

The Implementation of a Centralized Digital Platform on Commercial Properties at Felda

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Abstract

The concept of digital transformation has become crucial in both the private and public sectors, particularly after the pandemic highlighted the necessity for an online presence and the challenges of data dispersion across multiple platforms. This fragmentation hindered data access, innovation, and industry leadership. FELDA's Asset Management Department struggled due to the absence of a centralized information platform for commercial properties. To overcome this and boost productivity and work efficacy, this action research adopted a pragmatic approach, employing mixed methods through the implementation of a centralized digital platform for internal information access. The research combined quantitative and qualitative methods, using questionnaires for 24 officers, and conducting interviews with the Asset Management Department head and three (3) officers. It aimed to evaluate the impacts on technology acceptance, productivity, and work efficacy. The action research also integrated the Diffusion of Innovation Theory and the Unified Theory of Acceptance and Use of Technology (UTAUT), focusing on attitudes towards technology adoption. The outcomes suggested that a centralized platform improved productivity, work efficacy, and decision-making, offering a competitive advantage. This action research contributed to theory and practice by showing how data centralization addressed dispersion issues, enhancing access, collaboration, and informed decision-making.

Keywords: Centralized Digital Platform, Information Memorandum, Commercial Properties, Asset Management Department, Productivity, Work Efficacy.

Introduction

The fourth industrial revolution (IR4.0) has sparked a dynamic digital transformation in Malaysia, propelling the country into a new era of technological advancement. As Malaysia embraces this digital revolution, it becomes increasingly crucial to explore innovative solutions that optimize productivity, enhance work efficacy, and enable informed decision-making (Attaran et.al, 2019). While some sectors have successfully embraced digitalization, others continue to navigate the digital landscape at their own pace, encountering challenges

while seizing opportunities. Supported by government initiatives and an evolving appreciation of the benefits of digitalization, companies in Malaysia are marching forward, unlocking the vast potential offered by the digital landscape.

Productivity refers to the efficient and effective use of resources to achieve desired outcomes (Drunker, 1989). In the context of knowledge work, productivity improvement requires the elimination of any activities that do not contribute to the desired outcomes. In this action research, productivity involves optimizing assets management processes, streamlining workflows, and completing tasks efficiently. By adopting a centralized digital platform for accessing commercial properties information, organizations aim to enhance productivity by reducing manual activities, automating routine tasks, and facilitating smooth information flow. Information technology is associated not only with improvement in productivity, but also in intermediate measures, consumer surplus, and economic growth (Brynjolfsson & Yang, 1996).

Enhancing work efficacy within organizations involves achieving effective outcomes aligned with organizational objectives and stakeholder expectations (Mızrak, 2024). In this action research, the adoption of a centralized digital platform for accessing commercial properties information emerges as a crucial factor. This digital transformation empowers employees by providing efficient access to relevant data, enabling informed decision-making, effective collaboration, and confident execution of responsibilities. The significance of work efficacy in driving individual and team performance, as emphasized by the job demands-resources model, emphasizes the need for organizations to embrace technology and align with the digital landscape to enhance productivity and work efficacy (Antonopoulou et al., 2023; Yagil et al., 2023).

The adoption of a centralized digital platform represented a significant leap forward in the organization's decision-making process, simplifying the oversight of commercial properties and establishing a robust basis for strategic planning. This technology granted decision-makers in the organization immediate access to detailed and user-friendly data, empowering them to conduct thorough trend analyses, assess the performance of properties, and identify opportunities for expansion or improvement with greater precision. By embracing digital innovations, the organization gained a competitive advantage, showcasing the deep impact of digital transformation on both operational efficiency and strategic insight, as discussed by (Alkaraan et al., 2023).

Generally, the Asset Management Department of FELDA encompasses various functions, including the management of commercial properties, mineral exploration, and project development initiatives. With a portfolio of commercial properties worth over RM2.3 billion, the department is responsible for effectively overseeing the acquisition, maintenance, and strategic utilization of these assets. However, the absence of a centralized platform for accessing information about commercial properties within FELDA's Asset Management Department presents significant challenges, resulting in reduced productivity and efficiency. This lack of a centralized platform also hampers the awareness of top management involved in decision-making, as they remain uninformed about the commercial properties and lack a comprehensive understanding of how to develop strategic plans for FELDA.

