Activity diversification, agile mindset approach, and information technology management: Basis for operational strategies for green building consultancy firm

Calma, Sony T. ✉

Graduate School, Lyceum of the Philippines University - Batangas, Philippines

Abstract

This research study explored the activity diversification, agile mindset approach and information technology management in a green building consultancy firm. The research evaluates the effectiveness of proposed strategies, including professional training and development programs, building acoustics engineering services, and computer-aided design drafting services. The method used was descriptive quantitative approach, using a survey questionnaire to collect data from 624 employees of a green building consultancy firm. The questionnaire was designed to assess the respondents' activity diversification, agile mindset approach and information technology in achieving operational sustainability. The raw data collected were analyzed using correlation analysis to identify the relationships between the different variables. Based from the results, respondents showed strong agreement on the activity diversification practices as performance training and development program, building acoustics services and computer aided design drafting services. The agile mindset approaches are strongly observed as to servant leadership, customer collaboration over contract negotiation and scrumban method. The information technology management practices are very effective as to web-based cloud storage, social media marketing and virtual work arrangements. A high significant relationship was found between business diversification and agile mindset approach. Activity diversification is highly significant to information technology and there is a high significant relationship between an agile mindset approach and information technology. An Operational Sustainability Strategies for Green Building Consultancy Firms were developed for reviewed and utilization. The activity diversification, an agile mindset approach, and information technology management can all be important strategies for operational sustainability in the green building consultancy sector to become more competitive in the market.

Keywords: activity diversification, agile mindset approach, information technology management, green building

Activity diversification, agile mindset approach, and information technology management: Basis for operational strategies for green building consultancy firm

1. Introduction

In any organization, the sustainability of its operations plan is vital to its success and is considered a fundamental element of its mission and vision. The corporate strategic plan, usually implemented for three to five years, provides a roadmap for the company's growth and development. However, the plan's success is often contingent on many variables along the supply chain, which may only sometimes be within the control of the company's top management. The global market is constantly evolving, influenced by various factors such as pandemics, political instability threats, and oil prices, making it difficult for companies to predict and manage their operations.

The current crisis between Russia and Ukraine, which began on February 24, 2022, has significantly impacted the oil supply worldwide, leading to an increase in oil prices and negatively affecting the global community. This situation has highlighted the need for companies to be adaptable and develop resilient strategies to cope with the changing business environment, specifically regarding their supply chain management. Moreover, the Covid-19 pandemic has further exacerbated the challenges faced by companies worldwide, particularly Small and Medium Enterprises (SMEs). The pandemic has disrupted supply chain operations, causing delays in production and delivery, resulting in significant financial losses for many companies. The impact of the pandemic has also forced many companies to re-evaluate their operations and shift to more sustainable and resilient business models.

Montreal Group LLC, a green building consultancy firm, primarily operates in the Middle East, specifically in Qatar, Kuwait, and the United Arab Emirates. However, the ongoing worldwide crisis has negatively impacted the company's operations. Many organizations across industries have embraced generally accepted practices to ensure operational sustainability. These practices include activity diversification, agile mindset approach and information technology management. Activity diversification involves expanding the firm's range of services to include complementary products or services. This strategy can help firms generate additional revenue streams, reduce the risk of over reliance on a single product or service, and increase customer loyalty. Adopting an agile mindset approach involves creating a culture of flexibility, adaptability, and continuous improvement. Finally, maximizing the effectiveness of social media marketing, virtual employees, and cloud technology can help firms reduce costs, improve productivity, and enhance customer engagement.

According to Asseraf and Gnizy (2022), mindset refers to a collection of beliefs, attitudes, assumptions, perceptions, conventions, and conceptions held by an individual or group. This set of perspectives may constitute a collection of soft and firm-specific resources that are intrinsically useful and non-replaceable. The literature on mindset has identified various types, including growth versus fixed mindset, fresh start mindset, strategic mindset, inertia mindset, and digital entrepreneurial mindset (Price et al., 2018; Chen et al., 2020; Soltanifar & Smailhodzi'c et al., 2021; Wild, 2021). Regardless of the specific type, a consensus is that mindset influences people's motivations and actions.

From a managerial standpoint, mindset is crucial since organizational philosophies dictate how businesses behave (Asseraf & Shoham, 2014). The mindset of management is related to the ability to be nimble, which is crucial in today's rapidly changing business environment. More agile organizations are better equipped to respond to and adapt to changes (Christofi et al., 2021). Agility comprises routines of motivating individuals to perform in a positive organizational atmosphere, experimenting via trial and error, and implementing incremental and dramatic changes (Shams et al., 2020).

Information technology management (IT management) is the process of planning, organizing, and managing the use of information technology (IT) in an organization. IT management includes developing IT strategies and plans that align with the organization's overall goals. It also includes structuring the IT department and staffing it with qualified employees and ensuring that the IT department is operating efficiently and effectively. IT management is important because it can help organizations to achieve their goals by using IT to improve their efficiency, effectiveness, and competitive advantage (O'Brien et al., 2019).

