s mechanism-focused claims, while the limitations are stated, evidenced, and managed in ways consistent with accepted qualitative standards (Lincoln & Guba, 1985; Shenton, 2004; Braun & Clarke, 2006; Nowell et al., 2017).

3.9.3 Directions for Future Research

Building on a cross-sectional, elite-interview design, future work should test persistence, boundary conditions, and causal plausibility. Longitudinal process studies can track decisions from cue detection through pilot, scale, and post-hoc review so that thresholds, reversals, and learning cycles are observed rather than reconstructed (Langley, 1999; Pettigrew, 1990; Van

de Ven, 2007). Comparative case designs should contrast EduTrust 4-year providers with provisional or non-EduTrust institutions to examine how regulatory intensity conditions autonomy, risk-taking, and proactiveness (Eisenhardt, 1989; George & Bennett, 2005; Ragin, 1987).

Mixed-methods designs can triangulate qualitative process tracing with masked quantitative indicators—pilot-to-scale conversion rates, time-to-decision, rework cycles, module-outcome variance, stakeholder feedback—linking mechanisms to patterns while protecting confidentiality (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010).

To curb recall bias, diary/experience-sampling approaches could capture cues and plausibility thresholds in real time within leadership teams (Beal & Weiss, 2003; Bolger & Laurenceau, 2013; Fisher & To, 2012). Finally, network-aware analyses that map forums, approvers, veto points, and influence ties would clarify how social dynamics convert ideas into authorised action; pairing such maps with temporal data would strengthen causal narratives about mobilisation and decision flow, and replication in other regulated markets would test transferability (Borgatti, Everett, & Johnson, 2013; Kilduff & Tsai, 2003).

3.10 Summary

Chapter 3 establishes a coherent, theory-led qualitative methodology to examine how senior leaders in Singapore’s EduTrust-accredited higher-education private-education institutions make sense of their environment and translate that sensemaking into entrepreneurial action and capability building. The study adopts an interpretivist–constructivist stance in which organisational reality is treated as negotiated and context bound. Leadership behaviour is read as sensemaking work enacted through cue selection, plausibility testing and continual revision (Weick, 1995, 2020; Berger & Luckmann, 1966; Guba & Lincoln, 1994). A deductive orientation anchors data collection and analysis to three frameworks: Weick’s seven elements of sensemaking, the five dimensions of entrepreneurial orientation (EO), and the five facets of the growth mindset of entrepreneurship (GME) covering leadership, creativity, personality, intelligence and entrepreneurial ability (Lumpkin & Dess, 1996; Billingsley et al., 2021).

Methodologically, the core dataset comprises fifteen in-person, semi-structured interviews with owners, C-suite leaders, Academic Board members and functional heads from ten four-

year EduTrust HEPEIs. A five-interview pilot preceded fieldwork. The pilot confirmed construct coverage and access feasibility, and it revealed where prompts needed to move from trait talk to decision mechanisms, broaden cue portfolios, and pair speed with guardrails. The final instrument was therefore expressed in four practitioner-facing domains (i.e., Culture of Entrepreneurship, External Factors, Individual Traits, and Social Dynamics) while preserving one-to-one back-mapping to the theoretical frame. Saturation was monitored and observed after Interview 13, consistent with guidance for elite samples (Guest, Bunce, & Johnson, 2006; (Kvale, 2007).

Analysis follows Braun and Clarke's reflexive thematic analysis. Coding begins with a deductive scaffold that nests Weick's seven elements, EO and GME, then develops mechanism sub-codes to capture processes such as cue types, decision forums, thresholds and cadence. Themes are treated as patterns of shared meaning produced through active interpretation. Counts are used only as indicators of salience rather than causal effect (Braun & Clarke, 2006). Trustworthiness is supported through member checks, peer review of roughly twenty percent of codes, a version-controlled codebook and audit trail, and continuous reflexive demoing, mapped to credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985; Nowell et al., 2017).

Ethical approval was secured. Consent, anonymity and secure data management meet university and EduTrust expectations. The chapter closes with a balanced evaluation. Strengths include elite access, role diversity, counterfactual probing and governed analysis. Limitations include frame bias, recall, and context specificity. Mitigations and boundary conditions are stated, preparing readers for Chapter 4's findings that report mechanisms rather than mere opinions and link sensemaking to EO and GME with clarity and restraint (Saunders, Lewis, & Thornhill, 2019).

Chapter 4: Research Findings

4.1 Overview

This chapter presents the findings from the semi-structured interviews conducted with 20 senior leaders from Singapore's Higher Education Private Education Institutions (HEPEIs). The primary data, derived from the interview transcripts, was analysed using a thematic analysis approach, as outlined by Braun and Clarke (2006). This method was chosen for its flexibility and suitability in identifying, analysing, and reporting patterns (or themes) within the rich qualitative data. The process involved several phases, beginning with data familiarisation, followed by systematic coding of the entire dataset, and culminating in the generation, review, and definition of themes. A sample interview details can be found in Appendix C.

4.2 Thematic Analysis

The analysis was guided by the study's theoretical framework, which integrates Weick's (1995) seven properties of sensemaking with the core dimensions of Entrepreneurial Orientation (EO) and the Growth Mindset of Entrepreneurship (GME). The identified themes directly address the research questions by illuminating how HEPEI leaders make sense of their complex operating environment, how this sensemaking influences their entrepreneurial strategies, and how it fosters a growth mindset within their institutions.

4.2.1. Main and subtheme development

Four primary themes emerged from the data, corresponding to the main sections of the interview protocol:

- (1) The Institutional Culture of Entrepreneurship, which explores how HEPEIs approach and embed entrepreneurial thinking.
- (2) The Influence of External Factors, detailing the impact of regulatory pressures and market dynamics.
- (3) The Role of Individual Traits, focusing on the personal characteristics that drive entrepreneurial decisions; and
- (4) The Impact of Social Dynamics, which examines how internal relationships and collaboration foster innovation.

As illustrated in Table 8: Main Theme and Subtheme Development, the following table details the main themes and subthemes that emerged from the analysis of the interview transcripts. Each theme is defined and substantiated with direct quotations from the participants to provide a rich and evidence-based account of the findings.

Table 8: Main Theme and Subtheme Development

Main Theme	Subtheme	Definition & Elaboration	Exemplar Quotes
1. Culture of Entrepreneurship (CE)	1.1 Management Support for Innovation	This subtheme captures the extent to which senior leadership actively encourages and supports new ideas, projects, and entrepreneurial actions from staff. It reflects an organisational climate where initiative is valued and staff are empowered to contribute to growth, aligning with the EO dimension of Autonomy.	"In the company, management quite encourage the staff to have their own ideas and can contribute any ideas in any event. For example, in marketing, the staff can have suggest any ideas to promote the school or school courses." (S15) ;"He is always hungry for new ideas and he's always ready to pick up new projects... He's supportive to any idea, anything, or anyone can walk into his room or send him a proposal." (S12)

	<p>1.2 Institutional Hindrances to Entrepreneurship</p>	<p>This subtheme identifies organisational barriers that stifle entrepreneurial thinking and action. These include excessive bureaucracy, a lack of resources, a risk-averse culture, and a failure to translate ideas into action, often stemming from a disconnect between management's intent and operational reality.</p>	<p>"To be really honest, I don't think they have mentioned about this [entrepreneurship among staff]... I wouldn't say support because they didn't really mention. I would say perhaps the only thing that might hinder is because they didn't really mention about alternative way of thinking." (S13) ;"Private institutions, because of a lot of the audits, and they got to keep themselves up with paperwork, right? So, 90% of the time, they want to ensure that everything fits into that mechanism that has been crafted by SSG, so they don't have time to actually use think out-of-the-box." (S16)</p>
	<p>1.3 Formal and Informal Development Activities</p>	<p>This subtheme describes the specific methods, such as workshops, project ideation schemes, and collaborative meetings, used by HEPEIs to cultivate an entrepreneurial culture. It reflects the Enactment of a Sensible Environment where staff are given tools and platforms to develop and</p>	<p>"We throw in things like, uh, we call it a project ideation. Okay. Any staff can come up with an idea. And, uh, if the idea has been, uh, approved by the senior management, they will be given a budget as well as the liberty to source their team members within the company to run that project." (S12) ;"We had a design workshop... one year ago for staff and students. So hopefully that is the first step that we can cultivate the entrepreneurship thinking." (S18)</p>

		share innovative ideas.	
2. External Factors (EF)	2.1 Regulatory and Government Influence	This subtheme addresses the significant impact of government bodies like SkillsFuture Singapore (SSG) and the EduTrust certification scheme on HEPEI operations and strategy. It highlights the constant pressure of compliance, which shapes decision-making and can limit strategic flexibility. This is a primary Meaningful Cue for leaders.	"External factors, I think, okay, number one, SSG guidelines... it's only players who know these rules really well can sustain. Because if not, your EduTrust is affected... So the PI is practically on fire on every day, like, hey, have we done this right?" (S16) ;"In Singapore, we all know that government quite strict on this regulation and law... for example, EduTrust regulation, more and more tough to meet." (S15)
	2.2 Market Competition and Dynamics	This subtheme focuses on the intense competition from other HEPEIs and publicly funded institutions, as well as the shifting dynamics of the student market (e.g., heavy reliance on students from China). This requires Proactiveness and Competitive Aggressiveness to survive.	"I would say the PI, I mean, in Singapore is very competitive. Yeah. So, especially some of the private school, they are very big... What about our school, I would consider, it's very new, also quite small. So that's why this is very challenging for us." (S11); "The market is predominantly Chinese. So, I think it is the shift in the student profile. Uh, also the tighter regulation that is imposed by CPE, which is a good thing." (S6)

	2.3 Institutional Adaptation Strategies	This subtheme describes the concrete actions HEPEIs take to adapt to external pressures, such as diversifying student markets, launching new and unique programs, and forming strategic partnerships. This demonstrates an Ongoing Process of sensemaking and strategic adjustment.	"We try to open up more channels, so we can get students from different resources. So, and also try to open up other countries' market, for example, Vietnam, India." (S15) ; "Because of that many competitors, I think last year we started the diploma in tourism and hospitality. We also started the specialist diploma in entrepreneurship... So, I think this is also one way to have more programs to attract students." (S17)
3. Individual Traits (IT)	3.1 Proactiveness and Risk-Taking	This subtheme highlights the personal characteristics of leaders and staff who drive entrepreneurial ventures. It includes traits like being "gung ho," having the courage to take calculated risks, and being persistent and proactive, which are central to both EO and a Growth Mindset.	"Firstly, innovative... Secondly is the trait that you have the courage to take risk, to take risk. Because new things never tried before, it can be success, it can be fail." (S15); "As we say in Singapore, gung ho... you take calculated risk, but then you make a firm decision there and then... If we go for the paperwork, we are way far behind for the time." (S16)

	3.2 Agility and Quick Thinking	This subtheme emphasizes the importance of being smart, nimble, and quick in making decisions within a fast-changing educational landscape. It reflects the cognitive aspect of sensemaking, where leaders must process information rapidly to make Plausible judgments.	"Very, very important. Uh, I think it has to be very nimble... students have the luxury of choice... because of that, um, it is about nimble, adapting to the market, seeing what they want, seeing the external market. That is very critical." (S6) ;"I think it's very, very essential. Smart and quick thinking and you must have backup plans." (S16)
	3.3 Openness and Collaborative Mindset	This subtheme focuses on the personal willingness to be open to new ideas, share information, and collaborate with others. This trait is foundational to effective Social Interaction and is a key component of a leader's ability to foster a GME.	"Here I think the most important must be open... whatever the idea we have we should open it I mean share with the management so they are able to receive some news concept or whatever." (S11) ;"I think the ideal colleagues would be someone that you feel like... I'm branded to ERC. Every single person... when you have the same mindset... the birds of the same feathers flock together." (S16)

<p>4. Social Dynamics (SD)</p>	<p>4.1 Open Communication Channels</p>	<p>This subtheme describes the structures and norms that facilitate open dialogue and information flow between staff and management. This includes open-door policies, regular meetings, and digital platforms that break down hierarchical barriers.</p>	<p>"The relationship between management and the staff are quite closed. For example, the door of the CEO's room is not closed and it's open. So you can... any time looking for... to meet them." (S15); "For my institution, it's more open. There's no mental barrier, there's no physical barrier also... Because the office is very open... There's no cubicle like this. Open concepts." (S13)</p>
	<p>4.2 Inter-departmental Collaboration vs. Silos</p>	<p>This subtheme contrasts the benefits of strong inter-departmental teamwork with the negative impact of departmental silos and clashes. Effective collaboration is shown to be a critical mechanism for turning ideas into successful projects.</p>	<p>"I think collaboration is something that's very important between departments... The entrepreneurship should be in each one of us... Let's get this collaboration going. I think that lacks and that stops the entrepreneurship to get to another level." (S16) ; "For PIs, the problem is there's a lot of department clashes, the work gets repeated... So in that sense, the project gets initiated but never completed because of all this war." (S16)</p>

	4.3 Formal and Informal Team Building	This subtheme covers the various activities, from formal town halls to informal social gatherings ("makan sessions"), that institutions use to build trust, strengthen relationships, and foster a sense of shared Identity and purpose among staff.	"For internal stakeholders, we will have town hall and then we will also have our, uh, Makan session... For external stakeholders... they will have regular, uh, meetup." (S18) ;"We used to have some sometimes we used to call ah out together. I guess that help because that kind of break down barriers between departments." (S14)
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4.2.1.1. Theme 1: Culture of Entrepreneurship

The first main theme, Culture of Entrepreneurship, encapsulates how HEPEIs perceive, support, and cultivate entrepreneurial thinking and action within their organisations. The findings reveal a significant tension between a genuine leadership desire for innovation and the practical constraints imposed by a highly regulated and resource-scarce environment. This theme is explored through three subthemes: the nature of management support for new ideas, the institutional hindrances that temper entrepreneurial efforts, and the specific activities used to develop an entrepreneurial culture.

4. Management Support for Innovation

A consistent pattern across the interviews was the strong, top-down encouragement for entrepreneurial behaviour. Leaders described an organisational climate where staff are not only permitted but actively encouraged to propose new ideas. This support often manifests as an open-door policy and a willingness to listen to novel proposals, regardless of their origin within the hierarchy. As one COO (S12) explained, the founder is "always hungry for new ideas and he's always ready to pick up new projects." He further elaborated that the CEO is "supportive to any idea, anything, or anyone can walk into his room or send him a proposal of, um, what he feels, uh, can, can help the education industry."

This proactive stance from leadership is crucial in creating psychological safety, where employees feel empowered to take initiative without fear of immediate rejection. A Sales Manager (S15) reinforced this, stating, "In the company, management quite encourage the staff to have their own ideas and can contribute any ideas in any event." This approach directly fosters the Autonomy dimension of Entrepreneurial Orientation, as it grants individuals and teams the freedom to explore and champion new opportunities. It also reflects a Growth Mindset of Leadership, where the organisation's capacity for innovation is seen as something that can be developed through the collective contributions of its members.

5. Institutional Hindrances to Entrepreneurship

Despite the strong verbal support from management, participants identified significant institutional barriers that hinder the translation of entrepreneurial intent into action. The most frequently cited obstacle was the overwhelming burden of regulatory compliance and associated paperwork. A Head of Marketing (S16) vividly described this challenge:

"Private institutions, because of a lot of the audits, and they got to keep themselves up with paperwork, right? So, 90% of the time, they want to ensure that everything fits into that mechanism that has been crafted by SSG, so they don't have time to actually... think out-of-the-box."

This intense focus on compliance consumes time and cognitive resources, shifting the organisational focus from innovation to risk mitigation. It creates an environment where adherence to established procedures is prioritised over experimentation. This finding suggests that while leaders may possess a growth mindset, the institutional environment can enforce a fixed mindset at the operational level, where deviation from the norm is perceived as a risk to their EduTrust status.

Furthermore, in some institutions, the push for entrepreneurship was not explicitly communicated or embedded in the culture. An Academic Board Member (S13) noted the absence of a clear mandate: "I wouldn't say support because they didn't really mention... the only thing that might hinder is because they didn't really mention about alternative way of thinking. So there's no emphasis in this direction." This lack of explicit emphasis can create

ambiguity, leaving staff unsure whether entrepreneurial actions are genuinely valued or merely tolerated.

6. Formal and Informal Development Activities

To counteract these hindrances and actively build an entrepreneurial culture, leaders reported implementing specific, structured activities. These initiatives represent a conscious effort to Enact a Sensible Environment, a key component of Weick's (1995) sensemaking framework, where the conditions are deliberately shaped to make entrepreneurial action more plausible and accessible.

One of the most concrete examples was a "project ideation" scheme, described by a COO (S12):

"Any staff can come up with an idea. And, if the idea has been approved by the senior management, they will be given a budget as well as the liberty to source their team members within the company to run that project."

This mechanism formalises the innovation pipeline, providing a clear pathway from idea to execution and empowering staff with both resources (budget) and autonomy (team selection). It directly cultivates the GME traits of Entrepreneurial Ability and Creativity.

