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Adapting to Indonesia's Evolving Data Center Landscape: An Investigation of Company Business Challenges, Competency Development, and Implementation Organization Transformation

Idho Ferditya Rakhman¹, Wulan Asti Rahayu², Pri Hermawan³

^{1,2} School of Business and Management (Jakarta Campus), Institut Teknologi Bandung, Jakarta, Indonesia

³ School of Business and Management, Institut Teknologi Bandung, Bandung, Indonesia

Correspondence: School of Business and Management (Jakarta Campus), Institut Teknologi Bandung, Jakarta, Indonesia, Tel: +6281319160084. Email: Idho_rakhman@sbm-itb.ac.id

Abstract

Indonesia's rapidly growing digital economy presents significant opportunities and challenges for companies like Alumagubi, an IT company diversifying into the data centre infrastructure sector. This study investigates the strategic challenges faced by Alumagubi, an established IT solutions provider, which produces IT applications for customers to enhance the digitalization business alignment in customer organization, then Alumagubi diversifies its business into Procurement and Facility Operation Maintenance Services for Data Center Infrastructure in Indonesia, which required several different technical hard skill and managerial skill set. The research explores the necessary organizational competencies, people development strategies, and structural transformations required to support this diversification. The key findings reveal critical technical and managerial competency gaps that Alumagubi needs to address, including: mechanical, electrical and plumbing (technical competency gaps), leadership, communication and decision-making (managerial competency gaps). To bridge these competency gaps, this comprehensive study provides Alumagubi with a roadmap to align its capabilities with its strategic objectives, ensuring sustainable growth in its new business ventures within the data center infrastructure. It used a mixed methods approach combining qualitative insights from interviews with key stakeholders, quantitative analysis of the Analytic Hierarchy Process (AHP) to rank the competency areas. Results demonstrated the demands for expertise in both mechanical and electrical systems as well as the enhancement of managerial skills pertaining to information processing and decision-making; project management; and project control. The study suggests an appropriate human capital development strategy, which includes skills gap analysis appropriate skills training projects, e-learning platforms, and organisational restructuring to encourage innovation and operational efficiency. This provides the framework what Alumagubi can use to transform for competition and sustainability in the data centre market in the long term.

Keywords: Business Diversification, Organisational Competencies, Human Resource Development, Digital Transformation, Data Centre Infrastructure

1. Introduction

Catalysed by the rise of digital Indonesia's economy, which is expected to grow from \$44 billion in 2020 to \$124 billion by 2025, technology adoption has been transformative across varying sectors: Fintech, e-commerce and logistics. A rise in cloud computing adoption is related to a high rise in cloud computing's digital surge which can be explained by the support of the Indonesian government in this matter by passing Omnibus Law added to additional related government policies. Indonesia's cloud market worth US\$0.8 billion at a CAGR 25% to 2023 will boost significant economic impact and job creation, emphasising the importance of the digital infrastructure (neuCentriX, 2021; Schneuwly, 2020). All this takes place against a backdrop of growing recognition of Indonesia as a digital innovation hub; further examples include the rise of digital startups like Traveloka and Akulaku (Muslim, 2023).

With such promising growth, however, IT companies such as Alumagubi, an IT company based in 2012, focused on comprehensive IT solutions, are struggling to survive while venturing into new business realms such as Data Centre Infrastructure Procurement and Facility Services. Expansion of Alumagubi into these specialisation units, particularly through a working partnership with Amazon, has left its competence's gaps, especially in areas that call for particular technical competences in data centre administration. Acquisition of new competencies, reorganisation of the organisational structure are necessary for the company's strategic diversification and, due to their rapid growth in this sector, for the company to meet the requirements for its diversification strategies (Bullock, 2019; Rasmussen, 202).

This research addresses critical challenges that Alumagubi is confronted with by finding out the new organisational competencies needed to enable business diversification of the company. Further, the research also evaluates how the company can close the aforementioned competency gaps using the applied human capital development strategies and how the organisational structure should be restructured to match with the new competency requirements. This research seeks to identify an improvement strategy that would improve Alumagubi's technical and human resource capabilities, and its long-term competitive position in the Data centre infrastructure market.

The emphasis on bridging expertise shortfalls that IT companies face on their journey into the offer of data centre solutions makes this research different from the existing literature. This research integrates organisational restructuring with competency development in an effort to provide a comprehensive approach to meeting the unique challenges inherent to the practise of a strategic business servicing shift. The findings will provide Alumagubi and others pursuing a similar transition in the rapidly evolving digital world with actionable insights.

However, the scope of this research project is limited to Alumagubi Indonesian subsidiary and its activities in the Greater Jakarta area. While the findings of this research give a detailed picture of the competencies and organisational changes needed for success in the data centre sector, the recommendations may not be applicable in toto to other regions or business lines within Alumagubi's larger portfolio. The proposed strategies are further in a dynamic nature of data centre industry, the proposed strategies have to be modified continuously in order to be relevant and effective over a period of time.

2. Literature Review

2.1 *Organizational Competencies and Capabilities*

Defining organisational competencies (Drejer, 2000; Prahalad; & Hamel, 1990) are the collective skills, knowledge and capabilities of an organisation that allow it to reach its strategic objectives and to win competitively. However, these competencies are entrenched in the organisation and consist of a combination of the tangible and the intangible assets – in terms of human resources, processes, technologies and organisational culture (Mills et al., 2002). Companies in dynamic and quickly changing industries have to identify and exploit organisation competencies (Teece et al., 1997). Recognising their core strengths and

capabilities, organisations can consequently make informed resource allocation, talent acquisition and strategic positioning choices (Drejer, 2000). The management of these competencies is effective by creating a culture of continuous learning, sponsoring innovation, and alignment of organisational resources with the company's strategic priorities (Lado et al., 1992; Mills et al., 2002).

Many studies recently emphasis on the importance of different organisational competencies for business success. For instance, Y. Spanos et al. (2004) demonstrated that the organisational capabilities are structured by knowledge and human actors' integration. D. According to Ulrich et al. (1991) a firm's ability to manage people adds competitive advantage and adaptation to changing needs. U. Zander et al. (1995) found that the faster a firm is able to code and teach capabilities, the more likely a firm is to transfer and imitate innovation. In organisational change work, J. Battilana et al. (2010) found that leadership competencies play a critical role in the activities related to the implementation of planned organisational change. David J. Collis et al. (1994) suggested that organisational capabilities can supply sustainable competitive advantage but are dependent on context.