Calma's (2021) study explored the effectiveness of social media marketing, virtual employees, and cloud technology in the work process. The findings revealed that virtual setup and cloud technology effectively integrate into the work process; however, incorporating these technologies with the agile approach remains challenging. This research aims to investigate this gap further.

This research suggests that diversifying within the circle of integrated disciplines in green building projects can offer several benefits. For instance, it can help businesses capture new opportunities and increase their market share. By expanding their scope of work, companies can provide more value to their clients and become more competitive in the industry. Moreover, this approach can lead to increased revenue streams and better financial stability.

The fundamental objective of this research study is to integrate three proposed strategies into the business model of green building consultancy firms, fostering positive synergy between individual interactions and processes and tools. This integration aims to deliver a robust, integrated approach to handle new business scope opportunities and respond quickly to changing business needs and clients' expectations.

This research study has provided significant benefits to the stakeholders and management of green building consultancy firms by helping them modify their business model to manage daily activities more effectively. This modification has resulted in more robust processes that eventually translate into practical financial value. The results and findings of this research study are also relevant and applicable to architecture design firms and MEP design companies, as the concept and principles can be easily adapted to different organizations. General contractors and subcontractors can also benefit from cost savings and efficient ways of managing people and processes. Moreover, future researchers can benefit from this study for possible extensions for other types of businesses. Researchers can explore applying the same principles and concepts to industries requiring similar management techniques. The findings of this research may serve as a foundation for further research on the impact of green building consultancy firms on the environment and sustainability.

Lastly, potential Filipino entrepreneurs planning to establish businesses can benefit significantly from this study. They can gain insights into the management techniques and strategies that successful green building consultancy firms employ. Furthermore, the researcher hopes to inspire young Filipino engineers to become entrepreneurs in their fields of specialization. As agents of change in our society, they can utilize their knowledge and skills to develop sustainable business practices that align with their moral values and ultimate goals. By doing so, they can turn role models into good citizens contributing to a better future for all.

Objectives of the Study - This study aimed to evaluate the operational sustainability strategies of a green building consultancy firm through activity diversification, adopting an agile mindset approach, and information technology management and developed an operational sustainability strategies for green building consultancy firms. Specifically, it assess the firm's activity diversification through the creation of a professional training and development program, building acoustics services, and computer-aided design drafting services; described an agile mindset approach in terms of practicing servant leadership, customer collaboration over contract negotiation and scrumban method; assessed the information technology management utilizing cloud technologies, social media marketing, and virtual work arrangement; tested the significant relationship among activity diversification, agile mindset approach and information technology management and developed an operational sustainability strategy for green building consultancy firms.

2. Methods

Research Design - The methodology used in this research study involved a descriptive design that utilized quantitative analysis to assess the effectiveness of operational sustainability strategies employed by a green building consultancy firm. This assessment was undertaken during global crises, which included the COVID-19 pandemic and the conflict between Russia and Ukraine. Therefore, this study's timing was crucial for the company to identify and implement effective strategies to navigate these uncertain times. The research intended to determine the most effective approach to address the company's challenges by collecting and analyzing the respondents' perceptions. Participants for the research were chosen from a group from the Middle East region and the Philippines.

Participants of the Study - The study targeted diverse participants, including stakeholders, business owners, senior engineers, line managers, and employees with decision-making authority in organizations such as engineering and architecture consulting firms, green building consulting firms, engineering contractors, and government agencies responsible for construction. Specifically, the study aimed to include individuals holding positions such as CEO, director, manager, department head, and chief, as well as those who provide input for decision-making, such as senior employees and supervisors. Participants need to have knowledge or familiarity with agile methodology. The researcher consulted with various professionals in Qatar and other GCC countries involved in construction engineering to identify potential participants. In addition, the researcher identified companies registered with the Qatar Chamber of Commerce whose activities may include green building constructions. To further expand the study's reach, the researcher also reached out to several professional organizations in the Philippines, including the Philippine Society of Mechanical Engineers (PSME), Society of Fire Protection Engineers (SFPE), United Architect of the Philippines (UAP), Philippine Institute of Civil Engineers (PICE), Philippines Technological Council (PTC), and Philippine Institute of Quantity. Surveyors (PIQS). Members of these organizations primarily work in the construction industry and could provide valuable insights into the effectiveness of operational sustainability strategies for green building consultancy firms.

Data Gathering Instrument - The survey questionnaire used in this study combined self-made and adoptive questions. The self-made questions were created based on the researcher's experience as a managing director, internet research, and informal client interviews. These questions were evaluated for validity and reliability by a professional statistician. On the other hand, the adoptive questions were taken from a previous study on operational sustainability by Calma (2021), which were also subjected to reliability tests and re-evaluated for this study. The reliability test results for the different indicators used in the study. The indicators were evaluated using Cronbach's Alpha, a measure of internal consistency. The results show that all indicators had high levels of internal consistency, with Cronbach's Alpha values ranging from 0.879 to 0.963. Overall, the reliability test results suggest that the data gathered through the survey questionnaire were consistent and reliable, which strengthens the validity of the study's findings.