Other institutions have used workshops to introduce and normalise innovative thinking. An Academic Head (S18) mentioned, "We had a design workshop... one year ago for staff and students. So hopefully that is the first step that we can cultivate the entrepreneurship thinking." These activities, whether formalised project schemes or introductory workshops, serve as tangible signals from leadership that entrepreneurial contributions are a valued part of the institution's identity and strategy. They provide the necessary scaffolding to move beyond mere encouragement towards building a genuine capacity for innovation.

4.2.1.2. Theme 2: External Factors

The second theme, External Factors, addresses the powerful outside influences that shape the strategic landscape for HEPEIs in Singapore. Participants consistently identified a duopoly of pressures: stringent government regulation and intense market competition. The way leaders make sense of and respond to these external forces is central to their institution's survival and

growth. This theme is organised into three subthemes: the pervasive influence of regulatory bodies, the dynamics of market competition, and the adaptive strategies institutions employ in response.

7. Regulatory and Government Influence

The data overwhelmingly indicate that government regulation is the most significant external factor affecting HEPEIs. The guidelines set by SkillsFuture Singapore (SSG) and the requirements of the EduTrust certification scheme function as primary Meaningful Cues that dictate a wide range of operational and strategic decisions. This regulatory environment is perceived as highly demanding and a constant source of pressure. As the Head of Marketing (S16) articulated:

"External factors, I think, okay, number one, SSG guidelines... it's only players who know these rules really well can sustain. Because if not, your EduTrust is affected... So the PI is practically on fire on every day, like, hey, have we done this right? Has this right?"

This sentiment was echoed by a Sales Manager (S15), who noted that "government quite strict on this regulation and law... for example, EduTrust regulation, more and more tough to meet."

The consequence of this intense regulatory focus is that it fosters a culture of risk aversion. The need to maintain compliance often overshadows the desire for innovation, as the perceived cost of a misstep is too high. This creates a strategic paradox where institutions must be entrepreneurial to compete, yet conservative to remain compliant. Leaders are thus engaged in a continuous sensemaking process, trying to balance the demands of regulators with the need for market-driven agility.

8. Market Competition and Dynamics

The second major external pressure is the highly competitive nature of the private education market. Participants described a challenging landscape characterized by a large number of providers competing for a limited pool of students, particularly international students.

A Director of Programme and Business Operations (S11) highlighted the disparity in resources: "I would say the PI... in Singapore is very competitive... especially some of the private school,

they are very big... What about our school, I would consider, it's very new, also quite small. So that's why this is very challenging for us."

This competition necessitates a strong Proactiveness and a degree of Competitive Aggressiveness, key dimensions of EO. Institutions must constantly scan the market, anticipate trends, and differentiate their offerings. The market dynamics are further complicated by a heavy reliance on specific international student populations.

An Academic Director (S6) observed, "The market is predominantly Chinese. So, I think it is the shift in the student profile." This dependency creates vulnerability to geopolitical shifts, changes in visa policies, and economic fluctuations in the source country, adding another layer of uncertainty that leaders must navigate.

9. Institutional Adaptation Strategies

In response to these regulatory and market pressures, HEPEIs have developed a range of adaptive strategies. These actions demonstrate an Ongoing Process of sensemaking, where institutions continuously adjust their strategies based on new information and environmental shifts. A primary strategy is the diversification of student markets to reduce reliance on a single country. A Sales Manager (S15) stated, "We try to open up more channels, so we can get students from different resources... and also try to open up other countries' market, for example, Vietnam, India."

Another key adaptation is program innovation. To stand out in a crowded market, institutions are launching new, specialized programs designed to meet emerging industry needs. A Deputy Academic Director (S17) provided a concrete example:

"Because of that many competitors, I think last year we started the diploma in tourism and hospitality. We also started the specialist diploma in entrepreneurship, which we have not actually started before. So, it's something new... to attract students to our school."

These strategies reflect a proactive, entrepreneurial response to external constraints. Rather than passively accepting market conditions, these HEPEIs are actively shaping their environment by seeking new markets and creating new value propositions. This adaptive capacity is essential for long-term sustainability in the volatile private education sector.

4.1.2.3. Theme 3: Individual Traits

The third theme, Individual Traits, focuses on the personal characteristics and cognitive styles that senior leaders believe are essential for driving entrepreneurial success within their institutions. The findings suggest that beyond organisational structures and strategies, the mindsets and personal attributes of key individuals are critical determinants of an HEPEI's ability to innovate and adapt. This theme is examined through three subthemes: the importance of proactiveness and risk-taking, the need for agility and quick thinking, and the value of an open and collaborative mindset.

10. Proactiveness and Risk-Taking

A recurring motif in the interviews was the necessity for individuals to possess a proactive and risk-tolerant disposition. These traits were seen as the engine of entrepreneurial action. A Sales Manager (S15) identified innovation and courage as fundamental: "Firstly, innovative... Secondly is the trait that you have the courage to take risk... Because new things never tried before, it can be success, it can be fail." This willingness to embrace uncertainty is a cornerstone of the Risk-Taking dimension of EO.

This idea was further developed by a Head of Marketing (S16), who used a local colloquialism, "gung ho," to describe the ideal entrepreneurial attitude. She explained this as the ability to take "calculated risk, but then you make a firm decision there and then." This implies a bias for action, a willingness to move forward without complete information, which is often necessary in a fast-paced market. She contrasted this with a more bureaucratic approach:

"If we go for the paperwork, we are way far behind for the time."

This highlights a core tension in HEPEIs: the individual trait of proactiveness often clashes with the institutional imperative for procedural caution. Individuals with a Growth Mindset are more likely to exhibit these traits, as they view challenges as opportunities and are less deterred by the possibility of failure.

11. Agility and Quick Thinking

Complementing proactiveness is the cognitive skill of agility and quick thinking. Participants emphasized that in the dynamic education sector, the ability to process information rapidly

and make timely decisions is a significant competitive advantage. An Academic Director (S6) stressed the importance of being nimble:

"Very, very important. Uh, I think it has to be very nimble... students have the luxury of choice... because of that, um, it is about nimble, adapting to the market, seeing what they want, seeing the external market. That is very critical."

This capacity for rapid sensemaking allows leaders to make **Plausible** judgments under pressure. It is not just about speed, but also about the quality of the decision-making process. The Head of Marketing (S16) linked this to strategic preparedness, stating, "I think it's very, very essential. Smart and quick thinking and you must have backup plans." This suggests that agility is not just reactive; it involves foresight and contingency planning. This aligns with the GME dimension of Intelligence, which encompasses not just raw intellect but also the ability to think strategically and adaptively.

12. Openness and Collaborative Mindset

The final individual trait identified as crucial is a fundamental openness to new ideas and a collaborative spirit. This trait is the personal foundation upon which effective Social Interaction and collective sensemaking are built. A Director (S11) stated this simply: "Here I think the most important must be open... whatever the idea we have we should open it I mean share with the management, so they are able to receive some news concept or whatever."

This openness is not just about being receptive to ideas from others; it is also about actively seeking out collaboration and recognizing the value of a shared mindset. A Head of Marketing (S16) described the ideal team dynamic:

"I think the ideal colleagues would be someone that you feel like... I'm branded to ERC. Every single person... when you have the same mindset... the birds of the same feathers flock together."

This perspective underscores that individual traits do not operate in a vacuum. A personal characteristic like openness becomes organizationally powerful when it is shared, creating a collective capacity for innovation. This trait is a prerequisite for a healthy GME, as it fosters a learning orientation and a willingness to build upon the ideas of others.

4.1.2.4. Theme 4: Social Dynamics

The final theme, Social Dynamics, explores how the network of relationships, communication patterns, and collaborative practices within an HEPEI influences its entrepreneurial capacity. The findings indicate that the quality of social interactions is a critical mediator between individual entrepreneurial traits and institutional outcomes. A positive social environment can amplify innovation, while a dysfunctional one can stifle even the most promising ideas. This theme is analyzed through three subthemes: the role of open communication channels, the contrast between inter-departmental collaboration and silos, and the impact of formal and informal team-building activities.

13. Open Communication Channels

Participants highlighted that an environment of open communication is a key enabler of innovation and agility. This is achieved through both formal structures and informal norms that reduce hierarchical barriers and encourage the free flow of information. A Sales Manager (S15) described a physically and culturally open environment: "The relationship between management and the staff are quite closed. For example, the door of the CEO's room is not closed and it's open. So you can... any time looking for... to meet them."

This physical openness is often mirrored in the organizational design. An Academic Board Member (S13) described his institution as having "no mental barrier, there's no physical barrier also... Because the office is very open... Open concepts." Such environments facilitate spontaneous Social Interactions, allowing ideas to be shared and debated informally. This aligns with sensemaking theory, which posits that meaning is constructed through social dialogue. When communication channels are open, the process of collective sensemaking is more efficient and effective, allowing the organization to respond more quickly to challenges and opportunities.

14. Inter-departmental Collaboration vs. Silos

While open communication is necessary, the findings show that it is not sufficient. Effective inter-departmental collaboration is what translates communication into coordinated action. Several participants lamented the negative impact of departmental silos, which they saw as a major impediment to entrepreneurship. The Head of Marketing (S16) offered a stark contrast.

On the one hand, she asserted, "I think collaboration is something that's very important between departments... The entrepreneurship should be in each one of us... Let's get this collaboration going." However, she then described the reality in many PIs:

"For PIs, the problem is there's a lot of department clashes, the work gets repeated, or the work is classified under 2 umbrellas... So, both are fighting for the same thing. So, in that sense, the project gets initiated but never completed because of all this war."

This "war" between departments prevents the organization from leveraging its collective intelligence. It hinders the ongoing process of sensemaking, as information is hoarded rather than shared, and it undermines the proactiveness of the institution as a whole. Conversely, when collaboration is strong, it creates a powerful engine for innovation, allowing different perspectives and expertise to be combined to solve complex problems.

15. Formal and Informal Team Building

To foster a collaborative environment and a sense of shared purpose, HEPEIs utilize a variety of formal and informal team-building activities. These practices are crucial for building the social capital and trust that underpin effective teamwork. Formal events like town halls serve to align the organization around a common strategy and identity. An Academic Head (S18) mentioned, "For internal stakeholders, we will have town hall."

Equally important are the informal social gatherings that build personal relationships and break down departmental barriers. An Academic Head (S14) noted the value of these interactions: "We used to have some sometimes we used to call ah out together. I guess that help because that kind of break down barriers between departments."

These events, from structured meetings to casual "makan sessions" (a local term for eating together), are mechanisms for reinforcing a collective identity and facilitating the social sensemaking process. They create a cohesive social fabric that enables the organization to function more effectively, particularly when facing the external pressures and internal challenges inherent in the private education sector.

4.3. Summary of Findings

This chapter has presented the thematic analysis of interviews with senior leaders from Singapore's Higher Education Private Education Institutions (HEPEIs). The findings are structured around four central themes (i.e., Culture of Entrepreneurship, External Factors, Individual Traits, and Social Dynamics) which collectively illuminate the complex reality of leading a private educational institution in a highly regulated and competitive environment.

The analysis reveals a core tension at the heart of HEPEI operations. On one hand, there is a clear and consistent top-down desire from leadership to foster a Culture of Entrepreneurship. This is demonstrated through active support for innovation, the implementation of formal development activities, and the high value placed on entrepreneurial Individual Traits such as proactiveness, risk-taking, and agility. Leaders are acutely aware that an entrepreneurial mindset is essential for survival and growth.

On the other hand, this entrepreneurial drive is significantly constrained by powerful External Factors. The overwhelming pressure of regulatory compliance and the intense competition for a limited student market create an environment where risk aversion and procedural caution often override innovative impulses. This forces leaders into a continuous and demanding sensemaking process, where they must constantly balance the need for strategic adaptation with the imperative of maintaining their operational license.

The findings further highlight that the internal Social Dynamics of an institution act as a critical mediator in this process. Where open communication and strong inter-departmental collaboration exist, the entrepreneurial spirit of individuals can be channelled into effective institutional action. Conversely, where departmental silos and poor communication prevail, even the strongest leadership support for innovation can be nullified, leaving entrepreneurial potential unrealized. In essence, the social fabric of the institution determines whether it can successfully translate the entrepreneurial will of its leaders into tangible, sustainable outcomes in the face of significant external pressures.

Chapter 5: Discussion and Analysis of Findings

5.1 Introduction

This chapter aims to provide an overarching analysis of the research findings in Chapter 4, linking findings to the literature reviewed in Chapter 2 and the contextual insights provided in Chapter 1. The chapter is organised around the research questions and theoretical framework, incorporating Weick's (1995) sensemaking dimensions, EO, and GME. This study integrates qualitative interview findings, and relevant theoretical frameworks from the literature.

Given the restrictions imposed on HEPEIS (e.g., program type, no support from national education budgets, tight compliance requirements, etc.), HEPEI leaders must carefully manage their institutions while maintaining sustainable business practices (Raguraman, 2023; CPE, 2023; Training Partners Gateway, 2024). The findings of this study have reaffirmed the need for entrepreneurial leadership in HEPEI, along with a systematic sensemaking process.

The chapter demonstrates how these dimensions interplay in enhancing HEPEI leadership actions by exploring the alignment of EO's dimension (Autonomy (AT), Innovativeness (IN), Risk-Taking (RT), Proactiveness (PA), and Competitive Aggressiveness (CA)) and GME's dimensions (mindsets of Leadership, Creativity, Personality, Intelligence, and Entrepreneurial Ability). The chapter critically examines the implications while ensuring a balanced view of their applicability to both practice and theory.

5.2 Discussion of Research Question 1

RQ1: How do senior leaders in HEPEIs make decisions and undertake actions that correspond to the seven components of Weick's (1995) sensemaking framework?

The findings from Chapter 4 suggest that sensemaking among HEPEI leaders is a highly pragmatic and socially constructed process, fundamentally shaped by the intense pressures of their operating environment. The complicated nature of Singapore's private education landscape, anchored in stringent regulatory constraints, fierce competition, and reliance on volatile international student markets, means that the sensemaking process is not a neutral act of interpretation but a critical mechanism for survival and strategic navigation. This discussion interprets the findings by structuring them around the clear pattern that emerged

from the analysis: a strong alignment with the externally focused, action-oriented elements of Weick's framework, and a corresponding weak alignment with the internal, reflective, and intuition-based elements. This bifurcation reveals a distinct "sensemaking signature" for leaders in this sector, one that prioritizes immediate adaptation and external legitimacy over deep, internal learning and intuitive judgment.

5.2.1 Strongly Aligned Practices: The Dominance of Action, Identity, and Social Interpretation

The analysis reveals that HEPEI leaders' sensemaking is most robust in the areas that directly address the immediate and tangible pressures of their environment. The elements of Identity, Enactment of a Sensible Environment, Social Interaction, the extraction of Meaningful Cues, and maintaining an Ongoing Process are not just present; they are the primary tools leaders use to navigate complexity.

Identity Construction emerged as a cornerstone of strategic sensemaking. It functions as both a defensive shield and a proactive tool for differentiation. In a saturated market, a clear identity is what separates one institution from another. As S5 stated, "I believe every school should develop its own unique areas space; we are not here just to give out certificates." This reflects a conscious effort to construct an identity that provides a clear value proposition. More experienced leaders, in particular, used identity as a pivot for strategic rebranding, as seen in S12's view: "We had to reposition ourselves not as a school but as a career enabler." This act of redefining their identity was a direct sensemaking response to the changing needs of students and employers. This aligns with the literature that posits identity clarity as a fundamental prerequisite for coherent strategic direction (Vough, Brianna and Maitlis, 2020). The findings also show that this identity is not static; it is constantly being negotiated in response to external feedback, making it a dynamic component of the sensemaking process.

Directly linked to identity is the Enactment of a Sensible Environment. HEPEI leaders do not passively accept their context; they actively shape it. The findings are replete with examples of leaders taking proactive decisions to create their own market space and internal culture. The establishment of micro-courses by S6 and a specialist diploma by S7 are clear instances of enacting a new reality to gain a competitive edge. S7's comment, "They allow us to find ways

to bring in more students by looking for partners or companies with employees wanting part-time studies,” shows enactment as a practical, opportunity-driven process. This proactive stance aligns with the work of Blakcoria and Psychogios (2021) and Andrews (2021), who argue that creating sensible environments is how organizations make sense of complex situations and generate actionable insights. The data suggest that this practice is more pronounced in leaders with a higher tolerance for risk, but it is a recognized and valued approach across the sector.

The process of interpreting the environment and enacting change is overwhelmingly social. Social Interaction is the primary vehicle through which sense is made. Leaders of all seniority levels reported using social networks for decision validation and idea generation. More experienced leaders, like S3, demonstrated a more strategic use of social networks, engaging external consultants to broaden their perspective: “I often call ex-auditors for input... you can’t depend only on internal teams.” This supports the research of Stieglitz et al. (2018), who found that individuals seek out others to improve their understanding and decision outcomes. The open-plan offices and informal communication channels described in Theme 4 of the findings are not merely cultural artifacts; they are the essential infrastructure for the rapid, collective sensemaking required in this fast-paced environment.