Currently, valuable data and crucial documents, such as physical copies of land titles, drawings, floor plans, valuation report, fire certificates, and Certificates of Completion and Compliance (CCC) related to properties, are scattered across various departments. As a result, officers are burdened with the task of carrying numerous physical documents and must flip through them during meetings, adding further complexity to their workflow. This fragmented system not only results in delays and inconveniences but also hinders the department's ability to make informed decisions. Preliminary interviews with officers in the department have shed light on their daily struggles and frustrations. They have expressed their dissatisfaction with the cumbersome processes they have to go through to obtain vital information. The officers recount the difficulties they face in navigating different departments, such as the Legal Department, Land Management Department, and Finance Department, to gather the necessary data. These challenges not only consume valuable time but also create frustration and hinder their ability to fulfill their duties efficiently.

To exacerbate the situation, it has been discovered that some assets are not properly registered on the balance sheet, resulting in an inaccurate representation of FELDA's true financial position. This lack of visibility and transparency further compounds the challenges faced by the department. The inability to accurately assess and account for all commercial properties, including those without proper registration, prevents the department from fully leveraging their potential and strategically managing their portfolio. Furthermore, it is important to note that historically, FELDA's focus has been primarily directed towards palm oil plantation and community development, which has resulted in less attention being given to effectively managing their commercial properties. This lack of emphasis has led to reduced productivity and efficiency within the Asset Management Department. However, the management at FELDA has recently acknowledged the untapped potential income that can be generated from these commercial properties. This realization has prompted a shift in perspective and a recognition of the need for a more centralized and efficient approach to property management. The aim is to capitalize on the value inherent in these assets and maximize their potential contribution to FELDA's overall financial performance. The current situation within the Asset Management Department at FELDA can be described as struggling, unproductive, and inefficient. Delays in decision-making, caused by the fragmented information system, the burden of physical document management, and incomplete asset registration, impede the department's ability to seize opportunities, address issues promptly, and optimize the value of their commercial properties. It is evident that a transformative intervention is necessary to streamline processes, enhance productivity, and unlock the true potential of FELDA's commercial properties.

Previous research investigating the implementation of digital information systems in enhancing productivity and work efficacy has identified two (2) significant themes. The first theme focuses on the benefits of streamlined workflow and task management facilitated by digital systems. By automating processes, providing easy access to information, and optimizing task allocation, digital systems contribute to more efficient and organized work processes. This streamlining of workflow and task management ultimately improves productivity and work efficacy. The second theme centers around the influence of self-efficacy and the opportunities for knowledge sharing provided by digitalization. Studies have shown that individuals who possess a strong belief in their own abilities and knowledge are more likely to engage in knowledge sharing behaviors within digital platforms. Digitalization

enables the easy dissemination and sharing of knowledge, fostering collaboration and collective problem-solving. This knowledge sharing, driven by self-efficacy, has been found to positively impact productivity and work efficacy (Teichert., 2019). Collectively, these themes highlight the favorable impacts of digitalization on both productivity and work efficacy. Streamlined workflow and task management, coupled with the facilitation of knowledge sharing driven by self-efficacy, contribute to improved work processes, enhanced productivity, and overall work efficacy.

This action research aimed to evaluate the acceptance level of the Centralized Digital Platform, which utilized the Diffusion of Innovation Theory. Additionally, the researcher adopted the Unified Theory of Acceptance and Use of Technology (UTAUT) framework to explore broader dimensions. This framework considered factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions. The reason for this choice was that UTAUT, which has been widely studied, is one of the most utilized models for technology acceptance (Permana & Kustiawan, 2022). This choice aligned with the objective of the action research, which was to assess the notable effects of the Centralized Digital Platform on productivity and work efficacy. Furthermore, the researcher intended to assess the practical application of the Centralized Digital Platform to contribute to a competitive advantage for the Asset Management Department.

This action research held tremendous potential for advancing theory, building on past studies, and enhancing the management practices of FELDA. The researcher aimed to delve into the impact of digital platforms on the management of commercial properties, shedding light on the factors that influenced their acceptance and effectiveness. The insights gained from this research were intended to contribute to the broader field of information management and technology adoption, enriching our understanding of how organizations can leverage digital tools to improve productivity and work efficacy. Furthermore, this research stood out by specifically focusing on FELDA's commercial properties, providing a unique and valuable contribution to the existing body of knowledge. By tailoring the investigation to FELDA's context, the study offered context-specific insights and practical recommendations for informed decision-making. This tailored approach recognized the specific needs, challenges, and opportunities faced by FELDA in managing their commercial properties worth over RM2.3 billion. The outcomes of this research were intended to guide FELDA's management in streamlining workflow processes, enhancing productivity, and unlocking the potential value of their commercial assets.

The impact of this research on FELDA was significant. By implementing the recommended intervention, FELDA could optimize their decision-making processes, generate income from their commercial properties, and unlock untapped potential for growth. These insights had the power to transform the management practices of FELDA, enabling them to make informed decisions and leverage their commercial properties to generate sustainable income and drive organizational success.