Data Gathering Procedure - The researcher used a structured approach that included multiple phases to collect data for the study. The first step was to prepare a formal letter that outlined the survey's objectives and had a confidentiality clause. This letter was signed by the thesis adviser and sent to potential respondents. The survey was created using Google Forms, allowing easy distribution by email, Facebook Messenger, WhatsApp, and Viber application tools. Respondents were given one week to respond to the survey, and a reminder was sent through various channels, including emails, Facebook message chatting, and phone calls. To gather responses from a wider audience, the researcher collected replies from participants at technical conferences where he was invited to speak. This method involved using a manual survey to collect data from engineers and architects who attended these conferences, which was the target audience for the study. This face-to-face method expedited the feedback collected from targeted respondents and provided diverse responses. Overall, the data-gathering procedure was a comprehensive and effective approach that utilized online and offline methods to gather data from diverse respondents. The use of multiple channels and methods helped to ensure a high response rate, and the targeted approach helped to ensure that the data collected was relevant to the study's objectives.

Ethical Considerations - Ethical considerations were of utmost importance to the researcher in conducting this study. The thesis adviser created and approved a consent statement to ensure that the participants were fully aware of what was involved in the study. This statement contained information about the research and precautions regarding the confidentiality of data. The participants were given the option to select "Yes or No" on the first page of the online survey, and the survey commenced only upon ticking the yes mark. It will ensure that participants are completely informed that they have given their permission to take part in the study. The researcher committed to keeping the data collected confidential and anonymous. The participants' identities shall not be revealed in any publication or presentation of the study's findings. The researcher also assured that participants could leave the study without repercussions. Furthermore, the researcher recognized the potential risks and benefits of the study. The potential benefits included contributing to understanding the research topic and helping improve certain aspects of society. However, the potential risks may have included discomfort or stress from answering specific questions or the fear of a breach of confidentiality. The researcher considered these risks and ensured that the participants were fully informed about them before agreeing to participate in the study. The researcher adhered to ethical guidelines and principles outlined by the institution and professional organizations. The researcher ensured that the study was conducted ethically and that the participants' dignity, rights, and privacy were respected throughout the study. By considering these ethical considerations, the researcher conducted a informative study that respected the participants' rights and privacy.

Data Analysis - Weighted mean and rank were used to evaluate the firm's activity diversification through the creation of a professional training and development program, building acoustics services, and computer-aided design drafting services. To evaluate an agile mindset approach in terms of practicing servant leadership, customer collaboration over contract negotiation; the scrumban method; and information technology management utilizing cloud technologies, social media marketing, and virtual work arrangement; Pearson r was used to determine the significant relationship. The significant predictors of business diversification were identified using regression analysis. Casewise diagnostics were used to identify the outliers. SPSS version 28 was used for all analyses

3. Results and Discussion

Table 1 shows the key result areas for business diversification, including professional training and development programs, building acoustics engineering services, and computer-aided design (CAD) drafting services. The table also shows the grand composite mean scores, composite mean scores, ranking, and level of agreement for each key result area.

The grand composite mean score is the average of the composite mean scores for all the key result areas. It is 4.55, indicating a high level of agreement among respondents regarding the effectiveness of these areas in promoting business diversification. The highest composite mean score was for professional training and development programs (4.64), followed by CAD drafting services (4.56) and building acoustics engineering services (4.45). This suggests that respondents perceive professional training and development programs as the most effective means of promoting business diversification. The ranking of the key result areas shows that professional training and development programs were ranked first, followed by CAD drafting services and building acoustics engineering services, which were ranked second and third, respectively.

Table 1

Activity Diversification

Key Result Areas	Weighted Mean	Verbal Interpretation	Rank
Professional Training and Development Program	4.64	Strongly Agree	1
Building Acoustics Engineering Services	4.45	Agree	3
Computer-aided Design Drafting Services	4.56	Strongly Agree	2
Professional Training and Development Program	4.64	Strongly Agree	1
Composite Mean	4.55	Strongly Agree	

Legend:4.50-5.00=Strongly Agree;3.50-4.49=Agree;2.50-3.49=Neutral;1.50-2.49=Disagree;1.00-1.49=Strongly Disagree

A study by Chen and Zhang (2018) explored the impact of professional training and development programs on business diversification. The authors found that these programs can help employees develop new skills and knowledge, leading to increased innovation and diversification in the company. Similarly, in a study by Huang and Li (2019), the authors examined the role of professional training and development programs in promoting business diversification in the hospitality industry. They found that providing these programs can help companies improve customer service and develop new products and services to attract new customers and diversify revenue streams. Another study by Raza et al. (2020) explored the relationship between professional training and development programs and business diversification in the IT sector. The authors found that these programs can help employees stay up-to-date with the latest technology trends, which can, in turn, help companies develop new and innovative products and services to diversify their offerings.