This social process is fuelled by the constant scanning for and extraction of Meaningful Cues. Leaders demonstrated high sensitivity to external signals, particularly regulatory changes and market shifts. The ability to identify non-obvious cues was a hallmark of more experienced leaders. S12’s observation that a drop in enquiries during festive periods indicated a messaging problem— “it’s small things like that”—is a perfect example of a leader making sense of a weak signal and turning it into actionable intelligence. This aligns with the work of Christianson (2019), who notes that effective sensemaking involves being receptive to new information that challenges current beliefs.

Finally, all these practices are bound together by an Ongoing Process of adaptation. The leaders in this study understand that strategy is not a static plan but a continuous cycle of adjustment. As S5 stated, “We keep changing based on feedback. I don’t need a full report to make changes.” This reflects a deep understanding that in a volatile environment, the ability

to adapt is more important than the perfection of the initial plan. This continuous interaction and refinement are essential for capitalizing on market opportunities (Valimareanu and Horgas, 2021; Calin, 2020).

5.2.2 Weakly Aligned Practices: The Suppression of Reflection and Intuition

In stark contrast to the robust engagement with action-oriented sensemaking, the findings reveal a significant and systemic weakness in the application of the more internal, cognitive elements of Retrospection and Plausibility. This represents a critical gap in the sensemaking capabilities of HEPEI leaders and is a direct consequence of the environmental pressures they face.

Retrospection, the process of learning from past events, was found to be notably underdeveloped. While leaders acknowledged its importance, they consistently reported a lack of time and formal structures for structured reflection. As S3 lamented, “We keep doing audits, but no one really sits down to ask what we learned.” This was reinforced by S8: “There is no time to debrief properly; we jump from one EduTrust audit to another.” The implication is that organizational learning is often shallow and anecdotal. Without a systematic process for reflecting on past successes and failures, institutions are at risk of repeating mistakes and failing to codify valuable experiential knowledge. This aligns with the arguments of Wetzel and Dievernich (2014) and Dawson and Sykes (2019), who posit that retrospection is the primary mechanism through which organizations learn and adapt over time. The lack of it in the HEPEI context suggests a culture of relentless forward momentum that comes at the cost of deep learning.

Even more significantly, the element of Plausibility (i.e., acting on intuition or a “good enough” story in the face of ambiguity) is actively suppressed. The high-stakes, compliance-driven environment has fostered a culture that demands data-driven justification for every decision. As S20 expressed, “... with marketing, we have to be very careful with our words that we put online,” indicating a deep-seated caution that extends beyond compliance to strategic communication. This creates a significant challenge for leaders, as truly novel or entrepreneurial ideas rarely come with a complete set of supporting data. The discomfort with ambiguity was palpable, particularly among newer leaders. This reflects a fundamental

conflict between the rationalistic demands of a bureaucratic regulatory system and the more intuitive, plausibility-driven logic that Weick (1995) argues is necessary for effective action in complex environments. As S4 reflected, “We don’t wait for perfect information. We act fast, correct later.” This sentiment, while indicative of an entrepreneurial mindset, was the exception rather than the rule. The broader pattern was one of hesitation in the face of uncertainty, a direct consequence of a sensemaking culture that has been conditioned to value defensibility over plausibility (Christianson, 2019; Rogers and Vardaman, 2022).

In conclusion, the answer to RQ1 is that HEPEI leaders engage in a form of pragmatic, survival-oriented sensemaking. However, this has come at the cost of the more reflective and intuitive elements, creating a potential long-term vulnerability. Their sensemaking is adept at adaptation but may be less equipped for the kind of deep learning and bold, intuitive leaps that drive transformative innovation.

5.3 Discussion of Research Question 2

RQ2: What aspects of Weick's (1995) sensemaking practices affect the entrepreneurial orientation (EO) of HEPEI leaders concerning autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness?

The entrepreneurial orientation of HEPEI leaders is not a simple expression of their inherent traits but is directly and profoundly shaped by the specific, unbalanced pattern of sensemaking prevalent in the sector. The strong alignment with externally focused, action-oriented sensemaking practices (e.g., Enactment, Social Interaction, and scanning for Meaningful Cues), provides the engine for adaptive Innovativeness and Proactiveness. However, the simultaneous weak alignment with internal, reflective, and intuitive practices, namely Retrospection and Plausibility, actively constrains Risk-Taking and Autonomy. This dynamic results in a unique and context-specific form of ‘constrained entrepreneurial orientation’ where survivalist adaptation is privileged over disruptive innovation. This discussion will analyse how this bifurcated sensemaking process systematically shapes each of the five EO dimensions.

5.3.1 Innovativeness and Proactiveness: The Products of Action-Oriented Sensemaking

The findings demonstrate that Innovativeness and Proactiveness are the most visible and robustly expressed dimensions of EO within HEPEIs. This is a direct consequence of their grounding in the sensemaking elements that are most developed among the sector's leaders. The constant scanning for Meaningful Cues from the volatile market and the stringent regulatory environment, combined with a strong capacity for Enactment of a Sensible Environment, creates a fertile ground for adaptive innovation. Leaders, particularly experienced ones, see constraints as design opportunities. As S12 commented, "We had to be ahead, we launched courses in logistics and fintech before the trend," and S4 added, "When everyone was doing degrees, we focused on micro credentials for working adults. That paid off." These are not random acts of creativity; they are direct, sensemaking-driven responses to perceived gaps and shifts in the market. This aligns with the literature that posits innovation in constrained environments can lead to meaningful transformation (Lumpkin and Dess, 1996; Wales, Covin and Monsen, 2020).

Similarly, Proactiveness is a direct outcome of effective cue monitoring and social sensemaking. S5's decision to restructure a diploma format based on market feedback rather than waiting for a policy directive is a clear example of proactive sensemaking driving an entrepreneurial action. This supports the view that proactiveness is essential for survival in uncertain and competitive markets (Milovanović, 2023). However, this proactiveness is channelled and controlled. The fear of regulatory missteps, a powerful and ever-present cue, means that even proactive leaders like S11 insist on a process of "verification or evaluation" before implementing new ideas. This creates a tension where the impulse to be proactive is constantly checked by the need to be compliant, a finding that adds nuance to the arguments of scholars like Knezović et al. (2023) who warn against over-investment in risky ventures. The innovation that results is therefore more adaptive than disruptive, focused on meeting existing needs in novel ways rather than creating entirely new markets.

5.3.2 Risk-Taking and Autonomy: Constrained by Weak Reflective and Intuitive Practices

In stark contrast, the EO dimensions of Risk-Taking and Autonomy are significantly constrained, a direct consequence of the weak engagement with the sensemaking elements of Retrospection and Plausibility. The findings show that while experienced leaders like S2 and

S3 have internalized risk as a necessary component of their roles, the form of risk they engage in is highly calculated and conservative. S3's comment, "After that EduTrust setback, we still pursued new partnerships but with clearer risk evaluation," is telling. The "clearer evaluation" is a sensemaking process that prioritizes the avoidance of past mistakes (a form of informal retrospection) over the exploration of high-uncertainty opportunities. This is further compounded by the suppression of plausibility. Because leaders are conditioned to rely on hard data and quantifiable KPIs, as evidenced in the findings, they are less likely to champion ventures that are based on intuition or a "good enough" story. This systematically filters out higher-risk, higher-reward innovations. While Wales, Covin, and Monsen (2020) argue that risk-taking pushes business performance, the HEPEI context suggests that the sensemaking of regulatory consequences pushes leaders to adopt a risk-averse posture that, while ensuring survival, may limit growth, echoing the cautions of Kock and Gemünden (2021). The statement from S15, "we will follow whatever EduTrust we say allowed or not allowed," perfectly encapsulates this compliance-first, low-risk orientation.

This directly impacts Autonomy. While leaders like S7 felt trusted to propose and lead new initiatives— "I proposed offering modular diplomas to employers, and the management trusted me to go ahead"—this autonomy is exercised within strict, often unstated, boundaries. The fear of non-conformance, as expressed by S20 in relation to a new event, shows how the sensemaking of potential failure can lead to self-censorship, limiting the exercise of autonomy. This finding refines the arguments of Lama et al. (2024) and Doblinger and Class (2022) by demonstrating that autonomy is not an absolute but is contextually defined by the organization's dominant sensemaking culture. In this sector, true autonomy is reserved for decisions that do not challenge the core compliance framework.

5.3.3 Competitive Aggressiveness and Identity: A Strategy of Niche Differentiation

Finally, the dimension of Competitive Aggressiveness is also re-framed through the lens of sensemaking, particularly through the element of Identity. Rather than engaging in direct, aggressive, market-share-grabbing tactics, leaders make sense of the competitive landscape as a space for niche differentiation. The findings show a clear preference for building a unique brand identity over engaging in price wars or directly targeting competitors' students. S6's statement, "We don't go after competitors' students; we improve our own retention and let

that speak,” and S12’s focus on “what the market actually needs” rather than on competitors, are strategic choices born from a sensemaking process that identifies brand value and uniqueness as more sustainable competitive advantages than direct confrontation.

This approach aligns with Paulus and Hermanto (2022), who argue that competitive aggressiveness is about strategically managing threats. In the HEPEI context, the greatest threat is not necessarily another institution, but commoditization and irrelevance. Therefore, leaders make sense of "aggressiveness" as the relentless pursuit of a unique identity. This demonstrates how a strong sensemaking of Identity can become the primary vehicle for expressing a firm's competitive stance. The entire entrepreneurial orientation of the institution is thus anchored in this sense of self, which guides decisions on everything from program development to marketing. This creates a form of EO that is strategic and resilient, focused on long-term brand building rather than short-term competitive wins.

5.4 Discussion of Research Question 3

RQ3: What aspect of Weick's sensemaking practices impacts the ability of HEPEI leaders to cultivate a Growth Mindset of Entrepreneurship (GME)?

The cultivation of a Growth Mindset of Entrepreneurship (GME) within HEPEIs is a complex process, both enabled and limited by the sector's characteristic sensemaking practices. The strong emphasis on social interaction and enacting environments provides fertile ground for GME to emerge, particularly in fostering leadership and entrepreneurial ability. However, the systemic weakness in retrospection and plausibility creates significant barriers to the deep and sustainable institutionalization of a growth mindset, especially in the areas of creativity and intelligence. The findings reveal that GME is not a simple top-down mandate but is an emergent property of the organization's daily sensemaking routines.

5.4.1 Leadership and Entrepreneurial Ability: Cultivated Through Social and Enacted Sensemaking

The GME facets of Leadership and Entrepreneurial Ability are most effectively cultivated through the sensemaking practices that are strongest in HEPEIs: Social Interaction and the Enactment of a Sensible Environment. Experienced leaders, like S12, consciously model a growth mindset through their leadership style. His practice of openly discussing failures— “I

tell my team what went wrong and what I learned. It's important they know I'm not perfect" — is a powerful act of sense-giving. It enacts a culture where vulnerability is acceptable and failure is framed as a learning opportunity, which is the very essence of a growth mindset. This reinforces the findings of Han and Stieha (2020) on the link between leader mindset and subordinate engagement. In contrast, the struggle of newer leaders like S10, who confessed, "I still struggle to instil this mindset, but I try because it matters," highlights that GME leadership is not just an innate trait but a skill developed through experience and practice.

Similarly, the creation of formal structures for innovation, such as the project ideation schemes and workshops described in Theme 1, are enactments that provide a tangible pathway for staff to develop their Entrepreneurial Ability. These practices move GME from an abstract ideal to a concrete set of organizational routines, aligning with the arguments of Lia et al. (2023) that support systems are essential for developing entrepreneurial skills. When staff are given the space and resources to experiment, they are actively practicing the core tenets of a growth mindset. The absence of such enacted environments, as noted by some participants, directly hinders the development of these GME facets.

5.4.2 Creativity and Intelligence: Channelled and Constrained by Sensemaking Biases

The GME facets of Creativity and Intelligence are also profoundly shaped by the dominant sensemaking patterns, but in a more constrained manner. The findings show that creativity is highly valued, but it is often channelled in specific, pragmatic directions. The example of S6's institution creating a popular night course series in response to a timetable complaint is a case of adaptive creativity. This form of creativity is a direct response to the sensemaking of Meaningful Cues from the immediate operational environment. While this is valuable, the weak engagement with Plausibility may limit the scope for more radical, "out-of-the-box" creativity, as ideas that cannot be immediately justified with data are less likely to gain traction. This supports the work of Bratnicka-Mysliwiec and Ingram (2022), who argue that a creative environment must be supported by adequate resources and a tolerance for ambiguity.

Similarly, Intelligence in this context is prized for its reflective and critical qualities. The ability to "watch what others fail at," as S12 put it, is a form of strategic intelligence born from the sensemaking of the competitive landscape. However, the general weakness in formal

Retrospection means that this intelligence often remains at the individual level and is not systematically converted into organizational knowledge. The preference of newer leaders for tangible KPIs, as noted by S16, reflects a sensemaking culture that values measurable intelligence over abstract or intuitive insights. This aligns with the arguments of Kuratko, Fisher and Audretsch (2021) that a holistic entrepreneurial mindset requires the integration of various cognitive processes. The HEPEI context, with its bias against intuition, may be hindering the full development of this GME facet.

5.4.3 The Role of Personality and the GME Implementation Gap

The GME facet of Personality Traits—particularly resilience, courage, and adaptability—emerges as a critical mediating factor. The leaders who successfully navigate the sector's tensions are those who personally embody these traits. The "courage to fail" mentioned by S4 is a personal attribute that allows a leader to champion a growth mindset even when the institutional culture is risk averse. This aligns with the work of Pidduck, Clark, and Lumpkin (2021) on the importance of entrepreneurial personality.

However, the findings also reveal a significant "GME implementation gap." An over-reliance on the strong personalities of a few senior leaders can be a weakness. Without the supporting sensemaking infrastructure of formal Retrospection and a culture that values Plausibility, it is difficult for these individual mindsets to become a collective, institutional capability. This is where the experiences of newer leaders are so telling. They may possess the right personal traits, but they lack the organizational routines and cultural permissions to fully enact a growth mindset. This highlights a critical conclusion: for a GME to be sustainable, it must be embedded in the organization's sensemaking practices. It must be reflected in how the organization learns from its past and how it makes decisions about its future. Without this, GME risks remaining a collection of laudable individual traits rather than a robust, collective organizational capability that can drive long-term success.

5.5 Key Practical Implications

The findings of this research, situated at the intersection of sensemaking, entrepreneurial orientation, and growth mindsets, offer significant and actionable implications for the key stakeholders within Singapore's HEPEI ecosystem. Moving beyond theoretical abstraction,

this section translates the study's analytical insights into practical guidance for policymakers, institutional leaders, administrators, and academic staff. The core challenge identified in this thesis is the persistent tension between the need for entrepreneurial agility and the overwhelming pressure of a compliance-driven environment.

The following implications provide a roadmap for navigating this tension and unlocking the latent entrepreneurial potential within the sector.

5.5.1 Implications for Policymakers

This study's findings carry a profound implication for policymakers: the current regulatory framework, while successful in ensuring quality and accountability, inadvertently creates a strategic paradox that may limit the long-term dynamism of the HEPEI sector. The data overwhelmingly show that regulations, particularly the EduTrust-Certification standards, have become the most dominant meaningful cue for HEPEI leaders. As participant S16 articulated, the constant pressure of audits means leaders "don't have time to actually think out-of-the-box." This intense focus on compliance implies that the institutional sensemaking process is fundamentally oriented towards risk mitigation rather than opportunity seeking.

This has a direct and observable impact on Entrepreneurial Orientation. The need for meticulous documentation and procedural adherence actively suppresses the Risk-Taking and Innovativeness dimensions of EO. Leaders are compelled to favour incremental, easily justifiable changes over potentially transformative but uncertain ventures. This aligns with institutional theory, which suggests that organizations in highly regulated fields often engage in isomorphic behaviour, converging on similar structures and practices to gain legitimacy, even if those practices are not the most innovative (DiMaggio & Powell, 1983). The implication is that the very mechanism designed to ensure quality may also be homogenizing the sector and discouraging the diversity of offerings that alternative providers are meant to supply.

Furthermore, the lack of transparency in adjacent policies, such as the approval of student passes, introduces a high degree of ambiguity into the environment. This uncertainty makes it difficult for leaders to engage in the kind of long-term strategic planning that underpins proactive and innovative behaviour. When leaders cannot reliably forecast their primary revenue stream, their sensemaking naturally becomes short-term and defensive. The practical

implication is that regulatory policy cannot be viewed in isolation; its interaction with other state policies creates a complex web of signals that leaders must interpret, and this complexity often encourages conservatism over entrepreneurship.

5.5.2 Implications for Business Leaders in Education

For senior leaders within HEPEIs, the central implication of this research is that their most critical function is not merely to manage operations, but to lead the *process* of collective sensemaking. The findings highlighted a clear distinction between leaders who passively reacted to their environment and those who actively engaged in enacting a sensible environment, thereby shaping their institution's reality. This distinction is the difference between survival and strategic growth.

The study revealed that HEPEI leaders are caught in a cross-pressure environment, squeezed between market demands for innovation and regulatory demands for conformity. The implication is that leaders must develop a high degree of cognitive and strategic ambidexterity: the ability to manage the conflicting demands of exploitation (optimizing existing processes for compliance and efficiency) and exploration (seeking new opportunities for growth) simultaneously (O'Reilly & Tushman, 2013). As the findings show, leaders who successfully navigated this tension were those who had cultivated a strong and clear sense of institutional Identity. This identity acted as a cognitive anchor, allowing them to filter external pressures and make strategic choices that were authentic to their institution's mission, rather than simply mirroring competitors.