2.2 *Business Diversification and Growth*

Business diversification is the strategic move of a firm to diversify its offerings to new products, services or marketplaces to reduce risks, leverage new opportunities, and fortify the long-term prospects of its business operations. The way to go with this approach is just in the wake of spreading risk and benefitting maximum opportunities to protect a business from economic twist of burdens, industry turns, and other unforeseen uncertainties (Weertz, 2024; Singh & Mishra, 2021). Diversification provides yet another benefit to business owners — increased revenue streams, lessening of dependence on one particular market or product and improved long-term sustainability (Weertz, 2024; Shorts.uk 1925). Besides that, it also encourages innovation in companies as they find ways to adapt to changing consumer needs while D'Aveni et al. (2004) and Studysmarter (2022) argued that 'entrepreneurship' within organisations generates the innovation.

The Ansoff Matrix, proposed by Igor Ansoff (1957), presents four main growth strategies for businesses: market penetration, product development, market development, and diversification. Diversification, being the riskiest strategy, involves developing new products for new markets, whether related or unrelated to the current business (Ansoff, 1957; Hunger & Wheelen, 2011). Recent studies have provided insights into successful diversification strategies in the IT sector. Companies like Apple, Amazon, Wipro, and HCL Technologies have demonstrated the importance of identifying new growth areas, strategically allocating resources, and developing specialized solutions to meet the growing demand from clients (Faster Capital, n.d.; Blog Shorts, n.d.; Our Business Ladder, n.d.).

2.3 *Change Management*

Change management is a critical process for organizations seeking to adapt to new challenges and opportunities. Motawa et al. (2007) proposed a unified approach to oversee and navigate transformative situations within the construction sector, adeptly handling evolving circumstances and assessing their ramifications on project execution and outcomes. Numerous models have been developed to facilitate successful organizational change implementation. Aljohani et al. (2016) compared seven major change models to aid in choosing the appropriate approach for various change situations. Essowe et al. (2019) described change management as involving strategies to control change, adapt to changes, and involve stakeholders to reduce resistance and enhance acceptance of changes. Effective change management requires collaboration among IT, users, and business unit management for proper implementation and monitoring (Yarberry et al., 2005). Adaptive leadership that balances change implementation with a stress-free work environment is crucial for both individuals and organizations (Malla et al., 2011).

2.4 *Human Capital Management*

Human Capital Management (HCM) has seen a lot of change in recent years, and kept up with how

organisations and the workforce need to be managed. The need for reengineering human resource practises and practising better and smarter human capital management has been accelerated by the COVID 19 pandemic (Bala & Bala, 2021). With the rise of data processing models, such as artificial intelligence (AI) and machine learning (ML), HCM outcomes and decisions are becoming better (Chopra et al., 2023). Nevertheless, it's essential to mention that neither AI nor ML is designed to supplant those of HR managers, but to supplement them and make your work data-driven. In practice, the human capital management practices, such as recruitment, selection, training, and development are positively related to employee performance, job satisfaction, organisational commitment, as well as willingness to change (Maharani et al., 2020; Lenihan et al., 2019).

2.5 Digital Business Transformation

Digital Business Transformation is the strategic integration of digital technologies in all aspects of a business, turning it on its head, and the way it operates and delivers value to its customers (Verhoef et al., 2021). That transformation is not simply about the adoption of new technologies, but rather a dramatic change in organisational culture and business processes and customer experiences (Vial, 2019). However, the process of digital business transformation includes a number of key elements; a clear vision and strategy, a customer-centric approach and leveraging of data analytics to understand customer behaviour, (Heavin & Power, 2018). A fundamental process for digital transformation successful depends on a whole, to the culture changes, the process changes and the tech changes, and the coordination of leadership, talents and resources to the same direction of the same vision of a digital (Gurbaxani, & Dunkle, 2019).

2.6 Conceptual Framework

Derived from previous research highlighting the relevance of technical and managerial competences for organisational success (Jessica Longhini et al., 2022), the proposed conceptual framework is based upon. This framework connects the technical competencies of Mechanical, Electrical, and Plumbing & Piping with the soft competencies of Leadership, Decision Making, and Innovation that are important in digital business diversification context (Salvador Reyes-de-Cózar et al., 2022). This framework departs from previous research that lays the focus on reactive methods to discover competency gaps (Maren Oberländer et al., 2020) and instead adopts a proactive method leveraging the Strategic Evaluation Competencies. With External Influences in mind these competencies are assessed to make sure the organisation is able to adapt to ever-changing external conditions.

Secondly, the framework also describes the alignment of these competencies with strategic objectives, acting as a bridge to help deliver a seamless solution which improves organisational performance and sustainability. Finally, the framework incorporates a multi dimensional approach, aligned with existing core competency (Prahalad & Hamel, 1990) and balanced scorecard (Kaplan & Norton, 1992) theories, and provides a holistic means of assessing both tangible and intangible assets, which is essential in laying a strong foundation for long term organisational excellence. In figure 1, Figure 1 below, it is possible to see the conceptual framework of the integration of technical and soft competencies to Strategic Evaluation, and in line with the organisation goals to provide business solutions and to sustain its success.