Materials and Methods

In this action research, a multi-level and mixed-method data collection procedure was employed to gather comprehensive insights. Qualitatively, at the individual level, data was collected through semi-structured interviews with three (3) Commercial Assets Officers from

the Asset Management Department. Semi-structured interviews were utilized, where the questions were not entirely fixed in structure, and the wording was adjusted for flexibility to ensure the comfort of the interviewees. This method was selected as it enabled the interviewees to elaborate on their responses, providing the researcher with more comprehensive insights to fully grasp the situation. The interviews, conducted face-to-face for 30 minutes, allowed for a more thorough data collection and a deeper understanding of the context. Additionally, this format enabled the researcher to observe the body language and facial expressions of the respondents, enriching the data collected. These interviews aimed to uncover the root causes of the problem and gain insights into current practices, challenges encountered, and their effects on productivity and work efficacy. The qualitative data from these interviews was instrumental in understanding the underlying issues and informing the development of intervention.

Before the interview, respondents were provided with a consent form to ensure they comprehended the interview's purpose and objectives and agreed to the commitment required during the research. Participation was entirely voluntary, and all responses were treated with confidentiality. To safeguard participant privacy, anonymity was maintained throughout the process. The research was conducted in accordance with established interview protocols. A semi-structured interview was also conducted with the Head of the Asset Management Department. The purpose of this interview was to discuss the identified issue and obtain feedback on the proposed intervention, ensuring they were in line with the department's strategic direction. This interview yielded insights crucial for refining or adjusting the intervention based on the feedback received.

Conversely, from a quantitative perspective, both pre-intervention and post-intervention questionnaires were distributed to 24 officers engaged in commercial asset management. The pre-intervention questionnaires aimed to establish an initial understanding of how current practices influenced productivity and work efficacy, and to pinpoint factors potentially affecting the success of the intervention. On the other hand, the post-intervention questionnaires focused on evaluating respondents' acceptance and application of digitalization. Additionally, these questionnaires were crucial in assessing the impact of the intervention on productivity and work efficacy, aligning with the findings from the literature review. By comparing responses gathered before and after implementing the intervention, their efficacy was assessed, enabling the measurement of any enhancements or alterations in the anticipated outcomes.

The integration of semi-structured interviews and questionnaires at different organizational levels allowed for the capture of both qualitative and quantitative data. This mixed-method approach facilitated a comprehensive understanding of the research objectives, encompassing the identification of root causes, feedback from key respondents, and the impact of intervention on productivity, work efficacy, and technology adoption.

Results and Discussion

Qualitative Analysis

The objective of the qualitative analysis is to examine and comprehend the underlying factors contributing to the problem in accessing information about commercial properties in FELDA. The chosen methodology for this action research involves the manual interpretation of

qualitative data through thematic and content analysis, utilizing NVivo software to facilitate data generation. To identify the problem, semi-structured interviews were carried out with Commercial Asset Officers. During these sessions, interviewees were prompted to share their opinions and feedback. Additionally, an interview was held with the Head of the Asset Management Department to validate the identified problem and to discuss proposed intervention, ensuring their alignment with the department’s goals and objectives. Subsequent to these interviews, thematic analysis was performed. This involved listing codes, categorizing them into subthemes, and finalizing them according to the themes, as presented in and mind map tree below: -

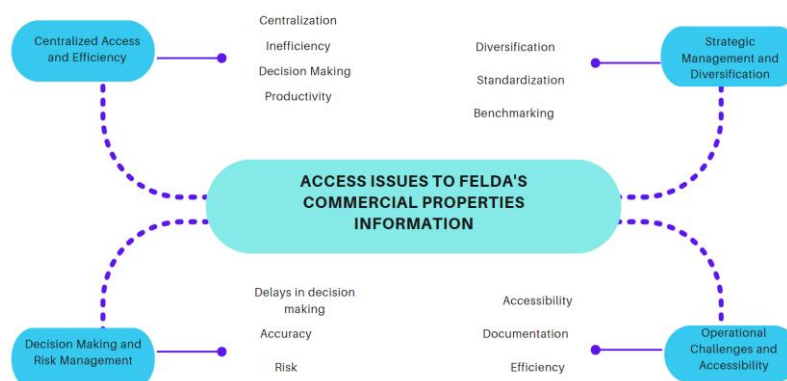


Figure 2.1: Mind map themes from the interviews.