Moreover, the underutilization of plausibility and intuition represents a significant leadership challenge. The compliance-driven culture has created a bias towards decisions that can be easily justified with quantitative data. However, as scholars of sensemaking argue, in truly ambiguous situations, action is often driven by a plausible story or a coherent interpretation, not by perfect information (Weick, 1995). The implication is that leaders must actively create a culture where it is safe to propose and pilot ideas based on a strong, plausible rationale, even in the absence of complete data. Failure to do so means that the institution will always be a step behind the market, only able to act on trends once they are already well-established and quantifiable.

5.5.3 Implications for HEPEI Administrators

A striking finding of this study was the systemic weakness of Retrospection as a formal sensemaking practice. The sentiment expressed by S8, "There is no time to debrief properly; we jump from one EduTrust audit to another," was pervasive. This relentless "forward-only" momentum, driven by the operational tempo of the academic year and the audit cycle, has a critical and detrimental implication: it prevents the development of institutional memory and inhibits deep organizational learning. Without structured processes for reflection, valuable insights from both successes and failures are lost, and the organization is prone to repeating mistakes.

The practical implication for administrators is that they are the primary architects of the systems and routines that enable organizational learning. While senior leaders set the vision, it is the administrative function that builds the infrastructure for knowledge capture and analysis. This research implies that administrators must see their role as extending beyond ensuring operational efficiency to include the cultivation of the institution's reflective capacity.

This involves embedding routines that force a pause and encourage a backward glance. The implementation of After-Action Reviews (AARs) for all significant projects is a well-documented method for achieving this (Darling et al., 2005). By creating a formal, non-punitive process for dissecting past events, administrators can transform anecdotal "lessons learned" into codified institutional knowledge. This directly addresses the gap in Retrospection and builds the GME facet of Intelligence at an organizational level. Furthermore, by creating and maintaining a centralized knowledge management system, administrators can ensure that this learning is retained and accessible, preventing the "organizational amnesia" that can occur with staff turnover.

5.5.4 Implications for Educators and Academic Staff

The findings of this study reveal a critical paradox with profound implications for educators and academic staff: while they are the essential agents for translating institutional strategy into pedagogical reality, they are often positioned at the periphery of the strategic sensemaking process itself. This disconnect represents the single greatest source of untapped entrepreneurial potential within the HEPEI sector. The data illustrate this tension vividly. On

one hand, S13 noted the absence of a clear institutional mandate for innovation among faculty, stating, “They didn’t really mention about alternative ways of thinking... so there’s no emphasis in this direction.” This implies a culture where academics are positioned as implementers of a strategy they have little role in shaping. On the other hand, the powerful example from S6, where “one complaint about the timetable led us to create a night course series, [which] became popular,” demonstrates that when faculty *are* empowered to act on front-line insights, they can generate significant, market-relevant innovations.

The primary implication here is that HEPEIs are systematically underutilizing the intrapreneurial capacity of their academic staff. Educators are the foundation of the institution, playing an essential role in supporting the development that leads to a student's growth mindset and prepares them for employment (Goldberg, 2022). However, when they operate in procedural silos with limited involvement in decision-making, their potential to contribute to the institution's Growth Mindset of Entrepreneurship (GME) is severely constrained. A true GME cannot be a top-down directive; it must be an emergent property of the entire organization. When educators are confined to a role of mere delivery, their potential to contribute to the GME facets of Creativity and Entrepreneurial Ability is wasted. This not only demotivates highly skilled professionals but also stunts the organization's capacity for the kind of ground-up innovation that is essential for adapting to rapidly changing student needs and market conditions.

This disconnect can also be understood through the lens of Weick’s (1995) sensemaking framework. The procedural silos identified in the findings act as a significant barrier to the crucial property of Social Interaction between the academic front line and the strategic core. This means that a rich stream of meaningful cues—emerging from daily interactions with students, classroom challenges, and direct feedback on curriculum—fails to be integrated into the institution's collective sensemaking process. The organization, in effect, becomes partially blind to its own operational reality. The implication is that strategic decisions are made with incomplete information, increasing the risk of a misalignment between the institution's offerings and the actual needs of its students. Cultivating Entrepreneurial Orientation (EO) among academic staff through training and empowerment is therefore not just a matter of professional development, but a strategic necessity for strengthening institutional agility and

innovation (Lumpkin and Dess, 1996; Stieglitz et al., 2018). The alignment of social interactions with innovativeness and proactiveness, which supports the collaborative knowledge-sharing identified by Cristofaro (2022), is severely hampered in such a siloed environment.

Furthermore, the finding that Retrospection was the least engaged sensemaking dimension at the leadership level has a particularly resonant implication for academic staff. Educators are, by profession, practitioners of reflective learning; it is the cornerstone of pedagogical improvement (Atmani et al., 2024; Magalhães, 2024). When the institution itself fails to model and embed reflective practices, it creates a cultural dissonance. This lack of institutional reflection limits the capacity for the kind of learning that encourages calculated risk-taking and meaningful reform (Kim, Toh & Baik, 2022). For educators, this implies an environment where their own professional disposition towards reflective practice is not mirrored in the organization's strategic culture, potentially leading to cynicism and disengagement. Ultimately, the implication is that empowering educators as "academic intrapreneurs" is not just a matter of morale but a strategic imperative for HEPEIs to become truly adaptive, learning organizations.

As such, encouraging collaborative teams across school departments will enhance organisational agility and responsiveness (Maitlis and Christianson, 2014). The study also shows that social interactions signal significant learning engagement, as a whole faculty can enhance student outcomes by combining experiential learning, industry engagement and collaborative student coursework into curricula. Faculty training programs should also focus on enhancing adaptability, innovation, and strategic decision-making skills (Hoyte et al., 2023; Rogers and Vardaman, 2022) to prepare them to develop a pedagogy that could impact the students' employability. Organisations that interconnect between meaningful cues and intelligence-based mindsets can help to develop responsive strategies, such as pedagogical approaches (Cristofaro, 2022)

5.5.5 Summary

Synthesizing this study's practical implications reveals a clear narrative: unlocking the HEPEI sector's potential requires a systemic shift from reactive compliance to proactive sensemaking. For policymakers, this implies that regulatory frameworks, while ensuring quality, may

unintentionally curb the very innovation and risk-taking the sector needs. For institutional leaders, the key implication is the need to actively lead collective sensemaking, balancing external pressures with internal entrepreneurial goals. This leadership is supported by administrators, who are implicated as the crucial architects of organizational learning, responsible for embedding the underutilized practice of retrospection into the institution's processes. Finally, the findings imply that educators represent a vast, untapped source of intrapreneurship, whose front-line insights are vital for institutional agility.

Collectively, these interconnected implications suggest that a more integrated, reflective, and empowered approach to governance is essential for sustainable success.

5.6 Theoretical Contributions

This research makes its most significant contribution by moving beyond the application of individual theories to demonstrate their dynamic interplay within a unique and under-researched organizational context. By integrating Weick's (1995) sensemaking construct with the frameworks of Entrepreneurial Orientation (EO) (Lumpkin and Dess, 1996) and the Growth Mindset of Entrepreneurship (GME) (Billingsley et al., 2021), this study offers a new, synthesized lens for understanding strategic leadership in Singapore's Higher Education Private Education Institutions (HEPEIs). The analysis of the qualitative data reveals that sensemaking is the cognitive and social engine through which the potential for EO and GME is either realized or constrained by the sector's intense environmental pressures.

This section articulates five distinct but interrelated theoretical contributions. First, it advances sensemaking theory by showing how a high-stakes, compliance-driven environment systematically alters leadership's sensemaking practices, privileging certain elements while suppressing others. Second, it contributes to the literature on EO by proposing a model of 'Constrained Entrepreneurial Orientation,' where strategic behaviours are actively filtered and shaped by the sensemaking of regulatory risk. Third, it provides empirical evidence for the specific organizational mechanisms, rooted in sensemaking, that are required to cultivate a genuine Growth Mindset of Entrepreneurship. Fourth, it presents a synthesized model that integrates all three frameworks to explain the cycle of strategic adaptation in HEPEIs. Finally,

it validates and refines the study's initial conceptual framework, confirming its utility while also highlighting its nuances.

To provide a clear map of the complex interconnections that form the basis of these contributions, Table 9: Linking Sensemaking Elements to EO and GME outlines how the seven elements of sensemaking were found to align with the dimensions of EO and GME, as evidenced by the findings of this study. The subsequent discussion will unpack these linkages in detail to build an integrated theoretical model:

Table 9: Linking Sensemaking Elements to EO and GME

Sensemaking Elements	EO Dimensions	GME Mindsets	Findings Summary	References
Social Interactions	Innovativeness Proactiveness Competitive Aggressiveness	Mindset of Leadership Mindset of Creativity	Collaboration is key in fostering innovation and proactivity, as it is essential for identifying HEPEI student and market trends. Thus, it encourages and facilitates organisational strategic adaptability.	Hoyte et al. (2019), Lumpkin and Dess (1996), 'Cristofaro (2022), Weick (1995)
Retrospection	Risk-Taking Innovativeness	Mindset of Intelligence Mindset of Entrepreneurial Ability	Reflective practices are vital to inform risk-taking and innovation, but it is not fully utilised in HEPEIs as part of navigating the challenges in Singapore HEPEI sectors.	Wetzel and Dievernich (2014), Ucbasaran et al. (2013), Kim, Toh and Baik (2022)
Plausibility and Intuition	Autonomy Proactiveness Risk-Taking	Mindset of Creativity Mindset of Intelligence	Decision-making in the context of ambiguous circumstances by HEPEIs uses limited intuition practices due to more rational, data-driven decision making, hindered use of plausibility to support business adaptations and responses.	Grady et al. (2018), Derbyshire (2022), Weick (1995)]
On-Going Process	Proactiveness Innovativeness	Mindset of Entrepreneurial Ability	Continuous refinement of programmes by HEPEI is noted to improve responsiveness to regulatory and student	Ratzmann et al. (2018), Stieglitz et al. (2018),

		Mindset of Leadership	needs, thus contributing to the building of adaptive strategies in the changing Singapore HEPEI sector.	Rogers and Vardaman (2022)']
Meaningful Cues	Risk-Taking Proactiveness Innovativeness	Mindset of Intelligence Mindset of Creativity	Interpreting external signals and cues are observed to help HEPEI leaders, such as creating more relevant courses to capture potential student enrolment in dynamic student demographic situations.	Holt and Cornelissen (2014), Cristofaro (2022), Hoyte et al. (2019)
Identity	Autonomy Competitive Aggressiveness	Mindset of Personality Mindset of Leadership	HEPEI is observed to have a strong institutional identity that supports niche brand positioning, however, it will also need to practice identity adaptation to balance values with market demands for competitiveness.	Wach et al. (2018), Lockett et al. (2014), Cristofaro (2022), Weick (1995)
Enactment of a Sensible Environment	Proactiveness Competitive Aggressiveness	Mindset of Entrepreneurial Ability Mindset of Creativity	HEPEI strive to establish conducive environments due to its belief in social activities to foster collaboration and innovation. It supports HEPEI's proactiveness to regulatory and competitive challenges.	Vitry, Sage and Dainty(2020), Weick (1995), Blanka (2019), Joy et al. (2023)

5.6.1 Advancing Sensemaking Theory in a High-Stakes Regulatory Context

This study makes a significant contribution to sensemaking theory by providing a rich, empirical account of how a specific and intense environmental context of Singapore's high-stakes, compliance-driven private education sector, fundamentally reshapes the sensemaking process in leadership. While Weick's (1995) framework is universal, this research demonstrates that the *salience* and *application* of its seven elements are not uniform. In the HEPEI context, sensemaking is not a neutral process of meaning creation; it is a heavily biased process geared towards survival and the management of regulatory legitimacy.

The findings reveal a clear hierarchy of sensemaking practices. Elements that support immediate adaptation and external alignment of Identity, Enactment of a Sensible Environment, Social Interactions, and the scanning for Meaningful Cues, are highly developed and frequently utilized. HEPEI leaders are adept at constructing a strong institutional identity to differentiate themselves in a saturated market. As S6 noted, "We constantly reflect on our positioning and uniqueness. We are not competing with the top but creating a niche that aligns with our identity." This strong sense of self provides a cognitive anchor that helps leaders filter the noise of the market and make decisions that are coherent with their mission. This aligns with existing literature that highlights the role of identity in guiding strategic action (Bligh et al., 2023; Lockett et al., 2014). Similarly, leaders actively engage in enacting their environment, as seen in the development of unique programs and partnerships, and they rely heavily on social interactions to interpret the constant stream of regulatory and market signals. This reinforces the argument that collaborative engagement is a cornerstone of organizational agility and responsiveness (Cristofaro, 2022). Institutions that actively use environmental scanning and enactment actions are better positioned to maintain long-term sustainability (Niemi et al., 2022).

However, the more profound contribution of this study lies in its identification of the sensemaking elements that are systematically *suppressed* by this environment. The research provides compelling evidence that Retrospection and Plausibility are the weakest links in the sensemaking chain for HEPEI leaders. The relentless forward-pressure of audit cycles and operational demands leaves little room for the structured, reflective learning that retrospection requires. As the findings show, learning from the past is often informal and reactive rather than a systematic institutional process. This lack of structured reflection was a recurring theme, with leaders admitting that they rarely had the bandwidth to formally debrief on past initiatives. This has significant consequences, as it limits the development of the deep organizational wisdom needed to navigate long-term strategic challenges and avoid repeating mistakes (Kim, Toh & Baik, 2022; Wetzel and Dievernich, 2014).

Even more striking is the suppression of plausibility and intuition. In an environment where every decision must be documented and justified against a rigid set of external criteria, there is little room for the kind of intuitive, "good-enough" decision-making that Weick (1995)

argues is essential for navigating true ambiguity. Leaders are conditioned to prioritize accuracy and defensibility over plausibility. As S18 stated, “We often go back to the data. Even if we feel something might work, it’s hard to convince others without metrics.” This sentiment was echoed by S6: “It’s not about gut feeling here. You need to present something with KPIs or student outcome data before people even consider it.” This data-driven imperative, while valuable for quality assurance, limits their ability to act decisively in fast-moving or uncertain situations where complete data is unavailable. This study, therefore, contributes a nuanced understanding of how high-stakes regulation creates a "sensemaking bias," pushing leaders towards a more rationalistic and less intuitive mode of operating, which, paradoxically, can make them less agile in the face of novel threats and opportunities (Derbyshire, 2022; O’Grady et al., 2018).

5.6.2 Proposing a Model of 'Constrained Entrepreneurial Orientation'

Building on this understanding of a biased sensemaking process, this study's second major theoretical contribution is to the literature on Entrepreneurial Orientation. The findings suggest that in the HEPEI context, EO does not manifest as a simple set of five independent dimensions. Instead, it is actively filtered, shaped, and ultimately constrained by the leaders' sensemaking of their environment. This research, therefore, proposes a model of 'Constrained Entrepreneurial Orientation', where the expression of entrepreneurial behaviours is mediated by the perceived risks of regulatory non-compliance.

This model helps to explain the apparent contradictions in the data. For example, while leaders expressed strong support for Innovativeness and Proactiveness, the actual innovations pursued were often incremental and adaptive rather than radical and disruptive. The sensemaking of market cues pushes leaders to be proactive in areas like program diversification, but the sensemaking of regulatory cues simultaneously pulls them back from the kind of high-risk innovations that could truly differentiate them. This aligns with the work of Cunningham and Anderson (2018), who argue that sensemaking shapes the confidence with which entrepreneurs act. In this context, sensemaking appears to build confidence in adaptive moves while undermining confidence in disruptive ones. The case of S6 and S12 launching innovative programs was justified not as a high-risk venture, but as a logical extension of their school's mission and a direct response to observed market needs—a clear

example of sensemaking framing an entrepreneurial act in a way that minimizes its perceived risk.

The dimension of Risk-Taking is the most heavily constrained. The findings show that HEPEI leaders engage in highly *calculated* risk-taking, where the primary calculation is not potential market return but potential regulatory jeopardy. This is a crucial distinction from traditional models of EO, which often assume a more market-focused risk calculus. The 'Constrained EO' model posits that in this sector, the fear of losing legitimacy (i.e., EduTrust status) is a more powerful motivator than the hope of gaining market share. This explains why even leaders with a strong personal appetite for risk moderate their behaviours within the institutional context.

Finally, the model suggests that Autonomy and Competitive Aggressiveness are also reshaped by sensemaking. Autonomy is not absolute freedom but is exercised within the tight guardrails of compliance. Leaders feel empowered to act, but only on initiatives that can be clearly justified within the existing regulatory framework. Competitive aggressiveness is channelled away from direct, price-based competition (which is seen as a race to the bottom) and towards the cultivation of a unique institutional identity and niche market positioning. This reinforces the claim by Cristofaro (2022) and Lumpkin and Dess (1996) that EO emerges from embedded organizational systems, and this study specifies that in the HEPEI context, the most powerful of those systems is the cognitive and social process of making sense of regulation. The interplay of these dynamics demonstrates that EO in this sector is not a simple linear scale from low to high, but a complex, negotiated orientation that constantly balances entrepreneurial impulses with the demands of a high-stakes environment.