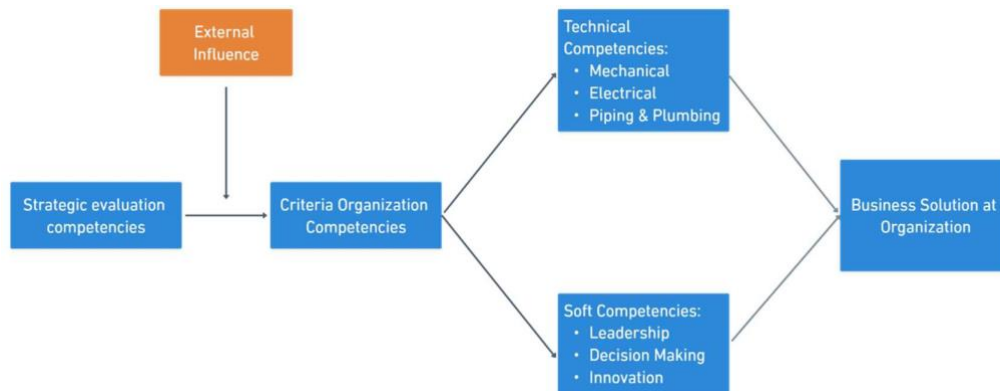


Figure 1: Conceptual Framework

3. Methodology

3.1 Research Design

This is about the research design which outlines a process of thinking through how Alumagubi can solve the big business problems. First, existing business problems are identified, and then they are reduced to very specific problems that will serve as the direction for research. The critical first step is that the research is supposed to be relevant and solutions directed to the identified challenges. After this, a systematic review of existing literature was done to shed light on the theoretical bases and empirical facts of the problem as informed by previous works with some weaknesses in the current understanding. The data was collected at the first stage of data collection which used both internal and external analysis to facilitate the acquisition of relevant information. The internal analysis included interviews of key stakeholders from the organisation and the external analysis was done by reviewing the literature and using secondary data sources. This holistic approach was dual — both ground in a theoretical perspective and a practical perspective — in terms of it providing a holistic understanding of the situation whilst also ensuring that the research was based on these two perspectives.

After obtaining the data, the research made its way into the analysis stage, where methods such as SWOT, PESTEL and Porter's Five Forces were used in order to evaluate the business environment thoroughly. They help pinpoint the inherent advantages, vulnerabilities, potential prospects, and impending challenges around the organisation. The Analytic Hierarchy Process (AHP) was then used to validate and sort the relevant criteria so they could be used during the decision process. The study culminated in the formulating clear and structured recommendations to support business diversification and organisational transformation to offer a strategic roadmap to.

3.2 Data Collection

To achieve comprehensive acquisition of the required data, the approach adopted was very carefully developed such that the proper information was gathered and response to the research objectives was as complete as possible. During this phase, which runs from 1st June 2024 to 31st July 2024; combined, qualitative and quantitative data was collected to build up a good basis for research. Alumagubi was approached through the holistic and qualitative aspect of in depth interviews with critical stakeholders to the Alumagubi. The interviews were really important in securing different views on the organisation competencies, people development strategies and the transformation it needed. To get a wide representation of viewpoints, six participants were specifically chosen based on their roles, responsibilities and expertise in the organisation. To select these experts, I made a decision criteria, which included: 1) job function: the person being processed; 2) relevant expertise; 3) connexion to the business context; and 4) experience in

decision making. Furthermore, an Analytic Hierarchy Process (AHP) was used to collect quantitative data. This involves giving out a questionnaire to stakeholders who can perform pairwise comparisons of different competency criteria. The AHP method aims at ranking the relative importance of the specific competencies within a certain organisation; it offers a structured and when prioritised data, which could be used in subsequent decision making process.

3.3 Data Analysis

The data analysis phase in this study used two different but complementary approaches: It employed thematic analysis and Analytic Hierarchy Process (AHP). Qualitative method, thematic analysis starts with data familiarisation whereby researchers resimmerse themselves in the collected data i.e. interview transcripts until they make out significant patterns and themes. First, the coding involves the initial coding where the data segments are organised according to their degree of alignment with the research questions. These codes are refined and ordered into bigger themes of the data that re-present the holistic in sight, ensuring that they are exact about the underlying in sights. This final step of the thematic analysis involves blending the interpretive themes developed from the extract data with the extracted data using a structured narrative, to provide a detailed interpretation of the research findings which goes beyond description to provide deep insight.

To supplement this qualitative approach, the AHP method was used to structure and prioritise decision-making. AHP decomposes a decision problem into a hierarchy of criteria and sub-criteria, followed by pairwise comparison of these elements to estimate each of their relative importance. Such a quantitative process is needed for synthesising a prioritised set of priorities that provide guidance for decision-making in a research context. To validate the AHP results, two indicators are used such as Consistency Ratio (CR) and Sensitivity Analysis. A CR is the measure of the consistency of judgements the judgements made in a pairwise comparison, with values below 0.1 being acceptable. In contrast, Sensitivity Analysis is a test of the sensitivity of decisions to changes in how important criteria become, ensuring that conclusions remain unchanged according to a variety of scenarios.

4. Results

4.1 SWOT Analysis

This paper takes the form of a SWOT evaluation to provide an overarching viewpoint into the situation of Alumagubi within this industry, as well as the impediments and emerging opportunities which the data centre infrastructure industry presents. One of their strengths is that they have the capability to develop software well and thus can deliver high quality and customised IT solutions and have a strong leadership team who can lead the organisation with a strategic thinking ability. It also has faster-getting value and streamlined internal processes (minimise bureaucracy), that helps the company respond to client needs quickly, which the proximity of its team members to the customer site improves collaboration and speed. But Alumagubi has several weaknesses which will knead its growth. The company has limited technical staff in mechanics and lacks staff who specialise in controls, so the company relies on third parties for this type of experience. Delays and a loss of control of critical processes can follow from this dependence. On top of that, Alumagubi is a new entrant in the data centre industry and the brand image it has still needs to be developed, which could become an obstacle to gaining market trust. Moreover, the company is restricted in obtaining specialised equipment, as well as limited access to specialised equipment, thus limiting operational efficiency and safety. Also, blue-collar staff does not have much health safety practice awareness and may impact operational safety and efficiency.

In terms of opportunities, Alumagubi can capitalise on Indonesia's experience as data centre infrastructure experiences rapid expansion. The company can recruit skilled personnel with well artic pedals and managers in competencies and it can strengthen its capabilities to support its strategic objective. Another way that we are improving operational efficiency as well as the management processes in the company is adoption of advanced

digital tools and technologies. Besides the above, strategic partnerships with other service partners and technology vendors may help Alumagubi to widen its offerings and improve its market position. Nevertheless, there are some threats in front. It's a competitive data centre industry that's between the local and multinational players fighting over market share, and Alumagubi is struggling to star. Additionally, the company will need to manoeuvre through complex regulatory and compliance requirements as it grows its business. It is also challenged by the shortage of high specialised talent and the difficulty in attracting, and keeping, skilled personnel. However, Alumagubi finally, rapid technological advances in the industry demand continuous innovation and adaptation by Alumagubi to stay competitive.