Summary of Thematic Analysis

THEME			
Centralized Access and Efficiency	Strategic Management and Diversification	Operational Challenges and Accessibility	Decision Making and Risk Management
SUBTHEME			
Need for a unified information platform. Inefficiencies in current multi-departmental data retrieval. Enhanced decision-making with centralized data. Streamlining operations for improved productivity.	Shifting focus from palm oil to diverse income sources. Aligning with global industry standards. Benchmarking with successful industry players in palm oil sector that also ventured in property industry.	Difficulty in data access during non-working hours. Reliance on physical documentation leads to potential missing or loss and is not convenient. Cumbersome retrieval process impacting efficiency.	Delays in critical decision making due to data inaccessibility. Risks associated with outdated or incomplete data. Importance of timely, accurate information for strategic decisions.

Description of the theme

Theme	Meaning of theme	Sub-theme	Evidence
Centralized Digital Access and Efficiency	The necessity and impact of a unified system for information access	Need for a unified information platform	<p>Interviewee 1: A unified platform would enhance swift access to current information.</p> <p>Interviewee 2: A unified platform would enhance swift access to current information.</p> <p>Interviewee 3: Recently, I had to prepare a comprehensive report on asset performance. The lack of a centralized information system meant that I had to manually compile data from various departments, which took several days. A unified platform would have enabled me to complete this task more efficiently and accurately.</p>
		Inefficiencies in current multi-departmental data retrieval.	<p>Interviewee 1: Our fragmented system causes delays in accessing data from various departments, leading to inefficiencies.</p> <p>Interviewee 2: Struggles with data gathering due to decentralized systems.</p> <p>Interviewee 2: The process of gathering data for quarterly reports is extremely cumbersome. Each department has its own database and format, leading to inconsistencies and extra steps in data consolidation. It often results in missed deadlines and added stress for the team.</p> <p>Interviewee 3: I experienced significant delays in a recent project due to the multi-departmental data retrieval process. Coordinating with different departments to obtain the necessary information was not only time-consuming but also led to receiving outdated data, affecting the accuracy of our analysis.</p>

		Enhanced decision-making with centralized data.	<p>Interviewee 1: A month-long delay in decision-making due to scattered data could have been avoided with centralized data, enabling quicker, accurate decisions.</p> <p>Head of Asset Management Department: During a recent investment decision, the absence of consolidated data led to reliance on assumptions. Centralized real-time data would greatly improve our strategic decision accuracy.</p>
		Streamlining operations for improved productivity.	<p>Interviewee 2: The current manual data compilation process is time intensive. A centralized system would streamline our operations, allowing us to focus more on analysis and less on data gathering, thereby boosting our overall productivity.</p> <p>Head of Asset Management Department: Streamlining operations with a centralized platform would cut down our project turnaround time. Recently, a project that could have taken a week extended to three weeks due to operational inefficiencies.</p>
Strategic Management and Diversification	Adapting business strategy for diverse income sources and global market alignment	Shifting focus from palm oil to diverse income sources.	<p>Head of Asset Management Department: Our over-reliance on the palm oil sector has its risks. We've started exploring other sectors like real estate and technology. Diversifying income sources will mitigate market fluctuations and ensure long-term sustainability.</p> <p>Head of Asset Management Department: We are exploring renewable energy and property investments to diversify our income, moving beyond just palm oil, in response to global market trends.</p>

		Aligning with global industry standards.	Head of Asset Management: We are closely observing the best practices of leading companies in the palm oil sector. Their strategies in market adaptation and technology integration are guiding our efforts to stay competitive and relevant in the industry.
		Benchmarking with successful industry players in palm oil sector that also ventured in property industry.	Head of Asset Management Department: We are studying the transition of several palm oil giants into the property sector. Their journey, from initial challenges to eventual success, offers a roadmap and lessons that are crucial for our strategic shift into real estate.
Operational Challenges and Accessibility	Difficulties faced in operations due to decentralized access to information	Difficulty in data access during non-working hours.	Interviewee 1: I needed urgent data for a weekend meeting but could not access our departmental system. This barrier in after-hours access delayed our project decisions significantly. Interviewee 2: Working on financial forecasts often requires late hours, but accessing real-time data outside normal office hours is a constant struggle, impacting on our analysis accuracy and timelines. Interviewee 3: We receive numerous requests for data access during weekends or holidays. Our current system does not support remote access, leading to bottlenecks and frustration among staff working outside standard hours.
		Reliance on physical documentation leads to potential missing or loss and is not convenient.	Interviewee 1: Managing large volumes of physical documents is challenging. We've had instances where important files went missing, leading to delays and confusion. Additionally, retrieving specific documents from our archives is often time-consuming and inconvenient. Interviewee 2: Physical documentation not only increases