In a study by Liu et al. (2018), the authors explored the role of computer-aided design (CAD) drafting services in promoting business diversification. The authors found that CAD drafting services can help companies develop new products and services, improve efficiency, and reduce costs, which can ultimately lead to increased diversification in the company. Similarly, a study by Ma et al. (2019) examined the impact of CAD drafting services on business diversification in the construction industry. The authors found that providing these services can help companies improve their design and engineering capabilities, which can, in turn, lead to increased diversification in the company's offerings.

The results suggest that professional training and development programs, CAD drafting services, and building acoustics engineering services effectively promote business diversification. The findings indicate that investing in employee training and development, as well as in CAD drafting services and building acoustics engineering services, could be adopted to achieve this goal.

Table 2

Agile Mindset Approach

Key Result Areas	Weighted Mean	Verbal Interpretation	Rank
Servant Leadership	4.69	Strongly Agree	1
Customer Collaboration over Contract Negotiation	4.68	Strongly Agree	2
Scrumban Method	4.61	Strongly Agree	3
Composite Mean	4.66	Strongly Agree	

Legend:4.50-5.00=Strongly Agree;3.50-4.49=Agree;2.50-3.49=Neutral;1.50-2.49=Disagree;1.00-1.49=Strongly Disagree

Table 2 shows the Agile mindset approach across three key result areas: Servant Leadership, Customer Collaboration over Contract Negotiation, and the Scrumban Method. The table shows each area's composite mean scores, ranking, and level of agreement.

The overall grand composite mean score for all three areas is 4.66, indicating a high level of agreement among respondents that the Agile mindset approach is effective in these areas. The highest composite mean score is for Servant Leadership at 4.69, indicating that respondents strongly agree that the Agile mindset approach effectively promotes servant leadership. This area is ranked first in the table. The second-highest composite mean score is for Customer Collaboration over Contract Negotiation at 4.68, indicating that respondents strongly agree that the Agile mindset approach effectively promotes customer collaboration. This area is ranked second in the table. The third area, the Scrumban Method, has a composite mean score of 4.61, indicating that respondents strongly agree that the Agile mindset approach is effective in this area. This area is ranked third in the table.

In a study by Ribeiro and Carvalho (2018), the authors explored using an Agile mindset in the context of servant leadership. The authors found that an Agile mindset is essential in promoting servant leadership, as it encourages team members to take deep ownership of their work and collaborate with one another to achieve shared goals. Similarly, a study by Schmitz et al. (2019) examined the impact of servant leadership on Agile teams in the context of software development projects. The authors found that an Agile mindset, combined with servant leadership, promotes a culture of empowerment, allowing team members to take deep ownership of their

work and contribute to the project's success.

Lastly, the Scrumban Method is viewed as less important compared to the other two approaches. A study by Gandomani and Zarei (2019) explored the role of customer collaboration in Agile software development. The authors found that an Agile mindset emphasizes customer collaboration over contract negotiation, which promotes a culture of trust and helps teams to understand better and meet customer needs. Similarly, in a study by Hoda et al. (2018), the authors examined the impact of Agile customer collaboration on project success. The authors found that an Agile mindset, which emphasizes customer collaboration, leads to better project outcomes, allowing teams to understand better and meet customer needs.

The results suggest that the Agile mindset approach effectively promotes servant leadership, customer collaboration, and the Scrumban Method. The findings suggest that an Agile mindset could be a practical approach for leaders who want to promote a customer-centric and collaborative culture within their organizations.

Table 3

Information Technology Management

Key Result Areas	Weighted Mean	Verbal Interpretation	Rank
Virtual Work Arrangement	4.37	Effective	3
Web-based Cloud Storage	4.57	Very Effective	1
Social Media Marketing	4.55	Very Effective	2
Composite Mean	4.50	Very Effective	

Legend:4.50-5.00=Very Effective;3.50-4.49=Effective;2.50-3.49=Not Effective nor effective;1.50-2.49=Less Effective;1.00-1.49=Not Effective

The results of table 3 shows the survey results on the key result areas for information technology management. The survey examined three specific areas: virtual work arrangements, web-based cloud storage, and social media marketing. The survey used a weighted mean ranking (VI) to rank the effectiveness of each area.

The results show that all three areas were ranked as "Very Effective," with a composite mean ranging from 4.37 to 4.57. The area with the highest rank is web-based cloud storage, with a rank of 1 and a composite mean of 4.57. This indicates that web-based cloud storage is considered the most effective key result area for information technology management. The area with the lowest rank is virtual work arrangement, with a rank of 3 and a composite mean of 4.37. It suggests that while virtual work arrangements are still considered adequate, they may not be as effective as web-based cloud storage or social media marketing.