4.2 *PESTEL Analysis*

With the PESTEL analysis, Alumagubi was able to understand all the macro-environmental factors that influence its operation and strategic decisions. MEP Project Manager RS notes that, politically, the organisation will also have to increase its technical skills to match the ever-more sophisticated regulations and industry standards. The company is challenged by limited workforce economically which constrains the company from involving its employees in multiple tasks, hence affecting overall efficiency and growth potential, according to MEP Site Manager, AD. As a social aspect, Project Manager (Software), GO emphasised that Collaboration and Diversity are very critical components to get projects executed with optimal results and to work for an equally balanced effective working environment. The success of adopting digital tools is an indication of the Alumagubi's commitment to technologically modernisation and efficiency, while RS, a complete digitisation of processes, makes operations leaner and more productive.

On the environmental front, the company takes responsibility by endeavouring to develop seismic brackets for servers which not only aid functionality but also ensure environmental safety, says Site Manager MEP, AD. On the legal side, it's worth noting that Alumagubi follows to the industry standards as well as making them pursuit of valid certifications, such as the K3 safety process that has been mentioned by Andrial, which encourages making high safety standards and legal compliance. In sum, these factors are that together shape the strategic direction and operational effectiveness of the organisation, thus pointing out the concept of integrated approach to the management of external environments.

4.3 *Porter's Five Forces Analysis*

The analysis of Porter's 5 forces allows reading out analysis of the competitive dynamics in data centres and Alumagubi's digital business expansion. The intense competition among established data centre vendors means that Alumagubi always has to innovate and make new strategic partnerships to stay competitive. Buyer bargaining power is medium to high due to large enterprises' cyclical influence over prices and terms and their demand for value added services stemming from their ease to switch vendors. Supplier to Alumagubi bargaining power is low to medium due to the limited number (less than ten) of suppliers with specialised technical skills (for example, electrical engineering) on which Alumagubi relies. The reliance underscores the importance of internal competence development to reduce dependence on external suppliers, specifically the need for large amounts of local expertise. However, as more and more new emerging technologies such as cloud services and edge computing become threats to the traditional data centre infrastructure, Alumagubi needs to continuously innovate and adapt to ensure it won't be a threat to them. Moreover, industry competences are moderate, characterised by very competition among current players. In this dynamic environment, alumagubi has to focus on the development not only of external resources, such as productive capacity, but also on developing internal resources, especially managerial competencies, if it is to continue to survive and compete effectively. In this steadfast evaluation, it is emphasised upon the significance of strategic brazenness needed in order to gain control over the prevailing competitive force and remain profitable, which is achieved in best practicalism through innovation, internal development, and strategic partners.

4.4 *Qualitative Analysis Results*

Several key areas that were critical to Alumagubi’s operations and growth were identified by a qualitative analysis of Alumagubi’s organisational competencies. Organisational Competencies were identified as the most important variable accounting for technical competencies, organisational culture as well as specific areas: mechanical engineering and communication skills that re-occur 13 times, or 48.2% of the analysis. This highlights very importantly the role that these competencies play in the company’s success. With a spectacular 37.0%, the Organisational Structure element was seen as an important factor of the analysis, highlighting the distinct role played by visionary leadership, balanced team synergy and solid project management capabilities. Outsourcing, Strategy Development, and Training and Development were found to be the strategic importance of the analysis, where Training and Development alone accounted for 40.7 percent of the analysis, reflecting continuous skills improvement.

This became the basis for developing an AHP (Analytical Hierarchy Process) Structure that addressed Alumagubi’s strategic objectives for the data centre infrastructure industry. Based on four main criteria such as Technical Competence, Managerial Competence, Learning and Development and Cultural aspect we constructed the AHP structure. These criteria are from the company's operational needs and its strategic goals and as this achieves a bridge of competency gaps, boosts the leadership, and fosters an adaptive organisational culture, the resources are allocated effectively. To tackle these challenges, we developed strategic alternatives like Skills Gap Analysis, Advanced Training and Certification Programmes, Organisational Restructuring and Leveraging Digital Tools. These offer Alumagubi a map for prioritising actions and achieving long-term success in an ever more competitive and rapidly developing data centre industry. The AHP structure for the complete structure is presented in Figure 2, which also illustrates how each criterion contributes to the company’s strategic framework.

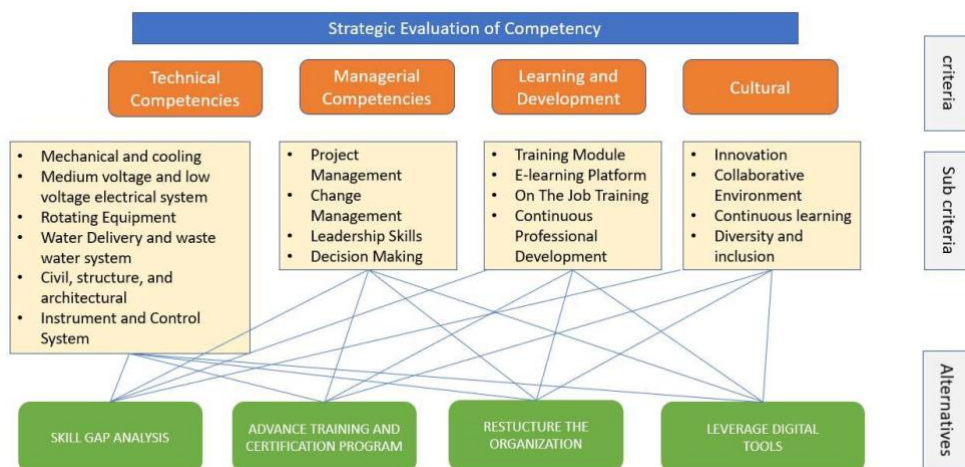


Figure 2: AHP Structure

4.5 AHP Results

Analytical Hierarchy Process results summarise Alumagubi's organisational competencies with a comprehensive roadmap for strategically aligning the resources and efforts to its growth objectives. The priority list included Technical Competencies with weighting of 31.0%, particularly key areas like Water and Sewerage Systems (6.4%) and Mechanical and Refrigeration (6.3%). This includes technical areas critical for current and future operational efficiency and meeting industry standards. Additionally, Management Competencies at 30.4% that not only reflects the need for Decision Making management (9.6%) and Project and Programme management (8.6%) in navigating the organisation through business environment complexities and successful project execution. Learning and Development (19.8%) places a priority on the continued development of skills using such methods as On-the-Job Training (8.0%) where real time hands on experience are key to a developing workforce competence. At the same time, Cultural Competence at 18.9%, shows the organisation also pledges to establish the Collaborative Environments (7.6%) and encourage the Continuous Learning (3.8%), key factors in fostering an innovative and an inclusive workplace

culture.