			<p>the risk of important papers getting lost or misplaced but also makes it difficult to quickly access vital information, especially in urgent scenarios.</p> <p>Interviewee 3: The reliance on physical documents significantly hampers our workflow. There have been several occasions where documents were either lost or misplaced, causing major setbacks. Moreover, the physical handling and storage of documents is cumbersome and inefficient.</p>
		Cumbersome retrieval process impacting efficiency	<p>Interviewee 1: Document retrieval from our archives is slow, affecting response times and efficiency.</p> <p>Interviewee 3: Locating specific files in physical storage is time-consuming and reduces our productivity.</p>
Decision Making and Risk Management	The influence of information accessibility on decision-making and organizational risk	Delays in critical decision making due to data inaccessibility.	<p>Interviewee 1: Lack of real-time data access delayed a key investment decision due to department closure.</p> <p>Interviewee 2: Inability to promptly access data often postpones crucial meetings and affects decision-making.</p>
		Risks associated with outdated or incomplete data.	<p>Interviewee 1: Making decisions based on outdated data led to a significant investment misstep last quarter. It's crucial to have current, comprehensive data to avoid such costly errors.</p> <p>Interviewee 3: Relying on incomplete data has resulted in flawed analysis on several occasions, increasing risks in project planning and execution.</p>
		Importance of timely, accurate information for strategic decisions	<p>Interviewee 1: Our strategic planning relies heavily on timely, accurate data. Recently, a delay in receiving updated market analysis led to a missed opportunity in property investment. This incident</p>

			<p>underscored the need for real-time data in our decision-making process.</p> <p>Interviewee 2: The accuracy of our forecasts and strategic moves depends on the timeliness of the information we use. Inaccurate data can lead to misguided strategies, which can have long-term repercussions on our business objectives.</p>
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Theme: Centralized Digital Access and Efficiency

- i. Sub-theme: Need for a unified information platform.
The interviews clearly highlight the necessity of a unified platform for efficient access to up-to-date information. For instance, Interviewee 3 noted the significant time spent compiling data from different departments for a comprehensive asset performance report: *“The lack of a centralized information system meant that I had to manually compile data from various departments, which took several days”*. This statement, echoed by Interviewees 1 and 2, highlights the inefficiency of the current system and the potential for improvement through centralization.
- ii. Sub-theme: Inefficiencies in current multi-departmental data retrieval.
The fragmented system was repeatedly criticized for causing delays. Interviewee 2’s experience with cumbersome data gathering reflects a broader issue: *“Each department has its own database and format, leading to inconsistencies and extra steps in data consolidation”*. These inefficiencies contribute to missed deadlines and increased stress, as detailed by Interviewee 3 who faced significant delays due to outdated data from various departments.
- iii. Sub-theme: Enhanced decision-making with centralized data.
Interviewees reported that decision-making processes were hindered by scattered data. For instance, the Head of the Asset Management Department recounted an investment decision affected by the absence of consolidated data, implying that centralized real-time data would have led to more accurate strategic decisions.
- iv. Sub-theme: Streamlining operations for improved productivity.
The necessity of a centralized system for streamlining operations was evident in the feedback. For example, Interviewee 2 emphasized that a centralized system would *“streamline our operations, allowing us to focus more on analysis and less on data gathering”*.

Theme: Strategic Management and Diversification

- i. Sub-theme: Shifting focus from palm oil to diverse income sources.
The Head of Asset Management Department noted the risks associated with over-reliance on the palm oil sector and the proactive steps being taken to diversify income sources, stating, *“We have started exploring other sectors like real estate and technology”*.
- ii. Sub-theme: Aligning with global industry standards.
The department has been observing industry leaders, with the Head of Asset Management noting, *“Their strategies in market adaptation and technology integration are guiding our efforts to stay competitive”*.
- iii. Sub-theme: Benchmarking with successful industry players

The transition of palm oil giants into the property sector offers valuable lessons for FELDA's strategic shift, as mentioned by the Head of Asset Management Department: *"Their journey... offers a roadmap and lessons that are crucial for our strategic shift into real estate"*.

Theme: Operational Challenges and Accessibility

- i. Sub-theme: Difficulty in data access during non-working hours.
Interviewees highlighted the challenges faced due to the lack of after-hours access to the departmental system. For example, Interviewee 1 explained how this limitation significantly delayed project decisions.
- ii. Sub-theme: Reliance on physical documentation.
The inefficiency of managing physical documents was a common complaint, with Interviewee 1 lamenting the instances where important files went missing, leading to *"delays and confusion"*.
- iii. Sub-theme: Cumbersome retrieval process impacting efficiency.
The slow retrieval process from physical archives was criticized for affecting response times and efficiency, as Interviewee 1 pointed out, *"Document retrieval from our archives is slow"*.