5.6.3 Linking Sensemaking Practices to the Cultivation of a Growth Mindset

This study's third theoretical contribution is to bridge the gap between the macro-level process of organizational sensemaking and the micro-level cultivation of a Growth Mindset of Entrepreneurship (GME). The research moves beyond treating GME as a purely individual psychological trait and provides empirical evidence for the specific, observable sensemaking practices that function as the organizational mechanisms for fostering it.

The findings demonstrate that a GME is not simply "encouraged"; it is built through the deliberate Enactment of a Sensible Environment. When leaders create structures like project ideation schemes or innovation workshops, they are not just funding projects; they are creating safe spaces for the experimentation and learning-from-failure that are the hallmarks of a growth mindset. As the findings on collaborative innovation show, these practices provide tangible proof that the organization values learning over knowing, which is the core of a growth mindset. Similarly, the sensemaking property of Social Interaction is shown to be a critical conduit for cultivating GME. The open communication channels and collaborative culture described by participants create an environment where ideas can be shared, debated, and improved collectively. This process of social learning and feedback is essential for developing the Mindsets of Creativity and Intelligence at an organizational level (Hoyte et al., 2023).

Conversely, the study also identifies how weaknesses in sensemaking can hinder the development of a GME. The lack of formal Retrospection implies that opportunities for collective learning from setbacks are often missed, reinforcing a fear of failure that is antithetical to a growth mindset. When an organization does not have a structured way to make sense of its past, it cannot effectively model the resilience and learning orientation that it asks of its staff. The experiences of less experienced leaders, who lacked institutional structures to guide their reflection, underscore this point. The practice of openly sharing vulnerability, as demonstrated by S12, and the emphasis on the "courage to fail" from S4, are powerful individual examples of GME. However, without the sensemaking practice of institutionalized retrospection, these individual mindsets struggle to transform into a resilient organizational culture.

Furthermore, the suppression of Plausibility and intuition sends a powerful cultural message that only ideas that are already proven and data-backed are welcome. This can discourage the very kind of creative and forward-thinking proposals that are the lifeblood of an entrepreneurial organization (Vitry, Sage and Dainty, 2020). This research therefore contributes to GME theory by showing that a growth mindset is not just an individual attribute to be hired, but an organizational property to be cultivated. It argues that the seven elements of sensemaking can be used as a diagnostic tool for leaders to assess whether their

organization's daily practices (e.g., its meeting structures, its project review processes, its communication styles) are genuinely fostering a culture of learning, resilience, and intelligent risk-taking, or merely paying lip service to the idea of a growth mindset. The study provides a clear link between the abstract concept of a growth mindset and the concrete, observable sensemaking practices that bring it to life within an organization.

5.6.4 A Synthesized Model of Sensemaking-Driven Entrepreneurship in HEPEIs

The ultimate contribution of this research is the integration of these distinct theoretical streams into a single, synthesized model that explains the cycle of strategic adaptation in Singapore's HEPEIs. This model posits a clear causal pathway: the intense External Environment (dominated by regulatory pressures and market competition) triggers a Biased Sensemaking Process in leadership. This process, in turn, shapes and gives rise to a Constrained Entrepreneurial Orientation and influences the organizational capacity to cultivate a Growth Mindset of Entrepreneurship. These orientations and mindsets then drive specific Institutional Actions (e.g., incremental innovation, niche market development), which generate outcomes that are fed back into the environment, thus restarting the cycle.

This integrated model offers a more holistic and dynamic explanation than any single theory could provide. It shows that one cannot understand the entrepreneurial behaviour of HEPEIs without first understanding the specific ways in which their leaders make sense of their world. It also demonstrates that a growth mindset is not an independent variable but is itself an outcome of the sensemaking culture that leaders enact. The findings point to a continuous interplay where the HEPEI's ability to link its identity with adaptability encourages more calculated Risk-Taking and Proactiveness. This facilitates solutions grounded in strategic agility that are necessary to address the demanding market and regulatory conditions (Weick, 1995; Kim, Toh and Baik, 2022). By unifying identity with institutional objectives, leaders can sustain a competitive advantage while cultivating employee resilience and agility (Cunningham and Anderson, 2018).

Collaborative innovation, a key finding, is shown to be a product of social interactions and the interpretation of meaningful cues, which are essential for encouraging innovativeness and developing a creative mindset. The link between the Ongoing Process of sensemaking and the

scanning for Meaningful Cues further demonstrates how continuous strategic adaptation is vital for market positioning. This empowers leaders to capture new opportunities and adapt to shifting student demographics and technological trends (Lumpkin and Dess, 1996; Hay, Parke and Aleksandra Luksyte, 2021; Cristofaro, 2022). This integrated view provides a powerful theoretical tool for both analysing and intervening in similarly complex, high-stakes organizational fields.

5.6.5 Summary: Validation and Refinement of the Conceptual Framework

In sum, this study serves to validate and refine the initial conceptual framework proposed in Chapter 3. The empirical findings, as analysed through the thematic framework in Chapter 4, confirm that the core constructs of Sensemaking, EO, and GME are indeed highly relevant and interconnected within the HEPEI context. The framework successfully guided the inquiry and provided a robust structure for analysing the complex qualitative data.

The findings confirm a strong alignment with several core tenets of the framework. The predicted importance of Identity, Enactment of a Sensible Environment, and Social Interactions as drivers of entrepreneurial action was strongly supported by the data. As S9 remarked, "Our institution's identity is shaped by our strong connection to industry," confirming the framework's claim that identity underpins resilience. Similarly, the link between social interactions and the interpretation of meaningful cues was consistently observed, validating this central interconnection in the model (Hoyte et al., 2019).

The research also revealed areas where the framework requires refinement, demonstrating a moderate to weak alignment. The initial framework did not fully anticipate the extent to which the regulatory environment would suppress the sensemaking elements of Retrospection and Plausibility. The findings suggest that in a high-compliance context, the conceptual model must be weighted to account for this "sensemaking bias." While the framework correctly identified Retrospection as a key input for calculated Risk-Taking, the data revealed that this link is often tenuous in practice due to the lack of formal reflective processes. As S17 observed, "There's no formal system in place to evaluate past initiatives. We mostly move on to the next challenge," highlighting a gap between the theoretical model and the operational reality.

Therefore, this research validates the overall architecture of the conceptual framework but also refines it by providing a more nuanced, context-specific understanding of how the different elements interact under pressure. It confirms that sensemaking is the critical mediating process between the environment and entrepreneurial outcomes, but it also shows that this process is not neutral. The study's findings provide a richer, more detailed, and empirically grounded version of the initial conceptual model, which can now be used with greater confidence in future research on similar organizational contexts.

Chapter 6: Conclusion and Recommendations

This chapter provides the conclusions drawn from the research findings, linking them to the research objectives outlined in Chapter 1 and the theoretical frameworks established in Chapter 2. The chapter also synthesises the key insights from the study, addressing how the research objectives were achieved. Furthermore, it provides specific, actionable recommendations aimed at different HEPEI stakeholders. The chapter concludes with a discussion of study limitations and potential directions for future research.

6.1. Achievement of Research Objectives

This section critically evaluates the extent to which the research objectives (ROs) were met, linking the analytical conclusions from Chapter 5 directly to the initial aims of the study. The findings, interpreted through the study's integrated theoretical framework, confirm that each objective was fully addressed, providing a robust and validated response to the core research questions.

6.1.1 Research Objective 1: Understanding How Senior Leaders in HEPEIs Engage in Sensemaking

This research objective was achieved. The study successfully moved beyond a simple inventory of sensemaking practices to identify and analyse a distinct "sensemaking signature" characteristic of the HEPEI sector. The discussion in Section 5.2 demonstrated that HEPEI leaders exhibit a bifurcated pattern of sensemaking, which was argued to be a direct consequence of their high-stakes regulatory environment.

The research confirmed a strong and consistent alignment with the externally focused, action-oriented elements of Weick's (1995) framework. The study evidenced that leaders are highly adept at using Identity, Enactment of a Sensible Environment, Social Interaction, and the scanning for Meaningful Cues as pragmatic tools for immediate adaptation and survival.

Conversely, the research confirmed a systemic weak alignment with the internal, reflective, and intuitive elements of sensemaking. The relentless forward-pressure of the compliance cycle was found to actively suppress Retrospection (structured learning from the past) and Plausibility (acting on intuition), as evidenced by leaders' admissions of having "no time to debrief" and a cultural preference for data-driven defensibility.

Therefore, the study concludes that RO1 was fully met by demonstrating that HEPEI leaders engage in a form of pragmatic, survival-oriented sensemaking that, while effective for short-term adaptation, limits the capacity for deep organizational learning and transformative innovation.

6.1.2 Research Objective 2: Examining Entrepreneurial Orientation (EO) in HEPEIs

The study successfully demonstrated that the entrepreneurial orientation of HEPEI leaders is not a simple expression of traits but is a direct outcome of their biased sensemaking process. The discussion in Section 5.3 culminated in the proposal of a new, context-specific model of 'Constrained Entrepreneurial Orientation'.

This model, grounded in the findings, explains how the unbalanced sensemaking pattern systematically shapes each of the five EO dimensions. The strong engagement with action-oriented sensemaking fosters adaptive Innovativeness and Proactiveness. However, the weak engagement with reflective and intuitive sensemaking actively constrains Risk-Taking and Autonomy. The findings showed that risk-taking is highly calculated, with the primary calculus being the avoidance of regulatory jeopardy rather than the pursuit of market reward. Finally, Competitive Aggressiveness was shown to be re-framed as a strategy of niche differentiation, driven by the sensemaking of identity.

6.1.3 Research Objective 3: Evaluating the Role of a Growth Mindset in PEI Leadership

Overall, RO3 has been achieved, exhibiting that GME is integral to HEPEI business sustainability, but there is a need to improve HEPEIs' strategic reflection, adaptive learning, and experimental decision-making could better enhance HEPEI adaptability and long-term competitive advantages.

The research provided a nuanced analysis of how a Growth Mindset of Entrepreneurship (GME) is cultivated, moving beyond individual psychology to identify the specific organizational mechanisms at play. The discussion in Section 5.4 established that sensemaking practices are the primary conduits through which a GME is either enabled or hindered at an institutional level.

The study found that GME facets like Leadership and Entrepreneurial Ability are actively fostered through the strong sensemaking practices of Enactment of a Sensible Environment

(e.g., creating innovation workshops) and Social Interaction (e.g., leaders modelling vulnerability, as with S12). These practices create the psychologically safe environment necessary for a growth mindset to flourish.

However, the research also concluded that the full institutionalization of a GME is hindered by the weak sensemaking practices. The lack of formal Retrospection prevents the organization from systematically learning from failure, a core tenet of a growth mindset. Furthermore, the suppression of Plausibility and intuition creates a culture that can be inhospitable to the kind of novel, unproven ideas that individuals with a strong GME are likely to generate.

The findings indicate that rooting reflective learning and promoting a culture of calculated risk-taking could enhance GME in HEPEIs. The study therefore concludes that for a GME to become a sustainable organizational capability, it must be supported by a balanced and complete set of sensemaking routines.

6.2 Recommendations for HEPEIs

The meeting of research objectives and the analysis of findings provide insight towards developing specific, applicable recommendations for HEPEIs to enhance institutional performance, strategic adaptability, and long-term sustainability within Singapore’s private education sector. Below Table 10: Summary of Recommendations and Implementation Strategies illustrate the alignment with the findings from Chapter 5, integrating Weick’s (1995) sensemaking dimensions, Entrepreneurial Orientation (EO) (Lumpkin and Dess, 1996), and Growth Mindset in Entrepreneurship (GME) (Billingsley et al., 2021). The recommendations will assist HEPEIs in building entrepreneurial resilience against compliance and regulatory constraints, improve HEPEI leadership decision-making, and nurture a culture of continuous innovation.

Table 10: Summary of Recommendation and Implementation Strategies

Recommendation for HEPEI	Key Actions	Who Should Implement	Expected Outcomes
Encourage Robust Identity while	Align institutional identity with evolving student	HEPEI Leaders & Administrators	Better market branding and entrepreneurial

Encouraging Adaptability	demographics and market needs while having strategic flexibility.		resilience and institutional positioning in HEPEIs (Cristofaro, 2022; Lockett et al., 2014).
Leverage Social Engagements for Collaboration and Innovation	Encourage cross-business unit interactions and knowledge sharing to drive innovation.	HEPEI Leadership & Faculty	Strengthens team dynamics, encourages innovative ideas and improves institutional agility in HEPEIs (Lumpkin and Dess, 1996; Cristofaro, 2022).
Establish Continuous Improvement Processes Through Learning and Development	Implement regular reviews and staff training to enhance compliance, student engagement, and regulatory alignment.	Academic & Operational Management	More up-to-date curriculum, strengthen regulatory compliance and foster an adaptable learning culture in HEPEIs (Rogers and Vardaman, 2022).
Cultivate Reflection Practices with Forward-Thinking	Conduct structured post-project evaluations and strategy reviews while fostering a forward-thinking culture.	Senior Leadership & Quality Assurance Teams	Boost institutional decision-making, cultivate adaptability and improve long-term strategic goals in HEPEIs (Christianson, 2019; Rokvić and Stanojević, 2024).
Promote Intuition and Plausibility in Evidence-based Decision-Making	Train leaders to balance data-driven and intuitive decision-making for improved ambiguity navigation.	Leadership & Business Development Units	Encourages agility in leadership and refines strategic decision-making adaptability in HEPEIs (Weick, 1995; Derbyshire, 2022).

Provide Conducive Environments to Empower Innovation	Provide autonomy and financial support for innovation projects.	Institutional Leaders & HR Departments	Instil a growth mindset, improve staff cohesion and nurture entrepreneurship in HEPEIs (Vitry, Sage and Dainty, 2020; Blanka, 2019).
Implement Strategic Programmes to Decode Environmental Cues	Implement scenario planning, trend analysis, and business continuity planning.	Research & Strategy Teams	Enables proactive actions to external uncertainties and challenges, and enhances institutional sustainability in HEPEIs (Holt and Cornelissen, 2014).
Strive towards creating Niche Specialisation with Strategic Vision	Align institutional strengths with specialised programme offerings to differentiate HEPEI market positioning.	Academic Directors & Business Development Teams	Establish competitive positioning, capture niche student demographics, and fortify market relevance in HEPEIs (Lumpkin and Dess, 1996; Wach, Głodowska and Maciejewski, 2018).

6.2.1. Recommendations and Implementation Strategies

1. Encourage Robust Identity while Encouraging Adaptability:

HEPEIs need to balance institutional identity with market agility (Cristofaro, 2022). Findings show that HEPEI identity had a strong positive with retrospection, suggesting the significance of continuous learning and re-evaluation to sustain competitiveness. S6 noted, "Our institution's identity is what differentiates us, but sometimes, it makes adaptation difficult." Therefore, HEPEIs should strive towards a distinct identity as a market positioning action, using it as a foundation for distinct brand differentiation while promoting adaptability (Fayvishenko, 2018; Yermakova, 2018).

2. Leverage Social Engagements for Collaboration and Innovation:

Social interactions in HEPEI scored highly at and indicated a strong with meaningful cues, suggesting their participation in institutional adaptability and strategic decision-making (Cristofaro, 2022). S1 mentioned, "Engaging with regulatory bodies ensures strategic alignment." Establishing a corporate culture that encourages social interaction enhances collaboration, innovation, and staff well-being." (Dube and Ndofirepi, 2024; Ndjama and Van Der Westhuizen, 2024).

3. Establish Continuous Improvement Processes Through Learning and Development

HEPEI Ongoing processes were established as a key driver of institutional adaptability (Rogers and Vardaman, 2022). Continuous improvement and refinement of strategic directions and operational improvements within key areas of curriculum design, student support, learning technologies and teaching pedagogies and over competencies are essential for HEPEIs to remain competitive, according to S11. Continuous improvement promotes better quality assurance, optimises work processes, and empowers institutions to dynamically address market changes (Iqbal, Hanif and Khan, 2024; Ratzmann et al., 2018).

4. Cultivate Reflection Practices with Forward-Thinking

The study showed that Retrospection saw HEPEIs play down the importance of reflection practices. However, S9 claimed, "Reflecting on past initiatives enabled us to circumvent pitfalls in new strategies." Retrospection can help HEPEI leaders interpret insights from past knowledge and events to inform strategic decisions while balancing forward-thinking strategies (Christianson, 2019; Alali and Aboud, 2024).

5. Promote Intuition and Plausibility in Evidence-based Decision-Making

Plausibility in HEPEI came in as least mentioned sensemaking dimensions, suggesting a strong dependence on data-driven, structured decision-making rather than intuitive judgments (Weick, 1995). It is suggested that organisational leaders must include intuition reasoning with data-driven decision-making (Derbyshire, 2022). Therefore, combining intuition with logical structure improves organisational agility in mitigating uncertainty and developing resilience (Demel et al., 2022; Walton, O'Kane and Ruwhiu, 2019).