Moreover, the strategic alternatives from the AHP framework such as forming a Skills Gap Analysis (29.1%), introducing Advanced Training and Certification (22.0%), Organisational Restructuring (29.1%), and Leverages Digital Tools (22.0%) focused approaches to enhance these competencies. A skills gap analysis was a key strategy used to find and resolve deficiencies, such as in technical and management areas. One corner Advanced Training and Certification intends to train the staff with the specific abilities to deal with evolving market prerequisites, while the other corner Organisational Restructuring endeavours to optimise the organisational tasks and duties to facilitate the administrative leadership and decision-making. Digital Tools Leveraging emphasises using Technology to leverage operational productivity and foster organisational ethos; Also, enhance decision-making proficiencies.

These insights, visualised in Figure 3, guide Alumagubi in focusing its efforts on the most critical areas for development, ensuring that the organisation is well-positioned to achieve its long-term goals in the dynamic data centre infrastructure industry.

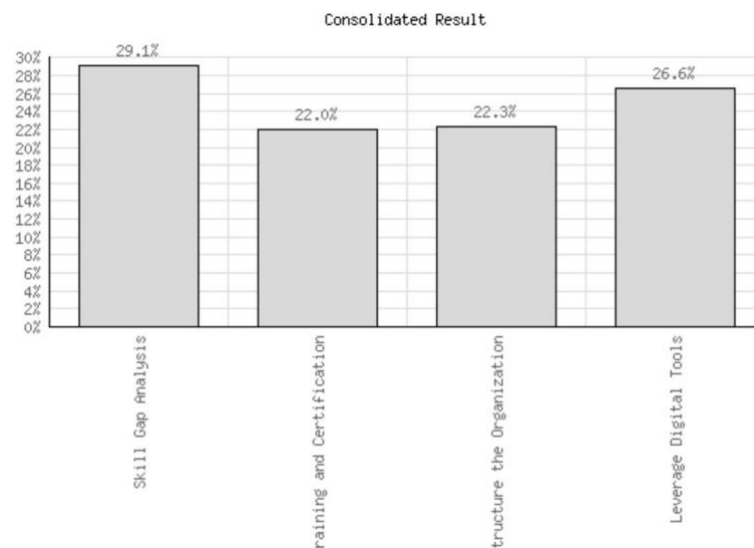


Figure 3: Alternative Result

5. Discussion

5.1 Organizational Competencies

Key technical and managerial competencies are highlighted in the results as being critical to Alumagubi's strategic expansion into the Data Centre Infrastructure market. The specialised nature of data centre operations is shown by the high priority given (6.4% and 6.3%) to water and wastewater distribution systems and mechanical and cooling systems respectively, the in-depth competence in which is required to operate with efficiency and reliability. The synthesis of linking knowledge and human actors (Y. Spanos et al. 2004), does correspond to this need for specialised technical knowledge. Alumagubi's involvement in this highly competitive industry and its ability to utilise and apply this technical expertise is critical to the company's efforts to build itself as a major player in this space.

Likewise managerial competencies like decision-making (9.6%) and project management (8.6%) which are highly important during business diversification are emphasised. In these new markets, being able to make the right strategic decisions and to effectively manage complex projects is vital in orchestrating organisations through the challenges and opportunities. This is also based on the research of J. Battilana et al. (2010) on

leadership's profound impact on organisational change. Alumagubi's approach is balanced in terms of prioritising these competencies given that, much like it is in other sectors, both leader and technical skill, having the ability to moved about in the highways and byways of the data problems so to speak, are necessary to get to this growth.

5.2 Learning and Development

Alumagubi's strategy places on the job training (8%) and the eLearning platform (4.5) as the priorities as it aims to fill the competency gap through continuous learning and development. For this, it is an imperative approach to get employees to stay adaptable and qualified in a quickly evolving industry. Acknowledging that hands on experience in the workplace is training, the focus of on the job training solidifies that knowledge learned in the classroom can best be applied on the job. This is congruent with the results reported by Maharani et al. (2020) and Lenihan et al. (2019), which revealed a strong positive relationship of HRM practises effectiveness with employee performance and organisation commitment. The combination of these forms of training helps Alumagubi allocate resources that by prioritising these kinds of training, improve individual competences while boosting the ability of the organisation to meet its strategic objectives.

This further indicates the role played by e-learning platforms in the growing trend of using the digital tools in human resource management which is what Chopra et al. discuss. Flexibility and accessibility on these platforms allows for continuing education and upskilling to be offered to a larger organisational audience. While it is futile to deny that digital tools make the job much easier, it is equally important to realise that the best of these technologies will only be as effective as they are in assistance, not as an alternative, to the human expertise needed to manage and develop talent. A successful training and development strategy for Alumagubi would balance using eLearning platforms alongside traditional human-centric approaches to building a skilled and committed workforce to lead the organisation.

5.3 Cultural Competencies

This emphasis on fostering a collaborative culture facilitates Alumagubi's success as it implements a fast-changing data centre infrastructure market. Teaming up to build these cultural competencies is not just about furthering teamwork or keeping your employees informed of the latest skills; it is important to ensure such an organisation is built a robust organisation that thrives in an ever-evolving industry. Such an emphasis is consistent with the principles of successful digital transformation advocated by Gurbaxani & Dunkle (2019) who argue that to enable innovation, adaptability, and effective change management, such an environment must be collaborative and supported by continuous learning. Growing these cultural factors, Alumagubi is building an organisational climate in which digital transformation can be implemented and sustained, let alone a terrain that provides the capabilities to lead in a hyper-competitive marketplace where the difference between success and failure rests on the ability to innovate and adapt quickly. Such a practice guarantees that change within the organisation is kept nimble and responsive to the internal and external pressures, and thus facilitate for its upcoming strategic objectives.