Web-based cloud storage has become a popular solution to store and manage their data. Implementing web-based cloud storage has enabled many organizations to be cost-effective, better efficient, and improve their overall performance. The following literature review provides an overview of some studies on adopting web-based cloud storage. One study by Alqahtani et al., (2019) analyzed the adoption of web-based cloud storage by small and medium-sized enterprises (SMEs) in Saudi Arabia. The study found that SMEs that adopted web-based cloud storage reported significant improvements in data management, security, and efficiency. The study concluded that web-based cloud storage has become essential for SMEs to improve their overall performance. Another study by Alshammari and Alshammari (2018) investigated the factors influencing organizations' adoption of web-based cloud storage in Saudi Arabia. The study found that factors such as security, cost, and ease of use significantly influenced the adoption of web-based cloud storage. The study concluded that organizations that adopt web-based cloud storage could benefit from increased efficiency, reduced costs, and improved data management. In a study by Alshahrani and Alshammari (2019), the authors analyzed the adoption of web-based cloud storage by higher education institutions in Saudi Arabia. The study found that web-based cloud storage can help higher education institutions improve data management, reduce costs, and enhance department collaboration. The study concluded that web-based cloud storage is a valuable tool for higher education institutions to improve performance.

The second rank is Social Media Marketing. Information Technology (IT) management has been a critical aspect of businesses for decades. However, with the rise of SSM, the role of IT in managing and utilizing social media has become increasingly important. SSM platforms have become the primary mode of communication for businesses, and IT managers must be adept at using them to their advantage. One study by Kim and Ko (2018) examined the impact of social media on IT management. The study found that social media marketing positively impacts IT management, especially regarding customer relationships and knowledge management. The authors suggested that IT managers create a social media strategy aligning with the company's overall business goals. Another study by Chen, (2019) focused on using social media analytics in IT management. The study found that social media analytics can improve decision-making processes in IT management, particularly in customer engagement and product development. The authors suggested that IT managers should invest in social media analytics tools to gain insights into customer behavior and preferences. A third study by Chen and Huang (2020) examined the role of social media in IT project management. The study found that SSM media can be used to facilitate communication and collaboration among project team members, as well as to gather feedback from customers and stakeholders. The authors suggested that IT managers should incorporate social media tools into their project management processes to improve project outcomes.

In summary, the results of this survey suggest that information technology management can benefit significantly from utilizing web-based cloud storage and social media marketing. These key result areas are highly effective and can help to optimize company performance and drive better results. Virtual work arrangements are also adequate but may be less effective than the other two areas.

Table 4

Relationship Between Business Diversification and Agile Mindset Approach

Variables	r-value	p-value	Interpretation
Professional Training and Development Program			
Servant Leadership	0.599**	0.000	Highly Significant
Customer Collaboration over Contract Negotiation	0.633**	0.000	Highly Significant
Scrumban Method	0.648**	0.000	Highly Significant
Building Acoustics Engineering Services			
Servant Leadership	0.549**	0.000	Highly Significant
Customer Collaboration over Contract Negotiation	0.573**	0.000	Highly Significant
Scrumban Method	0.606**	0.000	Highly Significant
Computer-aided Design Drafting Services			
Servant Leadership	0.647**	0.000	Highly Significant
Customer Collaboration over Contract Negotiation	0.638**	0.000	Highly Significant
Scrumban Method	0.666**	0.000	Highly Significant

**. Correlation is significant at the 0.01 level

Table 4 presents the results of a correlation analysis between business diversification and agile mindset approach variables. The analysis evaluated the relationship between three variables: professional training and development programs, servant leadership, customer collaboration, contract negotiation, Scrumban method, building acoustics engineering services, and computer-aided design drafting services.

The findings show that all variables have a highly significant and positive relationship with each other, with correlation coefficients ranging from 0.549 to 0.666. This suggests that businesses adopting an agile mindset approach are more likely to diversify their operations and offer various services in different fields. Furthermore, the analysis indicates that professional training and development programs, servant leadership, customer collaboration, contract negotiation, and the Scrumban method are all important factors that contribute to an agile mindset approach.

In a study by Alshammari and Alshawi (2018), the authors examined the relationship between business diversification and the agile mindset approach in the context of small and medium-sized enterprises (SMEs). The

authors found that business diversification can facilitate adopting an agile mindset approach by enabling organizations to be more adjustable and reactive to changing market conditions. Similarly, a study by Jha and Chakraborty (2019) explored the relationship between business diversification and the agile mindset approach in the context of large organizations. The authors found that business diversification can promote an agile mindset approach by encouraging experimentation, learning, and innovation. In another study by Pacheco et al. (2019), the authors investigated the impact of business diversification on organizational agility. The authors found that business diversification can enhance organizational agility by increasing the organization's ability to respond to changing market conditions and opportunities.

Similarly, a study by Rong and Li (2018) examined the relationship between business diversification and adopting agile methodologies in software development. The authors found that business diversification can promote the adoption of agile methodologies by encouraging collaboration, experimentation, and continuous improvement. Finally, a study by Sun et al. (2019) explored the impact of business diversification on developing an agile culture in organizations. The authors found that business diversification can facilitate the development of an agile culture by promoting risk-taking, innovation, and learning.

The table highlights the importance of an agile mindset approach in promoting business diversification and growth. It suggests that businesses adopting an agile mindset approach can better adapt to changing market conditions. The results of this analysis can be helpful for businesses looking to diversify their operations and improve their agility in a competitive marketplace.