6. Provide Conducive Environments to Empower Innovation

Enactment of a sensible environment within HEPEI was mentioned often reaffirming the significance of strategic leadership in creating an innovative organisational culture (Blanka, 2019). It is suggested that leaders who nurture a culture of autonomy and creativity within organisations improve employee and stakeholder engagement and overall performance (Assefa et al., 2023; Ashraf, 2021).

7. Implementing Strategic Programmes to Decode Environmental Cues:

HEPEIs must strive to develop their capability more in the practices of utilising external cues, as found by the strong mention between meaningful cues and social interactions. As S3 highlighted, "Understanding student trends helps forecast demand and align our offerings." HEPEIs need to develop and implement strategies to create more skillful interpretations of significant external signals and cues as they push for proactiveness and sustain competitiveness (Rua, Lawter and Andreassi, 2024; Opabola and Galasso, 2024).

8. Strive towards creating Niche Specialisation with a Strategic Vision

Competitive aggressiveness in HEPEI was linked to social interactions, highlighting the significant role it plays in creating strategic differentiation (Lumpkin and Dess, 1996). S12 pointed out, "What we offer is what we are good at, and it sells on its own." Therefore, HEPEIs that actively create niche differentiation and specialisation are more successful in providing unique value propositions, ensuring competitive advantage in the marketplace (Gaugeler and Rybnicek, 2022; Vankov and Vankov, 2023).

6.3 Combining Recommendations for Strategic Fit

For HEPEL adaptability in situations where it is appropriate to do so, the recommendations above could be combined.

To illustrate the complementary combinations that are necessary to ensure a more comprehensive strategic approach to the expansion of HEPEI, Table 11: Combining Recommendations for Strategic Effectiveness demonstrates the complementary combinations to ensure a more holistic strategic approach to HEPEI growth.

6.3.1. Combining Recommendations for Strategic Effectiveness

The following four suggested complementary combinations are derived based on the most significant findings from the study.

Table 11: Combining Recommendations for Strategic Effectiveness

Combination of Recommendations	Expected Synergy & Benefits	Who Should Implement
1. Robust Identity + Niche Specialisation	Improved HEPEI market branding, entrepreneurial resilience, and organisational positioning (Cristofaro, 2022; Lockett et al., 2014). Also, competitively positioned HEPEIs capture niche student demographics and strengthen market relevance (Lumpkin and Dess, 1996; Wach, Głodowska and Maciejewski, 2018).	HEPEI Leaders & Academic Directors
2. Social Interactions + Continuous Improvement + Conducive Work Environments	Enhances teamwork, collaboration, and innovation (Rogers and Vardaman, 2022). Improves HEPEI team dynamics, innovation, and institutional adaptability (Lumpkin and Dess, 1996; Cristofaro, 2022). Upgraded curriculum, regulatory compliance, and adaptable lifelong learning culture in HEPEIs (Rogers and Vardaman, 2022). Encourages HEPEI entrepreneurship, staff collaborations and growth mindset (Vitry, Sage and Dainty, 2020; Blanka, 2019).	Institutional Leaders & HR Departments
3. Reflection Practices + Continuous Improvement	Combines previous learning with proactive strategies to increase institutional agility (Christianson, 2019). Modernised curriculum, better regulatory compliance, and adaptable learning culture in HEPEIs (Rogers and Vardaman, 2022). Enhance leaders' decision-making, adaptability, and long-term strategic directions in HEPEIs (Christianson, 2019; Rokvić and Stanojević, 2024).	Senior Leadership & Quality Assurance
4. Environmental Cues + Intuition and Plausibility Training	Improves decision-making accuracy and precision, agility skills, and market foresight (Weick, 1995; Derbyshire, 2022). Develop better HEPEI institutional sustainability by enabling proactive actions to external uncertainties (Holt and Cornelissen, 2014). Enhances HEPEI leadership agility and strategic decision-making adaptability (Weick, 1995; Derbyshire, 2022).	Business Development & Strategy Teams

Below will illustrate that each of these combinations strives to allow HEPEIs to sustain a strong focus on entrepreneurial growth while leveraging agility and innovation.

1. Robust Identity + Niche Specialisation:

Findings in the study have shown that institutional identity plays a crucial role in market positioning, with a strong positive with retrospection, suggesting that HEPEI that have clearly defined identities are better at being resilient and adaptable (Cristofaro, 2022). Nevertheless, this identity mustn't be too fixed and rigid; as S6 emphasised, "Our institution's identity is what differentiates us, but sometimes, it makes adaptation difficult." When combined with niche specialisation, HEPEI can better differentiate itself while remaining responsive to market demands (Lumpkin and Dess, 1996). An earlier study by Lockett et al. (2014) and newer research by Cristofaro (2022) found that institutional identity, when aligned with niche market strengths, drives entrepreneurial resilience and strategic adaptability. Reinforced by a recent study by Shegia and Ronalde (2024) on brand equity, such a combination allows firms to maintain strong market mindshare while allowing flexibility to adapt to shifting market demands, like the Singapore HEPEI sector.

2. Social Interactions + Continuous Improvement + Conducive Work Environments

Social interactions in HEPEI were highly ranked and indicated strong correlations with meaningful cues. This underpins the importance of nurturing a culture of collaboration to drive organisational innovation (Cristofaro, 2022). As S1 shared, "Engaging with regulatory bodies ensures strategic alignment." Thus, by integrating systematic continuous improvement processes and developing a conducive corporate environment, HEPEIs can promote a feedback-supportive culture that improves overall operational effectiveness and creativity (Rogers and Vardaman, 2022). Recent studies have shown that a work culture that fosters collaboration improves team dynamics, driving better innovation and problem-solving, leading to better organisational effectiveness (Ndjama and Van Der Westhuizen, 2024; Rogers and Vardaman, 2022). Aligning, a study by Dube and Ndofirepi (2024) within academics indicates that encouraging social engagement improves staff commitment and supports long-term success.

3. Reflection Practices + Continuous Improvement:

Findings indicate that HEPEI retrospection was weak but a strong acknowledgement for Ongoing Processes are indicating that HEPEIs prefer forward-oriented strategies rather than prior learning (Christianson, 2019). However, the study has shown that systematic post-

mortem analysis and strategic evaluation can improve decision-making effectiveness. As S9 said, "Reflecting on past initiatives enabled us to circumvent pitfalls in new strategies." According to recent research by Rokvić and Stanojević (2024), integrating reflection practices with continuous improvement allows the leverage of past insights to refine strategic actions and support adaptability. It is noted that retrospection, when combined with ongoing improvement mechanisms, will enhance learning and adaptability (Christianson, 2019; Rokvić and Stanojević, 2024). According to Su et al. (2024), such actions will enable organisations to refine strategic decisions, while past insights are effectively used to contribute to improved organisational performance.

4. Environmental Cues + Intuition and Plausibility Training:

A pressing issue noticed in the study is HEPEI Meaningful cues and plausibility were identified as significantly important but remain an underutilised element in sensemaking (Weick, 1995). The findings pointed to many HEPEIs prioritising data-driven actions over intuitive reasonings. However, as S5 supported the importance, noted, "A lot of decisions in the private education sector are guided by gut feelings, especially when data is limited." This aligns with the earlier study by Weick (1995) as well as recent findings by Derbyshire (2022) suggesting that strategic decision-making based on external cues and intuition helps to establish organisational proactiveness and competitiveness in a dynamic market landscape. Institutions using cues as part of scenario-based business analysis improve foresight and business continuity planning (Holt and Cornelissen, 2014; Rua, Lawter and Andreassi, 2024). According to Derbyshire (2022), integrating environmental cues with plausibility training helps organisations to better their ability to decode environmental signals and, at the same time, improves strategic foresight, driving leaders to be more proactive in mitigating external market risks and regulatory shifts.

6.4. Applications for Integrating Sensemaking, EO, and GME for HEPI Strategic Agility

This section extends the theoretical contributions of Weick's (1995) sensemaking framework, Entrepreneurial Orientation (EO) (Lumpkin and Dess, 1996), and Growth Mindset in Entrepreneurship (GME) (Billingsley et al., 2021) by investigating their practical application within HEPEIs. By integrating the empirical findings, this section demonstrates how the

recommendations could be applied in HEPEI leadership, decision-making, and strategic market positioning.

The application of sensemaking is mapped using Figure 7: Application of Sensemaking, adapted from Weick (1995); Namvar et al. (2018); Hoyte et al. (2019); Penttilä et al. (2020); Cristofaro (2022); Fisher and Neubert (2023). The model shown Figure 7: Application of Sensemaking (adapted from Weick (1995); Namvar et al. (2018); Hoyte et al. (2019); Penttilä et al. (2020); Cristofaro (2022); Fisher and Neubert (2023) below illustrates the systematic process through which HEPEI leaders could interpret their environments and create strategies based on expected HEPEI market challenges, institutional identity, and regulatory requirements.

6.4.1. Initiating Sensemaking: Identifying and Responding to Triggering Circumstances

The process begins with leaders rigorously identifying and acting to “triggering circumstances” that require attention for strategic actions and ending with decision-making (Weick, 1995); Namvar et al., 2018; Hoyte et al., 2019); Penttilä et al., 2020; Cristofaro, 2022); Fisher and Neubert,2023). These cues or market disruptions may include regulatory updates, international student mobility trends, declining or increasing student enrollment, or major shifts in market demand for a course (CPE, 2023; Training Partners Gateway, 2024). The study findings have clearly shown that HEPEI leaders must continuously gather data and information, engage more with stakeholders, and track external conditions to anticipate threats and opportunities.

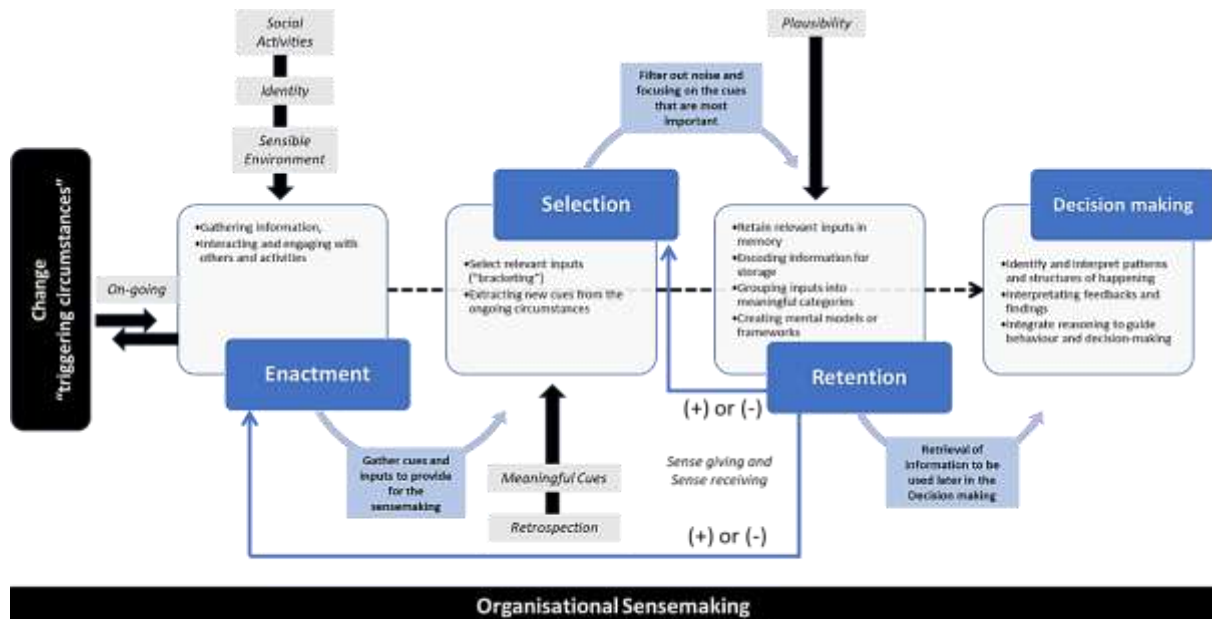


Figure 7: Applications of Sensemaking (adapted from Weick (1995); Namvar et al. (2018); Hoyte et al. (2019); Penttilä et al. (2020); Cristofaro (2022); Fisher and Neubert (2023))

6.4.2 Strategic Actions 1: Enhancing Institutional Agility Through Proactive Monitoring

To effectively address cues and disruptions, HEPEI leaders should:

Implement real-time data tracking mechanisms or tools to monitor, track and evaluate regulatory changes and student preferences (Hoyte et al., 2023).

Establish or appoint a strategic agile response team centric on identifying and interpreting external changes and initiating strategic adjustments (Bligh, Kohlesb and Yan, 2018).

Improve strategic collaborations with industry partners, university partners and relevant government bodies to pre-empt business, operational or regulatory challenges (Cristofaro, 2022).

6.4.3 Strategic Actions 2: Enacting a Sensible Environment Through Active Engagement

To enact a Sensible Environment for stakeholders' active engagement:

Implementing more regular but meaningful collaborations by encouraging management, faculty and staff to participate in cross-departmental experiences and knowledge sharing (Interviewee(S6), 2024).

Increase external engagement to capture important diverse perspectives by deeper students' engagement, university partners, industry partners, and recruitment agents and attend all regulatory bodies updates to gather diverse perspectives (Turner et al., 2023).

Designing and implementing systematic and logical ways of assessing market conditions and student needs such as recruitment agent surveys, students' course and programme surveys, informal and formal focus groups and various credible education industry research and study (Cristofaro, 2022).

6.4.4 Strategic Actions 3: Building a Collaborative Culture for Innovation

To create a more agile institutional culture, HEPEIs should:

Establish innovation-enhancing collaboration, such as innovation hubs, where faculty and industry experts can actively enter into meaningful working relations or formal memorandum of understanding (MOU) with relevant partners to co-learn, co-develop and co-operate new initiatives, new programmes and teaching approaches (Interviewee(S11), 2024).

Implement learning and peer-learning sessions, such as an internal academy framework where various senior leadership and staff could participate openly to share strategic insights across management and faculty (Hoyte et al., 2023).

Capture and leverage student feedback mechanisms such as student-management, student-faculty or student-administration meetings as well as informal and formal surveys to capture implicit and explicit knowledge to continuously refine the quality assurance standards, learning environment and course delivery (CPE, 2023; Training Partners Gateway, 2024).

6.4.5 Strategic Actions 4: Selecting Meaningful Cues: Filtering and Prioritising Information

To select Meaningful Cues that are useful, leaders must:

Examining external cues carefully and rationally by filtering out noise that could skew the decisions to focus on the most relevant insights pertaining to critical aspects of vision, mission and culture aspect (Rogers and Vardaman, 2022).

Implement bracketing techniques to categorise and extract key information, such as grouping issues concerning the same subject matter without bias due to personal beliefs (Turner et al., 2023).

Conduct regular trend analysis as part of fixed operational and management review process to ensure strategic decisions are checked regularly and are aligned with institutional goals and key performance indicators (KPIs) targets (Hoyte et al., 2023).

6.4.6 Strategic Actions 5: Leveraging Data Analytics for Decision-Making

To improve data-driven decision-making, HEPEIs should:

Investigate and invest in using AI-driven analytics tools that identify emerging trends such as international mobility shifts, student preferences and regulatory changes and academic and learning techniques to adapt to the fast-moving artificial intelligence landscape (Sirnoorkar et al., 2024; Engström et al., 2024).

Implement as part of the internal academy to train all staff on interpreting and using data insights in strategy formulation, particularly in an increasingly data-driven and AI world, for operational efficiency (Christianson, 2021; Sirnoorkar et al. 2024).

Establish a process that cultivates a culture of evidence-based decision-making, such as via quality assurance reporting and monitoring updates, by compulsory using data review processes in leadership meetings (Derbyshire, 2022).

6.4.7 Strategic Actions 6: Retaining Information for Organisational Learning

To encourage retrospection practice, leaders should focus on:

Invest in systems and processes that allow the encoding and storing of essential Institutional business and operations information for future retrieval and reference, such as learning management systems, marketing CRM systems, students' administration systems and online knowledge banks (Kim, Toh and Baik, 2022).

Creating formal frameworks that allow for structured learning and knowledge management, such as teaching and learning frameworks, strategic business evaluating frameworks, programme design and curriculum development frameworks and staff learning and

development (L&D) frameworks, will put a more systematic procedure (Bligh, Kohlesb and Yan,2018).

Developing mental models such as trajectory management allows the anticipating and responding to issues such as Singapore student visa policy changes or EduTrust-certifications revisions or mental models using metaphors in communicating sometimes abstract situations could assist in developing novel solutions in responding to similar future challenges (Nardon and Hari, 2021; Christianson, 2021)

By adopting the above strategic actions, Singapore HEPEIs will develop a more adaptive strategic proposition, drive more innovative ideas, and differentiate strategically positioned institutions with a high level of entrepreneurial resilient, reinforcing the argument that integrating and combining the dimensions advocated by sensemaking with EO and GME frameworks can improve entrepreneurial leadership and long-term sustainability in HEPEIs in Singapore.