5.4 Strategic Alternatives

Alumagubi's strategic approach doesn't favour any of two priorities and that's equal priority between Skills Gap Analysis (29.1%) and Organisational Restructuring (29.1%). It emphasises the need to not only identify which are particular capable needs, but also amend the organisational structure to become capable to assist the brand new business course. Addressing both aspects at the same time positions Alumagubi to be able to react more quickly and better to the needs of the data centre infrastructure market. The emphasis in these efforts is Advanced Training and Certification Programmes (22.0%) and Leveraging Digital Tools (22.0%), indicative of the firm's orientation towards continuous learning and technology adoption as enablers of the organisation's transformation. All of this is consistent with a widely described digital transformation framework by Vial (2019) that emphasises the importance of integrating digital technologies into all parts of business operations. Through the complement of these strategic choices, Alumagubi actively develops an organisational culture of innovation and agility, two

hallmarks of a flourishing industry environment undergoing constant transformation.

5.5 *Implementation Considerations*

AlumaGubi's answer to competency gaps and Organisational Transformation was built with great thought to facilitate a 'smooth' and effective transition. This was a big important first step — establishing a transformation steering committee, conducting a comprehensive skills gap analysis. These foundations were indispensable to the organisation to advance through the complexities of change riddles while in consistency with Essowe et al.'s (2019) emphasis on stakeholder involvement and tendency to adaptability to decrease resistance and boost acknowledgement. The overriding digital transformation strategy also includes developing detailed training and certification programmes, along with the implementation of new organisational structures and the use of digital tools. Heaven & Power (2018) insights are reflected in this approach that not only allows Alumagubi to adapt to new technologies, but also creates a culture of continuous learning and collaboration. Particular importance of these initiatives is in line with the key priorities revealed by the AHP analysis, namely innovation and teamwork within the organisation.

5.6 *Challenges and Mitigation Strategies*

The implementation plan is comprehensive roadmap for transformation of Alumagubi but a lot of things should be checked carefully before implementing it, otherwise it won't happen successfully. Resistance to change is one of the most pressing challenges of any major organisational transformation. New processes and structures can make things difficult for employees to resist, therefore they will resist. So that you can deal with this, you need to have channels of clear communication in place as early as possible and your change is going to be taken through by the employees. This goes beyond the sense of ownership to deescalate resistance and is in alignment with Yarberry et al. (2005) call for collaborative implementation of change between users, business management and IT. Furthermore resource constraints present another challenge with the implementation of new training programmes, organisational structures and tech is expensive. The AHP analysis results also show that alumagubi must prioritise initiatives on a selective basis, according to their importance for strategic reasons and in terms of their power to generate effects. This allows the company to focus its resources on the most critical areas to achieve more transformation on a smaller scale while controlling financial and operational bounds.

The number two step is addressing skills gaps in technical and managerial competencies, which will take some time to bridge completely. In the short term, Alumagubi may require strategic partnership or the aid of external consultants to bridge these critical skills gaps, but develop internal capabilities at the same time. This way the company can still work and builds the right knowledge internally. The last challenge is the rapid technological change that characterises the datacentre industry. During the implementation time, new technologies and best practises could spring up that will render the existing plans redundant. In response to this, Alumagubi needs to remain flexible in its transformation plan and will keep tabs on industry trends. The company ensures that its efforts towards transformation remain relevant by remaining agile and adapting to new developments.

5.7 *Long-term Sustainability*

Therefore, Alumagubi needs to undertake a number of strategic actions in order to ensure sustainability in the transformation efforts in the future. Continuous competency assessment is necessary, in order for the organisation to keep tracking its skills and capabilities and close any gaps or opportunities where improvement is required over time. This proactive approach is based on the dynamic capability concept as proposed by Teece et al. (1997) to ensure that Alumagubi, staying dynamic and responsive, will respond to the changing needs of the data centre infrastructure market.

Just as important is an adaptive organisational structure. It will be critical to have the flexibility to adapt the matrix structure and cross-functional teams to changing market conditions and the opportunities that arise

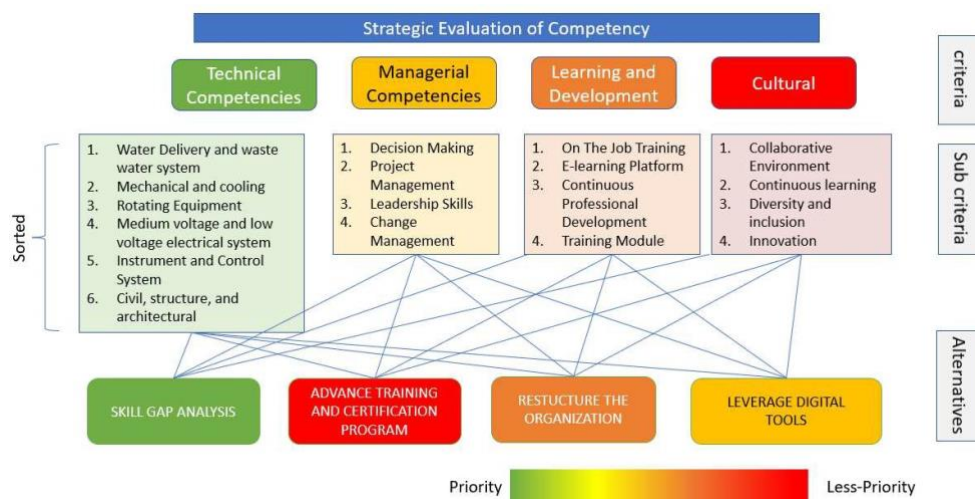
with new business.” Relevant changes will keep Alumagubi aware of its strategic objectives and position it to take advantage of new growth opportunities. Centres of Excellence should play an important role in driving innovation, allowing the sharing of knowledge and development of technological progress throughout the organisation. Such focus on innovation will keep Alumagubi a step ahead of its competitors in a highly dynamic industry. But stakeholder engagement is also important. Having continuous communication with employees, clients and partners will keep transformation efforts on track to respond to market needs and to receive the needed support. It will allow for a vision and a commitment to the organisation’s goals to be built between these groups. Finally, what is an ongoing part of human resource management, as exemplified by Bala & Bala (2021), cannot be neglected. Alumagubi must invest in its workforce through constant learning and development, career development programme and a work-life balance programme. These will not only help to bring in the best, the human capital that the organisation needs to grow and succeed in the long run, but also hold on to them.