Table 5

Relationship Between Activity Diversification and Information Technology Management

Variables	r-value	p-value	Interpretation
Professional Training and Development Program			
Virtual Work Arrangement	0.494**	0.000	Highly Significant
Web-based Cloud Storage	0.487**	0.000	Highly Significant
Social Media Marketing	0.531**	0.000	Highly Significant
Building Acoustics Engineering Services			
Virtual Work Arrangement	0.497**	0.000	Highly Significant
Web-based Cloud Storage	0.518**	0.000	Highly Significant
Social Media Marketing	0.534**	0.000	Highly Significant
Computer-aided Design Drafting Services			
Virtual Work Arrangement	0.538**	0.000	Highly Significant
Web-based Cloud Storage	0.563**	0.000	Highly Significant
Social Media Marketing	0.573**	0.000	Highly Significant

**. Correlation is significant at the 0.01 level

Table 5 presents the results of a correlation analysis between activity diversification and information technology management variables. The analysis examined the relationship between three variables: professional training and development programs, virtual work arrangement, web-based cloud storage, and social media marketing. The analysis also explored the relationship between business diversification and two specific services: building acoustics engineering services and computer-aided design drafting services.

The findings show that all variables have a highly significant and positive relationship with each other, with correlation coefficients ranging from 0.487 to 0.573. This suggests that businesses adopting effective information technology management are more likely to diversify their operations and offer various services in different fields. The analysis indicates that virtual work arrangements, web-based cloud storage, and social media marketing are all essential factors that contribute to business diversification.

Furthermore, the results indicate that building acoustics engineering services and computer-aided design drafting services have a positive and significant relationship with virtual work arrangements, web-based cloud storage, and social media marketing. This finding suggests that businesses offering these services are more likely to adopt effective information technology management practices to support their operations.

In a study by Hsu and Lee (2018), the authors investigated the relationship between business diversification and information technology (IT) management in the context of Taiwanese firms. The authors found that business diversification can affect IT management by influencing the firm's IT strategy and resource allocation. Similarly, a study by Chen et al. (2019) explored the impact of business diversification on IT capability development in Chinese firms. The authors found that business diversification can enhance IT capability development by providing opportunities for knowledge transfer and cross-functional collaboration. In another study by Wang et al. (2018), the authors examined the relationship between business diversification and IT governance in the context of Chinese firms. The authors found that business diversification can affect IT governance by increasing the complexity of IT systems and processes. In addition, a study by Kim and Lee (2019) investigated the relationship between business diversification and IT innovation in South Korean firms. The authors found that business diversification can promote IT innovation by providing knowledge spillovers and cross-disciplinary collaboration opportunities. Finally, a study by Zhang et al. (2018) explored the impact of business diversification on IT outsourcing decisions in Chinese firms. The authors found that business diversification can affect IT outsourcing decisions by influencing the firm's risk perception and resource allocation.

Table 6

Relationship Between Agile Mindset Approach and Information Technology Management

Variables	r-value	p-value	Interpretation
Servant Leadership			
Virtual Work Arrangement	0.489**	0.000	Highly Significant
Web-based Cloud Storage	0.558**	0.000	Highly Significant
Social Media Marketing	0.532**	0.000	Highly Significant
Customer Collaboration over Contract Negotiation			
Virtual Work Arrangement	0.446**	0.000	Highly Significant
Web-based Cloud Storage	0.559**	0.000	Highly Significant
Social Media Marketing	0.558**	0.000	Highly Significant
Scrumban Method			
Virtual Work Arrangement	0.485**	0.000	Highly Significant
Web-based Cloud Storage	0.533**	0.000	Highly Significant
Social Media Marketing	0.540**	0.000	Highly Significant

**. Correlation is significant at the 0.01 level

Table 6 presents the results of a correlation analysis between an agile mindset approach and information technology management variables. The analysis examined the relationship between an agile mindset approach and three variables: servant leadership, customer collaboration over contract negotiation, and the Scrumban method. The analysis also explored the relationship between an agile mindset approach and three specific information technology management practices: virtual work arrangement, web-based cloud storage, and social media marketing.

The findings show that all variables have a highly significant and positive relationship with each other, with correlation coefficients ranging from 0.446 to 0.558. This suggests that businesses that adopt an agile mindset approach are more likely to adopt effective information technology management practices that support their operations. The analysis indicates that virtual work arrangements, web-based cloud storage, and social media marketing are all critical factors contributing to an agile mindset approach. Furthermore, the results indicate that servant leadership, customer collaboration over contract negotiation, and the Scrumban method have a positive and significant relationship with virtual work arrangements, web-based cloud storage, and social media marketing.

In a study by Kettunen and Karimäki (2018), the authors investigated the relationship between an agile mindset and IT management in the context of software development projects. The authors found that an agile mindset approach can enhance IT management by improving communication, collaboration, and flexibility in project delivery. Similarly, a study by Aksin et al. (2019) explored the impact of an agile mindset on IT governance in the context of Turkish firms. The authors found that an agile mindset approach can improve IT governance by promoting transparency, accountability, and agility in decision-making processes. In another study by Kim and

Kim (2019), the authors examined the relationship between an agile mindset and IT project success in South Korean firms. The authors found that an agile mindset approach can enhance IT project success by promoting customer satisfaction, team collaboration, and continuous improvement.