Theme: Decision Making and Risk Management

- i. Sub-theme: Delays in critical decision making due to data inaccessibility.
Delays in decision-making due to the inaccessibility of data were a significant concern. Interviewee 1 shared a specific instance, *"Lack of real-time data access delayed a key investment decision"*.
- ii. Sub-theme: Risks associated with outdated or incomplete data.
Interviewee 1's statement about making a significant investment misstep due to outdated data illustrates the risks associated with not having current, comprehensive data.
- iii. Sub-theme: Importance of timely, accurate information for strategic decisions
Interviewees underscored the importance of real-time data for strategic planning. As Interviewee 1 put it, *"Recently, a delay in receiving updated market analysis led to a missed opportunity in property investment"*, emphasizing the need for timely data.
In summary, the thematic analysis revealed a consensus among interviewees on the critical need for a centralized digital platform to access information on commercial properties, as it had the potential to improve productivity, work efficacy, and informed decision-making. The then-current decentralized system presented significant operational challenges, impacting the company's strategic management and risk assessment capabilities.

Quantitative Analysis

Descriptive and inferential statistics were employed to analyze the data in this action research. The focus was on officers responsible for managing the asset commercial portfolio, encompassing individuals from both the headquarters and regional offices. Demographic data, such as age, gender, job placement, access frequency and searching time, was collected from these respondents. Table 2.1 presents a summary of the descriptive analysis results derived from this dataset.

Table 2.1
Summary of Descriptive Analysis

	Gender	Age	JobPlacemen t	AccesFreque ncy	SearchingTim e
N	Valid	24	24	24	24
	Missing	0	0	0	0
Mean	1.50	2.21	1.46	2.38	3.58
Median	1.50	2.00	1.00	2.00	4.00
Mode	1 ^a	2	1	2	4
Std. Deviation	.511	.721	.509	.924	.504
Variance	.261	.520	.259	.853	.254
Range	1	3	1	3	1

a. Multiple modes exist. The smallest value is shown

Age Group

The age groups were originally divided into five (5) categories, including individuals under 25 years old, those between 26 and 35 years old, those between 36 and 45 years old, those between 46 and 55 years old, and those above 56 years old. However, upon analyzing the survey data, it was revealed that the respondents only represented four (4) age groups. Specifically, 12.5% of the respondents were younger than 25 years old, 58.3% fell within the 26 to 35 years old range, 6% were aged between 36 and 45 years old, and only 1% fell into the 46 to 55 years old category. The substantial number of respondents aged 26 to 35 years old can be attributed to the fact that many employees have been working at FELDA since their graduation.

Table 2.2
Frequency Analysis for Age

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25 years and Less	3	12.5	12.5	12.5
	26-35 years old	14	58.3	58.3	70.8
	36-45 years old	6	25.0	25.0	95.8
	46-55 years old	1	4.2	4.2	100.0
	Total	24	100.0	100.0	

Gender

In Figure 2.1, the Percentage of Gender was depicted, illustrating the participation of male and female employees in the research. Among the 24 respondents, 50% were female employees, while the remaining 50% were male employees, with each gender consisting of 12 employees. This signified a balanced representation of male and female employees involved in managing the commercial properties portfolio at FELDA.

Table 2.3
 Frequency Analysis for Gender
Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	12	50.0	50.0	50.0
	Female	12	50.0	50.0	100.0
	Total	24	100.0	100.0	

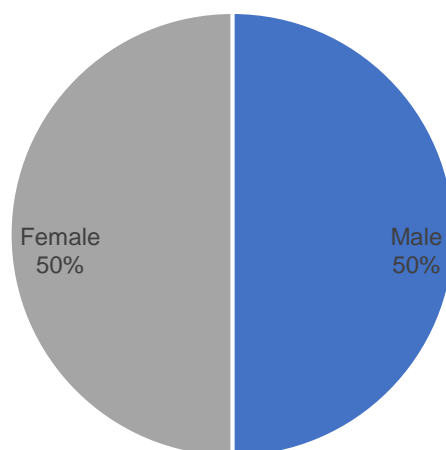


Figure 2.1: Percentage of Gender

Job Placement

The respondents in this action research included both headquarters and regional office officers. At the headquarters, there were a total of 13 respondents, constituting 54.2% of the sample. These respondents were drawn from various departments associated with commercial properties management, including the Asset Management Department, Land Management Department, Finance Department, and Legal Department. Meanwhile, the remaining 11 respondents (45.8%) from regional offices represented the 11 regional offices responsible for asset management at the regional level within FELDA.