6. Business Solution

Alumagubi’s successful expansion into the data centre and digital business sectors as illustrated in the Competency Strategic Evaluation framework shown in Figure.4 clearly describes a clear roadmap that it followed. It breaks down into four major criteria of Technical Competence, Managerial Competence, Learning and Development and Cultural Competence with different sub-criteria in each. This allows Alumagubi to handle competency gaps and link strategic goals to skills and resources that are needed.

In order to implement these alternatives effectively, the proposed alternatives (i.e., Skills Gap Analysis, advanced training and certification programmes, organisational restructuring, and leveraging digital tools) have been assessed against these competencies. The highlighted green areas in the framework represent high priority actions for closing competency gaps; the red highlighted areas contain less important or not yet immediate priority actions. It provides a structured pointer to what and where resources should be spent in order to support Alumagubi’s long term growth objectives while at the same time clear up the urgent issues that need attention.

Our qualitative analysis and AHP results then recommended a comprehensive business solution based on insights to address the competency gaps identified and facilitate Alumagubi’s strategy for significant growth in the data centre and digital business sectors. Acquisition of new competencies, human resources development through structured programmes and restructuring of organisational structure to fit competency requirements form part of the activities that this involves. For business diversification, Alumagubi should obtain and develop key competencies, like technical competencies; Mechanical and Refrigeration systems (6.3%), Water and Wastewater Distribution Systems (6.4%) and Medium and low voltage electrical systems (4.9%). Second, managerial competencies such as decision-making (9.6%), project management (8.6%) and leadership skills (7.4%) and learning and development initiatives focusing on on the job training (8.0%) and



the use of e learning platforms (4.5%). The embedding into the culture of an organisation of these competencies is equally important as fostering a collaborative environment to encourage innovation and continuous learning.

Figure 4: Strategic Evaluation of Competency

To close these gaps, multiple strategies should be developed. A major first step is the conducting of a comprehensive skills gap analysis (29.1%) to identify sufficiency of skills, then comes implementing advanced training and certification programmes (22.0%) in the technical and managerial competencies. In addition, digital tools (22.0%) will allow for further improved coordination and sharing of knowledge, and on the job training as well as continuous professional development will ensure employees are equipped with the skills required for organisational growth.

It's also important to change organisational structures to match these new competency requirements. Setting up project management offices, establishing dedicated teams and creating Centres of Excellence will create focused expertise as well as continuous learning. It will make faster decision making and better communication faster, by enhancing the leadership roles, encouraging the cross-functional teams, and adopting a simpler structure. On top of this, a digital transformation team and diversity and inclusion committee will help Alumagubi set themselves up for new technologies and for being attractive to a diverse workforce.

7. Conclusion

7.1 Conclusion

This study analyses the problems involved in Alumagubi's business diversification, outlines the core competencies necessary, devises a human resource development strategy and suggests organisational restructuring to facilitate these new initiatives. It provides a clear roadmap to the aligning of the organisation's abilities with its strategic goals thus making sure its new ventures grow sustainably. The study emphasises the requirement of building and developing key organisational competencies needed for Alumagubi to grow. The competencies include technical proficiency for such areas as mechanical and refrigeration systems, water and wastewater distribution systems, and electrical systems, as well as important managerial competence, for instance, in the area of Project Management, Leadership and Decision Making. A critical determinant of accomplishment in a corporation's efforts to diversify its business operations involves the elevation of these competencies to the cornerstones of organisational priorities.

Also, it reiterates the importance of effective competency gaps closure through the robust human resource development strategy. It also includes (among others) thorough skills gap analysis and advanced training and certification programmes. To equip the workforce with the skills and knowledge need to tackle new business areas, there is a need for a structured approach to on the job training supported by e-learning platforms and continuous professional development. The study proposes that organisations can change to better support core competencies required. To enhance collaboration and operational efficiency, these include setting up Centres of Excellence, adopting matrix structures and leveraging digital tools. Fostering a collaborative and inclusive culture, as well as these structural changes, are essential in sustaining Alumagubi's growth and maintaining long-term success in all of our diverse business operations.

7.2 Recommendation

Some key recommendations are made in order to ensure the adaptation and applicability of the assessment and the implementation plan developed in this study to different industries. First, the assessment framework has to be customised to the specific characteristics of each industry. For an example, different technical needs specific to an industry from demand should customise its technical competencies to be more suitable to its needs towards the operational and strategic level. Furthermore, according to organisations they should

employ the adaptable assessment tools that can be respectively matched to different company scales and complexities from SMEs to large enterprises. This consists in adapting to new organisational cultures and structures. Additionally, digital tools should be implemented in a way that tailored to each industry's readiness for digital and to more advanced integration in more mature industries and simpler integration in less tech advanced ones. To prevent challenges from arising to prevent such, pilot testing is recommended prior to rolling out the plan on the full scale.

This study has shed light on academically opportunities for further research on organisation competences and business diversification. Future research might examine whether these forms of learning could be used to develop sustainable competency through their innovation within various industries. Further research could also look into how proposed organisational structures, such as matrices or Centres of Excellence, might impact corporate culture, future business innovation and prospects, collaboration and productivity and ultimately affect the overall business performance. Areas of future research could include an investigation into the effects of digital transformation on nurturing competencies and operational effectiveness for different sectors with regard to how disruptive technologies, like AI and big data analytics, affect decision and project-making in business adventure in different sectors. By doing that, one would be keen enough to perceive competence development in a more panoramic perspective and the organisational interspaces at play in a marketplace, the more digitised happens to be.

7.3 Limitations and Future Research

This research sheds light on Alumagubi's competency development and organisational transformation needs for business diversification, but some have limitations to offer. Secondly, the single case study element of the research may restrict the extent to which the findings are generalisable to other organisations or industries. Furthermore, the location of the focus which is the Indonesian market may limit the applicability to other regions with varying market dynamics.