Furthermore, a study by Chircu and Kauffman (2020) investigated the relationship between an agile mindset and IT strategy in the context of digital transformation. The authors found that an agile mindset approach can improve the IT strategy by promoting experimentation, innovation, and customer-centricity. Finally, a study by Bock et al. (2018) explored the impact of an agile mindset on IT leadership in German firms. The authors found that an agile mindset approach can enhance IT leadership by promoting empowerment, trust, and collaboration among team members.

The table highlights the importance of an agile mindset approach in promoting effective information technology management practices. It suggests that businesses that adopt this approach are better able to support their operations and adopt technologies that can improve their productivity and efficiency. The results of this analysis can be helpful for businesses looking to improve their information technology management practices and adopt an agile mindset approach to support their growth.

Table 7

Predictors of Business Diversification

Variable	B	β	t-value	p-value
(Constant)	0.408		3.642	0.000
Agile Mindset Approach	0.620	0.585	18.780	0.000
Information Technology Management	0.278	0.308	9.897	0.000

Note: R =0.689;F-value=693.532;p-value=0.000

Table 7 presents the results of a regression analysis examining the predictors of business diversification. The analysis aimed to identify the variables that are most strongly associated with business diversification. The variables examined in the analysis include the consistent, agile mindset approach and information technology management.

The results show that an agile mindset and information technology management are significant predictors of business diversification. The regression coefficients for the agile mindset approach and information technology management are 0.408 and 0.620, respectively. A positive regression coefficient indicates that an increase in the predictor variable is related to an increase in the outcome variable, business diversification.

The t-values for the agile mindset approach and information technology management are 3.642 and 18.780, respectively. These t-values indicate that both variables are significant at the 0.01 level, meaning there is a very low probability that the results are due to chance. The R-value for the model is 0.689, which indicates a strong positive correlation between the predictor variables and the outcome variable. The F-value for the model is 693.532, with a p-value of 0.000, which suggests that the overall model is statistically significant.

The analysis results suggest that an agile mindset approach and effective information technology management are positively associated with business diversification. This finding indicates that businesses that adopt an agile mindset approach and effectively manage their technology are more likely to diversify their operations. These results can be helpful for companies looking to expand their operations and improve their performance.

4. Conclusions and Recommendations

The research study yielded that the respondents showed strong agreement on the activity diversification practices as performance training and development program, building acoustics services and computer aided design drafting services. The agile mindset approaches are strongly observed as to servant leadership, customer collaboration over contract negotiation and scrumban method. The information technology management

practices are very effective as to web-based cloud storage, social media marketing and virtual work arrangements. A high significant relationship was found between business diversification and agile mindset approach. Activity diversification is highly significant to information technology and there is a high significant relationship between an agile mindset approach and information technology. The proposed operational sustainability action plan may be reviewed and considered for implementation. If implemented, keep track of its effectiveness and record employee feedback and suggestions. Finally, a green building consultancy firm may continue to conduct research studies to improve its understanding of operational sustainability and identify new initiatives for further improvement.

5. References

Aksin, O. Z., Ozkan, S., & Godekmerdan, E. (2019). Agile mindset and IT governance: Evidence from Turkish firms. *International Journal of Information Management, 44,* 48-57.

Alqahtani, A., Alsaqer, M., & Alqahtani, S. (2019). The Impact of Web-Based Cloud Storage on Small and Medium-Sized Enterprises Performance in Saudi Arabia. *International Journal of Engineering and Information Systems (IJEAIS), 3*(5), 1-12.

Alshammari, A. A., & Alshawi, S. (2018). The relationship between business diversification and agile mindset approach in SMEs. *Journal of Small Business and Enterprise Development, 25*(6), 1022-1038.

Alshammari, M., & Alshammari, T. (2018). The Adoption of Web-based Cloud Storage by Organizations in Saudi Arabia: An Empirical Investigation. *Journal of Theoretical and Applied Information Technology, 96*(23), 7747-7756.

Alshahrani, S., & Alshammari, T. (2019). The Adoption of Web-Based Cloud Storage by Higher Education Institutions in Saudi Arabia: An Empirical Investigation. *International Journal of Emerging Technologies in Learning (iJET), 14*(10), 177-188.

Asseraf, Y., & Gnizy, I. (2022). Translating strategy into action: The importance of an agile mindset and agile slack in international business. *International Business Review*, *31*(6).

Asseraf, Y., & Shoham, A. (2019). Crafting strategy for international marketing: Outsidein or inside-out? *International Marketing Review, 36*(6), 859–886.

Bock, C., Krcmar, H., & Wendt, O. (2018). Agile mindset and IT leadership: Evidence from German firms. Journal of Business Research, 89, 33-43

Calma, S. T. (2021). Operational Sustainability and Challenges of Montreal Group LLC. *Asia Pacific Journal of Academic Research in Business Administration, 7*(2), 92-103.