Table 2.4 Frequency Analysis for Job Placement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Headquarter	13	54.2	54.2	54.2
	Regional Office	11	45.8	45.8	100.0
	Total	24	100.0	100.0	

Access Frequency

The frequency table titled “Access Frequency” outlined the distribution of how often a sample of 24 respondents accessed information on commercial properties. The majority (41.7%) accessed the information a few times a week, suggesting a regular but not daily need for updates. A significant portion (29.2%) reviewed the information weekly, while a smaller segment (16.7%) required daily access, highlighting a more immediate reliance on the data. The least frequent access was a few times a month (12.5%), indicating a more occasional need for this information. These insights revealed varying degrees of dependency on the data, which could inform how often the information should be updated or reviewed to meet the needs of the users effectively.

Table 2.5

Frequency Analysis for Access Frequency

		AccessFrequency			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	4	16.7	16.7	16.7
	Few times a week	10	41.7	41.7	58.3
	Weekly	7	29.2	29.2	87.5
	Few times a month	3	12.5	12.5	100.0
	Total	24	100.0	100.0	

Searching Time

Table 2.6 provided insights into the duration officers involved in managing a commercial properties portfolio spent searching for information. It revealed that out of 24 respondents, 10 officers (41.7%) reported spending 1 to 3 hours on search tasks, while a majority of 14 officers (58.3%) required more than 3 hours. This distribution suggested a concerning trend where most officers spent a substantial part of their workday searching for information, indicating potential inefficiencies. The fact that more than half needed over 3 hours signified that the process might have been far from optimal, potentially leading to decreased productivity and effectiveness in managing the commercial properties portfolio. Streamlining information retrieval processes could have been a crucial step in enhancing operational efficiency and freeing up officers’ time for more strategic activities within the commercial properties’ portfolio management.

Table 2.6

Frequency Analysis for Searching Time

		SearchingTime			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - 3 hours	10	41.7	41.7	41.7
	More than 3 hours	14	58.3	58.3	100.0
	Total	24	100.0	100.0	

Before and after the implementation of Cycle 1, normality tests were conducted to evaluate the data distribution of the sample. To be considered normally distributed, both Skewness and Kurtosis values should fall within the ± 2 range. According to Tables 2.7 and 2.8, the normality of data was assessed for two (2) distinct variables related to respondents involved in Commercial Properties Management in FELDA, productivity and work efficacy.

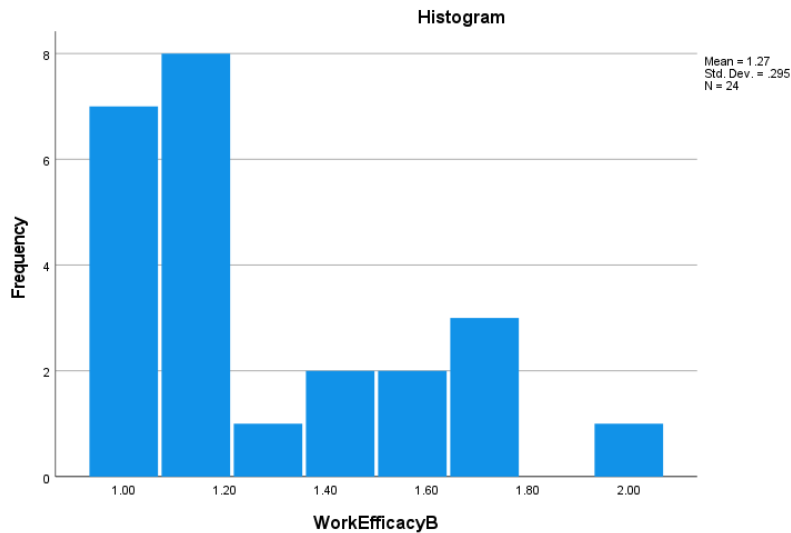


Figure 2.2: Data Distribution for Work Efficacy Before Implementation

For 'WorkEfficacyB', the skewness is reported at 0.997. This value, although less than the ± 2 threshold, suggests a moderate rightward skew, indicating that the distribution has a longer tail on the higher end of work efficacy scores. However, it does not significantly deviate from a normal distribution (Chua, 2011). The kurtosis value for 'WorkEfficacyB' is -0.066, indicating that the distribution is very slightly flatter (or less peaked) than a normal distribution, but this value is very close to zero, suggesting that the distribution does not exhibit pronounced tails.