6.5. Limitations of Research

A transparent and critical appraisal of a study's limitations is essential for establishing its credibility and ensuring the validity of its findings (Greener, 2018). Far from being an admission of flaws, this section serves to define the precise boundaries of the research, manage the inherent constraints of the chosen methodology, and guide future scholarly inquiry (Akanle, Ademuson and Shittu, 2020). The limitations of this study are discussed below, organized into two primary categories: those pertaining to the specific context of the research, and those inherent in the conceptual and methodological design.

6.5.1 Contextual and Conceptual Limitations

This study's primary contextual limitation lies in its deliberate and focused sampling strategy. The research restricts its focus to a specific and critical subset of the private education landscape: Higher Education Private Education Institutions (HEPEIs) that possess a 4-year EduTrust certification. While this approach provides invaluable and deep insights into a high-stakes segment of the PEI sector, one that faces the most intense regulatory pressures and is most reliant on international student revenue. This necessarily limits the direct generalisability of the findings to the entire private education sector. The "sensemaking

signature" identified in this thesis—characterized by a strong alignment with action-oriented practices and a weak alignment with reflective and intuitive practices—must be understood as sensemaking under conditions of high regulatory scrutiny. It is plausible, and indeed likely, that the sensemaking processes of leaders in PEIs with provisional EduTrust status, or those operating outside the EduTrust framework entirely, would be markedly different. Therefore, the conclusions drawn here are most accurately understood as a model of leadership sensemaking within a mature, highly regulated sub-sector, rather than a universal model for all private education providers in Singapore.

This contextual specificity is further compounded by the acknowledged scarcity of localized scholarly literature on sensemaking and entrepreneurship within the Singapore PEI sector. While this study was designed to address this very gap, its development necessarily required a reliance on international research and theoretical frameworks from adjacent industries. This required a process of careful analogical reasoning to apply these concepts to Singapore's unique private educational context.

Conceptually, the framework itself, which integrates Weick's sensemaking with EO and GME, acts as both an illuminator and a blinder. While it proved highly effective in organizing and interpreting the data, it may have de-emphasized other potentially relevant factors, such as the influence of specific cultural norms or the deep-seated historical path dependencies of the institutions. The framework's alignment was validated based on qualitative data from a specific leadership cohort, which heightens the potential for biases associated with participants' unique interpretations and perceptions (Hennink, Hutter and Bailey, 2020).

6.5.2 Methodological Limitations

Methodologically, the study's reliance on the perspectives of senior leadership provides a rich and detailed account of strategic sensemaking but yields an inherently partial view. By not including the voices of other stakeholders—such as mid-level faculty, administrative staff, students, or even the regulators themselves—the study inevitably misses alternative, and potentially conflicting, realities. The findings, therefore, represent the constructed reality of the institution's strategic leaders, not a comprehensive ethnography of the organization as a whole.

The use of semi-structured interviews, while appropriate for an interpretivist study, is intrinsically subjective and dependent on the rapport between the researcher and the participant, as well as the interviewee's willingness to disclose strategically sensitive information (Hennink, Hutter and Bailey, 2020). The thematic analysis, while systematic, is ultimately constrained by the researcher's interpretation, which can introduce bias or overlook nuances (Slack and Draugalis, 2001; Serra and Torrell, 2022).

Finally, the study's cross-sectional design provides a rich snapshot of sensemaking at a particular point in time but cannot capture the longitudinal dynamics of how sensemaking evolves. The interviews offer a retrospective account of past events and a view of current challenges, but they do not allow for the observation of a sensemaking process as it unfolds over an extended period, such as during a multi-year crisis or a long-term strategic transformation. Consequently, while the study provides a robust model of the *structure* of sensemaking in HEPEIs, a longitudinal study would be required to fully understand its *process* and evolution over time.

6.6. Directions for Future Research

The limitations articulated above do not diminish the study's contributions but rather illuminate a clear and compelling agenda for future research. Each limitation points towards an opportunity to build upon the foundations laid by this thesis, expanding the scope of inquiry and deepening our understanding of sensemaking and entrepreneurship in this complex sector.

6.6.1 Broadening the Scope: Inclusive Sampling and Mixed-Methods Approaches

A logical and necessary next step is to address the limitations of the study's focused sample. Future research should expand the sample to include PEIs with varying EduTrust statuses (provisional, star-rated, and non-certified) to conduct a comparative analysis. This would allow researchers to investigate how the intensity and nature of regulatory pressure directly influence leadership sensemaking and entrepreneurial orientation.

Furthermore, future studies should adopt a multi-stakeholder perspective. Incorporating the voices of faculty, students, administrative staff, university partners, and even regulators through interviews or focus groups would provide a richer, more polyphonic understanding of

the HEPEI ecosystem. To enhance this qualitative depth, a mixed-methods approach could be employed. A large-scale survey, for instance, could be used to quantitatively test the relationships between the sensemaking patterns, EO dimensions, and GME facets identified in this study, thereby improving the generalisability of the findings across the wider sector.

6.6.2 Deepening the Analysis: Longitudinal and Process-Oriented Studies

To overcome the limitations of a cross-sectional design, future research should employ longitudinal methodologies. Tracking a cohort of HEPEIs over a period of several years would allow researchers to observe how sensemaking, EO, and GME evolve in response to specific environmental shocks, such as major policy changes, shifts in international student mobility, or the introduction of new technologies. This approach, as suggested by Linnhoff, Smith and Smith (2020), is highly effective for assessing the real-world impact of strategic initiatives over time. It would provide a much deeper understanding of the causal mechanisms at play and move the analysis from a static model to a dynamic, process-oriented theory.

6.6.3 Exploring New Frontiers: Sensemaking in the Era of Artificial Intelligence

Finally, this study provides a foundation for exploring the impact of one of the most significant emerging trends: the integration of Artificial Intelligence (AI) into education. Future research could investigate how AI and machine learning tools are shaping the sensemaking processes of HEPEI leaders. As scholars like Sarker et al. (2024) and Engström et al. (2024) have noted, human-AI collaboration is transforming organizational decision-making.

A future research agenda could explore several key questions: How are AI-driven analytics influencing the interpretation of meaningful cues and the reliance on plausibility? Can AI tools be used to augment the underdeveloped practice of retrospection by systematically analysing past performance data? How does the adoption of AI affect the enactment of a sensible environment and the social dynamics of an institution? The work of scholars like Sirnoorkar et al. (2024) and Li et al. (2024) suggests that AI can provide structured reasoning that complements human sensemaking. Investigating the integration of AI within the specific context of HEPEIs, considering how it might help mitigate risks associated with digital transformation (Nawaiseh et al., 2023), would be a highly valuable and timely contribution to both sensemaking theory and educational leadership practice.

6.7. Conclusion

This research set out to examine the interplay of sensemaking, Entrepreneurial Orientation (EO), and the Growth Mindset of Entrepreneurship (GME) within the complex and under-researched context of Singapore's Higher Education Private Education Institutions (HEPEIs). The study successfully confirmed its research objectives, providing a nuanced and critical analysis of how HEPEI leaders navigate their high-stakes environment. The findings reveal a distinct "sensemaking signature" among these leaders: a strong alignment with action-oriented, externally focused sensemaking practices, but a corresponding weak alignment with the more internal, reflective practices of retrospection and plausibility.

This unbalanced sensemaking process was shown to have a direct and constraining effect on entrepreneurial behaviour, leading to a model of 'Constrained Entrepreneurial Orientation' where adaptive innovation is favoured over disruptive risk-taking. Furthermore, the study established that sensemaking practices are the critical organizational mechanisms through which a Growth Mindset of Entrepreneurship is either cultivated or hindered, moving the concept from an individual trait to a collective capability.

The practical recommendations stemming from this analysis aim to address these gaps by fostering a more balanced sensemaking culture. By instilling structured reflection and creating space for intuitive, plausibility-driven decision-making, HEPEI leaders can enhance their institution's long-term strategic adaptability and entrepreneurial resilience.

While acknowledging the study's contextual and methodological limitations, this research makes a significant and original contribution. As the first study of its kind in this specific context, it provides valuable insights for leaders and policymakers and establishes a strong theoretical and empirical foundation for future research. Ultimately, this thesis demonstrates that for HEPEIs to thrive, they must move beyond a culture of reactive compliance and embrace a more holistic and integrated approach to sensemaking, thereby unlocking their full entrepreneurial potential in an ever-evolving educational landscape.

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Appendix A:

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Appendix B:

Culture of Entrepreneurship (CE)

- 1. How would you describe the way your private education institution in Singapore approaches entrepreneurial thinking and action?**
This question seeks your views on how entrepreneurship is seen and understood in your institution.
- 2. Can you give examples of how your institution supports or hinders entrepreneurial thinking and actions?**
This question aims to gather real-life examples of how your institution encourages or discourages entrepreneurial thinking.
- 3. What methods or activities are used in your institution to develop a culture of entrepreneurship among the staff?**
This question is about the specific ways your institution encourages staff to think and act entrepreneurially.

External Factors (EF)

- 1. What are the main outside influences that significantly affect private education institutions in Singapore?**
Understanding these influences helps to know the challenges and opportunities they bring.
- 2. How does your institution adapt to changing rules and competition in the private education sector?**
This question looks at how your institution handles changes and challenges from the outside world.
- 3. Can you share examples of major decisions or changes your institution made because of outside factors?**
Discussing these examples helps to understand the impact of external influences on your institution.

Individual Traits (IT)

- 1. What do you think about the role of personal characteristics in making entrepreneurial decisions in your institution?**
This question examines how personality traits are seen to affect decision-making.
- 2. In your view, how important is being smart and quick-thinking in making good decisions in a fast-changing educational environment?**
This question focuses on the role of being mentally sharp and able to think quickly in understanding and making decisions.
- 3. Can you share instances where certain individual traits or qualities have positively impacted entrepreneurial projects or ventures?**
Looking at real-life examples helps to see the effect of personal characteristics on entrepreneurial success.

Social Dynamics (SD)

- 1. How do social interactions and relationships among staff and stakeholders help in coming up with new ideas and innovations in your institution?**
This question explores the importance of social relationships in generating new ideas and innovations.
- 2. Have you seen examples where social networks or relationships have influenced the adoption of entrepreneurial practices or strategies?**
This question seeks to understand the impact of social connections on entrepreneurial thinking and actions.
- 3. What does your institution do to encourage an environment of openness, good communication, and teamwork among stakeholders?**
This question is about how your institution fosters a positive social environment and teamwork.

Appendix C:

Sample Interview Transcript

Participant: S13 (Assistant Academic Head) Institution: PEI11 Date: 3rd June 2025 Duration: 43:34 min

Researcher: All right. Hi, thank you for participating in this research for my DBA program. I understand you are an academic board member at a private school in Singapore. Before we start, may I ask for your permission to use the inputs from this interview for my thesis?

Interviewee: Yes, of course. To clarify, I'm an academic board member. The school would be PEI1.

Researcher: PEI1. Okay. Thank you so much. The first section of the questions is around entrepreneurial orientation. How would you describe the way your private education institution in Singapore approaches entrepreneurial thinking and action?

Interviewee: I think one of the ways they embed entrepreneurial thinking is within the assessments, in terms of skills and in terms of the attitude. For example, in projects or reports, there will be a section whereby they will encourage students to think differently and also from the entrepreneurial kind of view and perspective. So, for the students, it's quite explicit. That's one of the main emphases.

Researcher: That's interesting. And from the staff or management perspective? How do you feel that entrepreneurial culture is approached there?

Interviewee: To be really honest, I don't think they have mentioned about this explicitly among the staff. It's not a term that's used often in our internal communications. It's more of an implicit expectation, I would say. The management, especially the CEO, they definitely have the mindset. They like new ideas, they want to see new concepts. But it's not cascaded down into a formal 'entrepreneurship program' for staff. It's more about being open to suggestions when they arise.

Researcher: So, in that context, can you give examples of how your institution supports or perhaps hinders entrepreneurial thinking and actions among the staff?

Interviewee: I wouldn't say there is active, explicit "support" because, as I said, it isn't really mentioned in those terms. I would say perhaps the only thing that might hinder it is because they didn't really mention an alternative way of thinking, so there's no emphasis in this direction. Staff might feel that sticking to the established processes is the safest route. There isn't a clear signal that experimentation is officially encouraged, even if it isn't actively discouraged. The main hindrance, I feel, is the sheer weight of compliance. We spend so much time ensuring we meet every single regulatory requirement that there's very little mental bandwidth left for true innovation. It creates a risk-averse culture by default.

Researcher: That's a very clear point about the compliance burden. Can you elaborate on how that stifles creativity?

Interviewee: Well, for example, if a lecturer wants to introduce a new assessment method or a field trip that's slightly unconventional, the first thought isn't "is this a good pedagogical idea?" but "how will this be documented for our next EduTrust audit?" The process of getting approval, ensuring all the paperwork is perfect, and justifying it against a dozen criteria can be so daunting that many staff just decide it's not worth the effort. So, the system itself, while designed to ensure quality, inadvertently hinders the very creativity that could improve it.

Researcher: I see. So it's more of an absence of a clear mandate and the presence of bureaucratic hurdles rather than an active barrier. Given that, are there any informal methods or activities that you've observed that help to develop this culture, even if it's not official policy?

Interviewee: Not really in a structured way. It's more organic. If an individual lecturer has an idea, they might pursue it, but there isn't an institutional framework to capture or scale those ideas. It really depends on the individual's own initiative and their direct relationship with their head of department. For example, we recently introduced a new system for monitoring student assignments, an RMS system. This came from a suggestion from the academic team who saw a gap. The management was willing to listen and ultimately invested in it, but the idea had to bubble up from the ground without a formal 'innovation funnel'.

Researcher: So it relies heavily on proactive individuals.

Interviewee: Exactly. The culture doesn't systematically cultivate it, but it is receptive to it when it appears.

Researcher: Okay, that's very clear. Let's move to the next part, which is on environmental factors. What are the main outside influences that you feel significantly affect private education in Singapore?

Interviewee: I think emerging trends have definitely impacted private education institutions. For many years, Singapore was positioned as a hospitality and tourism hub, and many schools, including ours, focused heavily on these areas. But because of COVID, we all realized how risky this field is, as it's very easily influenced by outside environmental factors. The pandemic really exposed that vulnerability.

Researcher: How did that realization shift the institution's focus?

Interviewee: It brought us to a much stronger reliance on technology. COVID forced us to transition to more technology-based operations and, of course, teaching methods. So, I would say one of the main influences now is the rapid advancement in emerging technologies and the need to integrate them effectively. We were tested during the pandemic, and it showed us where our gaps were. We are now exploring more AI systems, for example, to help both the school and the students. It's no longer a 'nice-to-have'; it's a necessity for survival.

Researcher: What about regulations or other external factors?

Interviewee: Regulations-wise, definitely. That is probably the number one factor. For example, the various policy changes from neighbouring countries or popular study destinations like Australia, the UK, and Canada, where they are trying to cap the number of international students. This has a direct impact on us. Because of these caps, potential applicants who might have put those destinations as their first choice now have fewer options. Singapore, as a study destination, can then leverage this as one of the biggest substitutes. So, we are very sensitive to the immigration and education policies of other countries. On the flip side, the local regulations from SSG are incredibly strict. We just obtained our four-year EduTrust, and the process is rigorous. We must comply with all the private education rules, and this shapes everything we do.

Researcher: That makes sense. So how does the institution adapt to these constantly changing rules and the intense competition in the sector?

Interviewee: In terms of processes, we are trying to adapt. However, it's more about the different emphasis in the areas they're trying to see. Everything we do now is much more evidence-based. So, the institution is trying to find ways to curate and create this evidence in our day-to-day operations over the long term. The hope is that through refining these processes, we can find a competitive advantage. And definitely, there are constant changes in our marketing strategies and program offerings, which need to be aligned with the rules and regulations here in Singapore. For competition, we know we are a smaller player. The bigger schools can spend a lot of money on recruitment from many countries. We have to be more focused. We started with a focus on China, and now we are expanding to Vietnam. We have to be strategic and can't compete on budget alone.

Researcher: Can you share any specific examples of major decisions or changes your institution made because of these outside factors?

Interviewee: I think one key area of very recent change would be pertaining to the management of the teaching faculty. There's a much stronger emphasis now on having records of every single decision and a focus on internal communication. Now, there are various channels for communication, and they must be documented. One good example would be that in the past, there might have been certain verbal requests for curriculum changes or changes in teaching materials or teaching approaches. Now, all of these are being recorded in a formal way, through official meeting minutes or change request forms.

Researcher: And what drove that shift towards formalization?

Interviewee: I think there's also another stronger emphasis on training itself. It has become an institution-wide led kind of practice, rather than just a staff-led initiative. I believe this is a direct result of government regulations. Due to the latest iteration of the guidance document from SSG, we understand there's a change in focus and emphasis. The strategic direction of this governmental regulatory body might be focusing on other things as well. And I think overall, the goal is to brand Singapore as a quality study destination, considering the other destinations in the world. It forces a level of professionalism and accountability that might have been less consistent in the past.

Researcher: Thank you. The next part we'll go into is individual traits. What do you think about the role of personal characteristics in making entrepreneurial decisions in the institution? For instance, creating new processes or coming up with new ideas.