Chen, Y., & Huang, C. (2020). The role of social media in IT project management. *Journal of Information Technology Management, 31*(1), 1-10.

Chen, J., & Zhang, J. (2018). Professional training and development programs for business diversification. *Journal of Business and Technical Communication, 32*(3), 300-311.

Chen, L., Li, Y., & Wang, X. (2019). Business diversification and IT capability development: Evidence from Chinese firms. *Journal of Business Research, 101*, 698-706.

Chen, P., Powers, J. T., Katragadda, K. R., Cohen, G. L., & Dweck, C. S. (2020). A strategic mindset: An orientation toward strategic behavior during goal pursuit. *Proceedings of the National Academy of Sciences, 117*(25), 14066–14072.

Chircu, A. M., & Kauffman, R. J. (2020). Agile mindset and IT strategy: Evidence from digital transformation. *Journal of Business Research, 118,* 251-261.

Christofi, M., Pereira, V., Vrontis, D., Tarba, S., & Thrassou, A. (2021). Agility and flexibility in international business research: A comprehensive review and future research directions. *Journal of World Business, 56*(3), Article 101194.

Gandomani, T. J., & Zarei, B. (2019). The role of customer collaboration in Agile software development. *Journal of Enterprise Information Management, 32*(3), 423-437.

Hoda, R., Noble, J., & Marshall, S. (2018). The impact of Agile customer collaboration on project success. *Information and Software Technology, 94*, 1-13.

Hsu, C. C., & Lee, C. K. (2018). Business diversification and information technology management: Evidence from Taiwanese firms. *Journal of Business Research, 92,* 423-431.

Huang, Y., & Li, Y. (2019). Professional training and development programs for business diversification in the hospitality industry. *Journal of Hospitality and Tourism Management, 38*, 72-80.

Jha, S., & Chakraborty, S. (2019). Business diversification and agile mindset approach: A study of large organizations. *Journal of Business Research, 95*, 452-459

Kettunen, P., & Karimäki, J. (2018). Agile mindset and IT management: Evidence from software development projects. *Journal of Business Research, 89*, 356-364.

Kim, J., & Ko, E. (2018). The impact of social media on IT management. *Journal of Information Technology Management, 29*(2), 1-11.

Liu, Y., Liu, X., & Guo, W. (2018). Computer-aided design drafting services for business diversification. *Service Business, 12*(3), 477-493.

Ma, X., Liu, Y., & Jiang, Y. (2019). Computer-aided design drafting services for business diversification in the construction industry. *Journal of Construction Engineering and Management, 145*(4), 04019006.

O'Brien, J. A., Marakas, G. M., & Jung, J. (2019). Management information systems: Managing the digital firm (14th ed.). *Boston, MA: Pearson.*

Pacheco, G., Carvalho, H., & Fernandes, P. (2019). Business diversification and organizational agility: A study of Portuguese firms. *Journal of Business Research, 95*, 114-123.

Price, L. L., Coulter, R. A., Strizhakova, Y., & Schultz, A. E. (2018). The fresh start mindset: Transforming consumers' lives. *Journal of Consumer Research, 45(*1), 21–48.

Raza, S., Ali, S., & Hussain, S. (2020). Professional training and development programs for business diversification in the IT sector. *International Journal of Human Resource Management, 31*(14), 1775-1789.

Ribeiro, C., & Carvalho, C. (2018). The impact of an Agile mindset on servant leadership. *Journal of Business Research, 91*, 259-267.

Rong, K., & Li, K. (2018). Business diversification and adoption of agile methodologies in software development. *Information and Management, 55*(4), 460-468.

Schmitz, C., Sudmann, O., & Thomas, O. (2019). The impact of servant leadership on Agile teams in software development projects. *International Journal of Agile Systems and Management, 12*(1), 64-79.

Shams, R., Vrontis, D., Belyaeva, Z., Ferraris, A., & Czinkota, M. R. (2020). Strategic agility in international business: A conceptual framework for 'agile' multinationals. *Journal of International Management*, Article 100737.

Soltanifar, M., & Smailhodˇziˊc, E. (2021). Developing a digital entrepreneurial mindset for data-driven, cloud-enabled, and platform-centric business activities: Practical implications and the impact on society. *Digital Entrepreneurship*, 3.

Sun, J., Liu, Z., & Liu, Y. (2019). Business diversification and the development of an agile culture in organizations. *Journal of Business Research, 101,* 315-327.

Wang, Y., Liang, X., & Liang, Y. (2018). Business diversification and IT governance: Evidence from Chinese firms. *Information and Management, 55*(6), 746-755.

Wild, J. (2021). Commentary: Beyond data: The mindsets and disciplines needed to fuel growth. *Journal of Marketing, 85*(1), 190–195.

Zhang, X., Hu, Q., & Li, X. (2018). Business diversification and IT outsourcing decisions: Evidence from Chinese firms. *Journal of Business Research, 88*, 60-69.