Future research may extend these limitations by looking to a number of case studies across different industries to acquire a more general picture of the use of competency development and organisational transformation strategies across contexts. Tracking of ongoing impact of these initiatives for longer time duration (say more than 2 years) would be useful by means of longitudinal studies. The findings can be cross culturally compared to examine the effects of cultural factors on the efficacy of these strategies in different countries or regions. Additionally, the long term impact of digital tools and new technologies (like AI and machine learning) on organisational competencies and transformation processes enables uncovering aspects of the evolving digital landscape. Additional future research could analyse how organisations can create competencies which solve sustainability challenges and exploit opportunities presented by the green economy, and how advanced human capital analytics can offer a new perspective on competency development and transformation strategies. Finally, this study provides a holistic template for organisations wishing to broaden their business into new markets, particularly within the shake-up of the digital economy. Alumagubi is able to compete in increasingly competitive and dynamic world where companies need to find ways to operate in a rapidly evolving environment by working on developing core competencies to develop and grow the firm, creating a culture of continuous learning, and setting up adaptive organisational structures.

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References

- Aljohani, M. (2016). Change management. *International Journal of Scientific & Technology Research*, 5(5), 319- 323.
- Ansoff, H. I. (1957). Strategies for diversification. *Harvard Business Review*, 35(5), 113-124.
- Bala, H., & Bala, S. (2021). Reengineering HR practices for managing human capital in the post-COVID era. *Journal of Human Resource Management*, 24(2), 1-12.
- Battilana, J., & Casciaro, T. (2010). Leadership competencies for implementing planned organizational change. *The Leadership Quarterly*, 21(3), 422-438.
- Blog Shorts. (n.d.). Business Diversification Strategy Examples. [URL]
- Chopra, A., Singh, P., & Verma, P. (2023). Leveraging artificial intelligence and machine learning in human capital management: Opportunities and challenges. *International Journal of Human Resource Management*, 34(5), 1-22.
- Collis, D. J. (1994). Research note: How valuable are organizational capabilities? *Strategic Management Journal*, 15(S1), 143-152.
- D'Aveni, R. A., Dagnino, G. B., & Smith, K. G. (2010). The age of temporary advantage. *Strategic Management Journal*, 31(13), 1371-1385.
- Drejer, A. (2000). Organisational learning and competence development. *The Learning Organization*, 7(4), 206- 220.
- Dudhat, S., & Agarwal, P. (2023). The digital economy of Indonesia: Challenges and opportunities. *Journal of Asian Business and Economic Studies*, ahead-of-print.
- Essowe, T. K., Azasoo, J. Q., & Abor, J. Y. (2019). Change management processes and strategies in digitalization projects. *International Journal of Business and Management*, 14(6), 11-22.
- Faster Capital. (n.d.). Successful Examples of Diversification. [URL]
- Gurbaxani, V., & Dunkle, D. (2019). Gearing up for successful digital transformation. *MIS Quarterly Executive*, 18(3), 209-220.
- Heavin, C., & Power, D. J. (2018). Challenges for digital transformation—towards a conceptual decision support guide for managers. *Journal of Decision Systems*, 27(sup1), 38-45.
- Hirawan, F. B., Triggs, A., & Suan, T. Y. (2023). The digital economy in Indonesia: Challenges and opportunities. *Bulletin of Indonesian Economic Studies*, 59(1), 1-27.
- Hunger, J. D., & Wheelen, T. L. (2011). *Essentials of strategic management*. Prentice Hall.
- Lado, A. A., Boyd, N. G., & Wright, P. (1992). A competency-based model of sustainable competitive advantage: Toward a conceptual integration. *Journal of Management*, 18(1), 77-91.
- Lenihan, H., McGuirk, H., & Murphy, K. R. (2019). Driving innovation: Public policy and human capital. *Research Policy*, 48(9), 103791.
- Maharani, A., Sumarwan, U., & Mumtaz, M. (2020). The effect of human capital management practices on employee performance. *Management Science Letters*, 10(16), 3823-3832.
- Malla, T. B. (2011). Adaptive leadership and change management. *Tribhuvan University Journal*, 28(1-2), 177- 186.
- Mills, J., Platts, K., Bourne, M., & Richards, H. (2002). *Strategy and performance: Competing through competences*. Cambridge University Press.
- Motawa, I. A., Anumba, C. J., Lee, S., & Peña-Mora, F. (2007). An integrated system for change management in construction. *Automation in Construction*, 16(3), 368-377.
- Muslim, A. (2023). The rise of Indonesian unicorns: A study on the success factors of digital startups. *Journal of Indonesian Economy and Business*, 38(2), 121-138.
- neuCentriX. (2021). *Indonesia Cloud Market Report 2021*. [URL]
- Our Business Ladder. (n.d.). *Diversification Success Stories & Business Ideas*. [URL]

- Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.
- Schneuwly, A. (2020). Cloud computing in Indonesia: A study on market potential and policy recommendations. *Journal of Southeast Asian Economies*, 37(3), 307-328.
- Singh, M., & Mishra, R. (2021). Business diversification strategies: A comprehensive review. *International Journal of Business Strategy and Automation*, 2(3), 1-18.
- Spanos, Y. E., & Prastacos, G. (2004). Understanding organizational capabilities: towards a conceptual framework. *Journal of Knowledge Management*, 8(3), 31-43.
- Studysmarter. (2022). Business Diversification: Definition, Types & Examples. [URL]
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- The Office Tech Tap. (2023). Navigating Diversification: Opportunities and Challenges for Businesses in the Technology Industry. [URL]
- The Strategy Institute. (n.d.). The Power of Diversification: Why Your Business Needs to Consider It Now. [URL]
- Ulrich, D., & Lake, D. (1991). Organizational capability: Creating competitive advantage. *Academy of Management Perspectives*, 5(1), 77-92.
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118-144.
- Wertz, J. (2024). Diversification As A Key Strategy For Resilience And Growth In Business. *Forbes*. [URL]
- Yarberry, S. (2005). Change management: Critical success factors. In *Encyclopedia of Information Science and Technology*, First Edition (pp. 421-425). IGI Global.
- Zander, U., & Kogut, B. (1995). Knowledge and the speed of the transfer and imitation of organizational capabilities: An empirical test. *Organization Science*, 6(1), 76-92.