Interviewee: The role of personal characteristics... I think definitely, one of the major things that I can see within my institution is the emphasis on being agile. Yes, as you mentioned, because everything is not always permanent and we are living in a VUCA environment. We need to be very adaptable to things and be able to make changes on the go. Another thing is actually being very pragmatic.

Researcher: Can you elaborate on what you mean by 'pragmatic' in this context?

Interviewee: Pragmatic, meaning that whatever things that work in the West, perhaps, or maybe works in the East, like in China, or in the UK, or in Australia, might not work in Singapore. So, we must always think of a way whereby we are agile, but we must also be resourceful enough to find what works specifically in the Singaporean context. We cannot just import best practices wholesale. Yes, we always hear about best practices, but not all best practices that work in other parts of the world will work here. We have to adapt them to our local regulations, our student demographics, and our resource constraints. It's about practical application, not just theoretical ideals.

Researcher: So, following that, in your view, how important is being smart and quick-thinking in making good decisions in this fast-changing education environment?

Interviewee: I think, first, "smart" is very subjective. Maybe it's about being, as I mentioned, pragmatic, being street-smart. Quick-thinking, yes, that is important. But however, I think one of the key things, and what I realize personally, is about being clinical.

Researcher: Clinical? That's an interesting word. Can you explain that a bit more?

Interviewee: Yes, clinical. Because you might not have the chance to do it many times. You must make sure you do it right the first time, or at least do it well. In our environment, a significant mistake can be very costly, not just financially, but in terms of our reputation with regulators. So, while you need to be quick, you also need to be precise and thorough. And another emphasis is about having good judgemental skill. Because a lot of things, we might not be able to quantify. It's based on individual intuition and judgment. And judgment cannot be learned from a book; you must go through the experience. And sometimes it's inborn. So, I feel in line with smart and quick-thinking, yes, but the emphasis might be on being more clinical and having good judgemental skills. It's a balance between speed and precision.

Researcher: Thank you, that's a very insightful distinction. Can you share instances where you've seen certain individual traits or qualities positively impact a new project or venture?

Interviewee: I think, perhaps I can share from a macro view. What works best is when the institution creates or inculcates an emphasis on having a psychological safety net, whereby everybody is free to say anything they want, and they won't be judged. And from there, they can be very free to explore the things that perhaps they want to do, or perhaps they have a new good idea. Once you have this psychological safety net, individuals with traits like being proactive and creative will start to contribute.

Researcher: Do you have a specific example in mind?

Interviewee: Yes, I think one good example is a lecturer who suggested new ideas for conducting a particular assignment that was out of the classroom. In our Singaporean context, this is not very usual because normally everything is held in class, mainly for reasons of control and standardized delivery. But this lecturer was very passionate and persistent. She had a clear vision for how an experiential learning component would benefit the students. She went outside of the classroom as part of the requirement of the assignment. I think that's quite entrepreneurial.

Researcher: How was that received by the institution?

Interviewee: Initially, there was some hesitation because of the logistics and potential risks. But because she was so well-prepared and had a clear rationale, and because the environment allows for such ideas to be heard, she was given the green light. And with this, it was reported back to our UK partners, and they were very impressed and they themselves wanted to implement it. So, it became a more collaborative kind of project and a sharing of best practices. So, the qualities and traits were: creative, proactive, persistent, a collaborative attitude, and one of the most important things was having the trust, which was due to the psychological safety net that the institution had provided. It shows that if the culture allows it, the right individual traits can lead to significant positive change.

Researcher: Thank you so much. On the final part, we are looking at social dynamics. How do social interactions and relationships among the staff and stakeholders help in coming up with new ideas or innovation in the institutions?

Interviewee: Well, I think my previous answer mentioned this. So, yes, definitely relationships are key. This boils down to the organizational culture of the particular institution. For example, in my institution, it's more open. There's no mental barrier, and there's no physical barrier either.

Researcher: No physical barrier? Can you describe that?

Interviewee: Because the office is very open. There are no cubicles like this. It's an open concept. So, there's no such thing as, "my door is open," because there's no door. Anybody can approach anyone, from the newest staff member to the CEO. And I think with this, the social interaction and relationship, any potential power struggle has been diminished. It makes communication much more fluid and less intimidating.

Researcher: That's wonderful. And how does that open environment specifically lead to new ideas?

Interviewee: It's important when you're coming up with new ideas and innovation because it feels that, okay, so whatever you say is equally important. Absolutely. And you will not be judged. When people are not afraid to speak up, you get a much wider range of ideas. An idea might be half-formed, but in a conversation with a colleague from another department, it can be refined and developed. These informal brainstorming sessions happen organically because of the physical and cultural openness.

Researcher: So, what does the institution do to formally encourage this environment of openness, good communication, and teamwork amongst stakeholders?

Interviewee: The open office is one thing. We also have gatherings. And to be really honest, I think one very important thing is to make meetings less informal. Of course, the objectives are formalized, but the interactions can be less so. We also have quarterly town hall meetings where the management shares the direction of the company and the results we have. This is good because we need to know what path we are on. They are very transparent.

Researcher: And what about informal activities?

Interviewee: Yes, we have those too. We have a "Monday dinner" with the staff, which is quite informal and allows for casual conversation with the CEO and CFO. We also have student activities like Christmas and Chinese New Year parties, which build a strong connection between the school and the students. This is important because in some other private schools, that connection is not very strong. Here, it is quite good. These activities create a sense of community and shared identity.

Researcher: And you feel that this strong sense of community helps in the business as well?

Interviewee: Definitely. When staff and students feel connected to the institution, they are more willing to contribute. The relationship between stakeholders and staff must be good for them to be able to share anything among themselves. If the staff are not willing to share, then the management might not know what is really happening on the ground with the lecturers or the students. So they might not be able to make the right decisions. So yes, these social dynamics are not just for fun; they are critical for the health and agility of the organization. And it all comes back to that psychological safety. The mindset that it is safe, you know, everything will be contained within the meeting itself, be it good or bad. And with that, they probe for, "oh, anything else bad that we want to really hear." That openness is key. Researcher: Thank you. I think you have given me very good insights into the perspective. And thank you for helping me on this project. I really appreciate it.

Interviewee: You're welcome. Thank you.

Table of participants' detail

Pilot study participants:

Institution	Participant	Job title	interview Date	Interview Duration
PEI 2	S2	COO	2 nd Apr. 2024 (pilot)	26.31 min
PEI 3	S3	Academic Board Member 1	5 th Apr. 2024 (pilot)	28.56 min
PEI 5	S5	CEO	2 nd Apr. 2024 (pilot)	24.43 min
PEI5	S7	Deputy Academic Director	11 th Apr. 2024 (pilot)	22.76 min
PEI 6	S8	Academic Head (external programme)	8 th May 2024 (pilot)	23.23 min

Main study participants:

Institution	Participant	Job title	interview Date	Interview Duration
PEI 1	S1	Regional CEO (ASEAN)	4 th Sept. 2024	31.40 min
PEI 2	S2	COO	6 th June 2024	33.45 min
PEI 3	S3	Academic Board Member 1	11 th Sept. 2024	30.04 min
PEI 4	S4	Academic Board Member 2	25 th Sept. 2024	42.21 min
PEI 5	S5	CEO	8 th June 2024	38.05 min
PEI 5	S6	Academic Director	14 th Aug. 2024	44.02 min
PEI 5	S7	Deputy Academic Director	12 th Oct 2024	32.09 min
PEI 6	S8	Academic Head (external programme)	15 th Oct. 2024	39.08 min
PEI 7	S9	Director	6 th Sept. 2024	34.01 min
PEI 8	S10	Senior Lecturer	27 th Sept. 2024	35.24 min
PEI 9	S11	Director of Programme and Business Operations	6 th Sept. 2024	36.55 min
PEI 10	S12	Group Managing Director	17 th Sept. 2024	38.23 min
PEI 11	S13	Assist. Academic Head	3 rd June 2025	43.34 min
PEI 5	S14	Academic Head	2 nd June 2025	38.15 min
PEI 2	S15	Sales Manager	4 th June 2025	35.59 min

PEI 5	S16	Head of Marketing	3 rd June 2025	37.28 min
PEI 6	S17	QA Manager	1 st July 2025	41.57 min
PEI 5	S18	Programme Head	8 th July 2025	40.44 min
PEI 6	S19	Registrar and QA Manager	14 th July 2025	36.12 min
PEI 6	S20	Marketing and Student Services Manager	July 14,2025	41.23 min

Appendix D:

Code definitions, inclusion and exclusion criteria

Codes:	Definition	Inclusion Criteria	Exclusion Criteria	References
Sensemaking Identity (ID)	Recognise and understand the importance of personal and organisational identity.	Participants made references to: <ul style="list-style-type: none"> Self-perception Courage Entrepreneurial mindset Alignment with organisational values 	General remarks or assertions unrelated to their PEI responsibilities or personal identity.	Magala (1997); Aromaa et al. (2019); Nardon and Hari (2022); Lockett et al. (2014); Vough, Brianna and Maitlis(2020); Schildt, Mantere and Cornelissen (2020); Hay, Parke and Aleksandra Luksyte (2021); Cristofaro (2022); Heinze (2013); Cunningham and Anderson (2018); Roche (2011); Lee and Rees (2020); Martínez-Martínez (2022).
Retrospection (RS)	Engage in introspection and examine past events and experiences to make sense of them.	Participants mentioned learning from: <ul style="list-style-type: none"> Past failures and successes Traditional practices to influence contemporary actions and strategies 	Comments and statements that solely reflect future ideas or are irrelevant to past experiences in PEI.	Weick (1995); O'Connell (1998); Wetzell and Dievernich (2014); Dawson and Sykes (2019); Gover and Linda (2018); Ucbasaran et al. (2013); Song, He and Zhang (2017); Lattacher and Wdowiak (2020); Kim, Toh and Baik (2022); Rauch and Hulsink (2023).
Enact Sensible Environment (SE)	Foster social interactions and collective activities to shape shared understanding and meaning.	Participants discussed nurturing an environment conducive to: <ul style="list-style-type: none"> Creativity and innovation Student success Staff development. 	Remarks and statements regarding generic PEI operational or administrative issues lacking connections to fostering a supportive organisational environment.	Weick (1995); Nardon and Hari (2022); Blakcoria and Psychogios (2021); Andrews (2021); Ala- Laurinaho et al. (2017); Massey and Clapper (1995); Heinze (2013); Blanka (2019); Vitry, Sage and Dainty (2020); Joy et al. (2023).
Social Interactions (SI)	Enacting sensible environments to construct a favourable context that supports effective sensemaking.	Participants mentioned driving towards organisational goals by: <ul style="list-style-type: none"> Teamwork Stakeholder engagement Collaboration 	Comments and statements regarding individual actions or choices unrelated to the PEI social or team dynamics.	Weick (1995); Vitry, Sage and Dainty (2020); Stigliani and Elsbach (2018); Turner et al. (2023); Dan Parrish (2023); Hoyte, Noke and Mosey (2016); Niemi et al. (2022); Soetanto, Huang and Jack, (2018).

Ongoing Process (OG)	Continuously adapt and refine sensemaking processes over time to navigate complexities.	Participants' discussion focused on enhancements to address challenges or optimise processes through: <ul style="list-style-type: none"> • Regular updates • Change management • Adaptive strategies 	Remarks and comments concerning PEI's current processes or strategies that fail to exhibit continuous enhancements, modifications, or innovations.	Weick (1995); Weick (2020); Yngve (2022); Rerup, Gioia and Corley (2022); Zhang and Soergel (2014); Ivanova-Gongne and Torckeli (2018); Hoyte et al. (2019); Rogers and Vardaman (2022); Calin (2020); Valimareanu and Horga (2021).
Meaningful Cues (MC)	Gather and interpret meaningful cues from the environment to inform sensemaking activities.	Participants refer to various external or internal influencing factors and actions associated with: <ul style="list-style-type: none"> • Government policies • Market trends • Organisational signals 	Comments and statements that are generalised and ambiguous or discussions unrelated to any specific external or internal cues or signals.	Weick (1995); Ancona (2011); Cristofaro (2022); Gover and Linda (2018); Holt and Cornelissen (2014); Christianson (2019); Ng and Clercq (2021); Hoyte et al. (2019); Uijen (2016).
Plausibility and Intuition (PI)	Leverage the power of plausibility and intuition to navigate uncertainties, foster innovation, and influence others' sensemaking processes.	Participants' discussion centred around addressing uncertainty through: <ul style="list-style-type: none"> • Intuition • Risk-taking, • Decision-making strategies 	Comments and statements suggest that decisions are primarily grounded in logic, facts, or data, lacking intuitive actions or without calculated risk assessment.	Weick (1995); Song et al. (2023); Ala- Laurinaho et al. (2017); Ancona (2011); Christianson (2019); Rogers and Vardaman (2022); Seidl and Werle (2018); Sherman and Roberto (2020); Derbyshire (2022); Hoyte et al. (2019); O'Grady, Ortos and Christensen (2018).

Codes: EO	Definition	Inclusion Criteria	Exclusion Criteria	References
Autonomy (AT)	Independent decision-making and action for pursuing opportunities.	Participants discussed initiating ideas independently, forming unique strategic directions, or decentralised leadership.	Following rigid procedures, waiting for top-down instructions, or relying solely on external stakeholders.	Lumpkin & Dess (1996); Lama et al. (2024); Doblinger & Class (2022); Usadha et al. (2022); Wach et al. (2018)
Innovativeness (IN)	Pursuing creative ideas, experimenting, and supporting new solutions.	References to introducing new business models, course innovations, pedagogical methods, or digital initiatives.	General change efforts without innovative elements or improvements solely from compliance.	Lumpkin & Dess (1996); Gupta et al. (2018); Wales et al. (2020); Kaouache et al. (2024); Putri & Affandi (2024)
Risk Taking (RT)	Willingness to commit resources to uncertain opportunities.	Mentions of bold decisions, launching new programmes, investing in uncertain ventures, or pursuing untested markets.	Conservative choices, compliance-led initiatives, or decisions with little or no risk.	Miller (1983); Li & Ahlstrom (2019); Bernoster et al. (2020); Wales et al. (2020)
Proactiveness (PA)	Forward-looking and anticipatory behaviours to seize opportunities.	Participants proactively addressed upcoming trends, tech disruptions, or initiated partnerships before competitors.	Passive responses to market changes or reacting only after external forces act.	Cho & Lee (2018); Gupta et al. (2018); Milovanović (2023); Satar et al. (2024); Ogundare & Merwe (2024)
Competitive Aggressiveness (CA)	Active, bold moves to outperform rivals and dominate the market.	Examples of aggressive pricing, strong branding, overtaking competition through fast expansion or alliance.	Incremental improvements or lacking explicit intent to challenge competition.	Lumpkin & Dess (1996); Paulus & Hermanto (2022); Kiyani & Ijaz (2024); Milovanović (2023); Chelliah et al. (2023)

Codes:GME	Definition	Inclusion Criteria	Exclusion Criteria	References
Leadership (LD)	Demonstrating proactive, adaptive, and resilient leadership that promotes innovation, collaboration, and strategic adaptability.	Participants describe growth-oriented leadership, inspiring staff, driving innovation, or fostering organisational transformation.	Passive management, reactive leadership, or delegation without clear growth focus.	Nielsen et al. (2019); Han & Stieha (2020); Valimareanu & Horga (2021); Zhang et al. (2023); Arham et al. (2023); Amit et al. (2024)
Creativity (CR)	Embracing innovation, ideation, and novel solutions to address challenges or seize opportunities.	Statements about creating new curriculum, solving problems innovatively, or driving educational redesign.	Routine improvements without original input; creativity without practical direction or impact.	Kwapisz et al. (2022); Karwowski et al. (2019); Bratnicka-Mysliwiec & Ingram (2022); Tkacz et al. (2023); Sokol (2024)
Personality (PT)	Individual traits (e.g. resilience, proactiveness, self-efficacy) influencing entrepreneurial decision-making and adaptability.	Descriptions of perseverance, risk-tolerance, proactive problem-solving, or adaptability in decision-making.	General attitudes not linked to traits or actions; personality as a passive attribute.	Pidduck, Clark & Lumpkin (2021); Howard & Boudreaux (2024); Alim et al. (2022); Nasser (2021); Chugh et al. (2024)
Intelligence (IQ)	Use of cognitive, emotional, and practical intelligence in entrepreneurial decision-making and leadership.	Mentions of strategic thinking, cultural adaptability, emotional self-regulation, digital/financial literacy, or applied knowledge.	General academic ability; intelligence not applied to entrepreneurial or leadership contexts.	Burnette et al. (2020); Dang & Liu (2022); Nawaz et al. (2024); Mohammadi et al. (2024); Sahin & Gurbuz (2020)
Entrepreneurial Ability (EA)	Capacity to act on ideas, manage uncertainty, and create value through entrepreneurial action.	Examples of new initiatives, strategic risk-taking, mentoring others, or building entrepreneurial culture.	Theoretical knowledge without application, or statements lacking entrepreneurial effort.	Schultz (1980); Sun et al. (2023); Sedeh et al. (2021); Berge & Pires (2020); Schuh et al. (2024)

End of Thesis