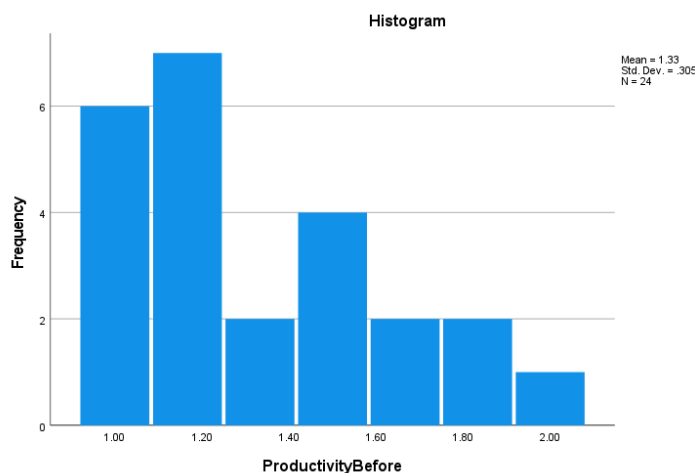


Figure 2.3: Data Distribution for Productivity Before Implementation

In comparison, 'ProductivityBefore' presents a skewness of 0.718, which denotes a mild leftward skew, meaning that the distribution has a tail that extends towards the lower end of productivity scores before the implementation. Despite this, the value is within the normal range, implying that the data does not have an extreme asymmetry. The kurtosis for 'ProductivityBefore' is -0.552, again reflecting a slightly flatter distribution compared to a

perfectly normal (mesokurtic) distribution, but it remains within the accepted range for normality. Both variables display skewness and kurtosis values within the normal range of ± 2 , which suggests that the data distributions for 'WorkEfficacyB' and 'ProductivityBefore' are reasonably symmetrical and follow the normal distribution.

Table 2.7
Normality Test Before Implementation

			Statistic	Std. Error
WorkEfficacyB	Mean		1.2738	.06014
	95% Confidence Interval for Mean	Lower Bound	1.1494	
		Upper Bound	1.3982	
	5% Trimmed Mean		1.2513	
	Median		1.1429	
	Variance		.087	
	Std. Deviation		.29463	
	Minimum		1.00	
	Maximum		2.00	
	Range		1.00	
	Interquartile Range		.54	
	Skewness		.997	.472
	Kurtosis		-.066	.918
ProductivityBefore	Mean		1.3264	.06223
	95% Confidence Interval for Mean	Lower Bound	1.1977	
		Upper Bound	1.4551	
	5% Trimmed Mean		1.3086	
	Median		1.1667	
	Variance		.093	
	Std. Deviation		.30487	
	Minimum		1.00	
	Maximum		2.00	
	Range		1.00	
	Interquartile Range		.46	
	Skewness		.718	.472
	Kurtosis		-.552	.918

Upon examining the post-implementation data for "ProductivityAfter" and "WorkEfficacyAfter", the skewness and kurtosis provide insight into the distribution characteristics for these variables. For 'WorkEfficacyAfter', the skewness value is more pronounced at -0.903, showing a stronger leftward skewness in comparison to 'ProductivityAfter'. This indicates a more significant elongation on the lower end of work efficacy scores. Nonetheless, it remains within the typical range, suggesting moderate asymmetry. The kurtosis value stands at -0.229, pointing to a distribution that is somewhat flatter than a normal distribution, but still not showing pronounced tails.

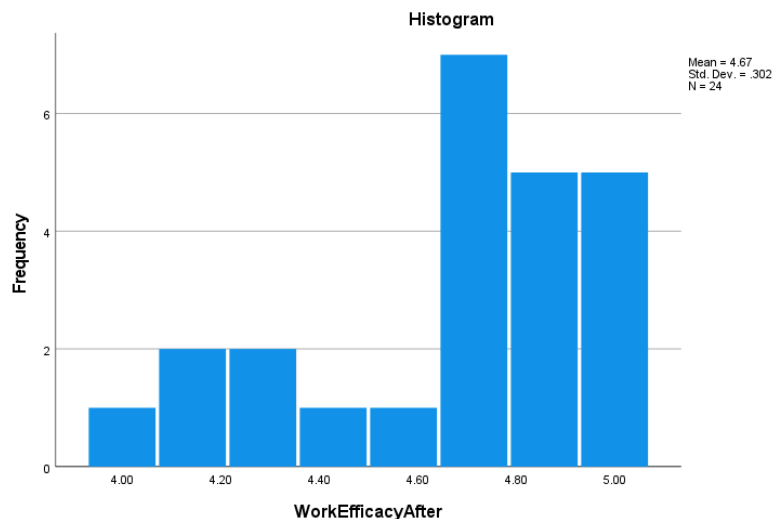


Figure 2.3: Data Distribution for Work Efficacy After Implementation

In the case of 'ProductivityAfter', the skewness is recorded at -0.605, indicating a modest leftward skewness. This suggests a slightly longer tail on the lower end of the productivity scores, but it remains within a normal range, not indicating a severe asymmetry. The kurtosis value is -0.198, suggesting that the distribution is only slightly flatter than a normal distribution, with tails that are neither too heavy nor too light.

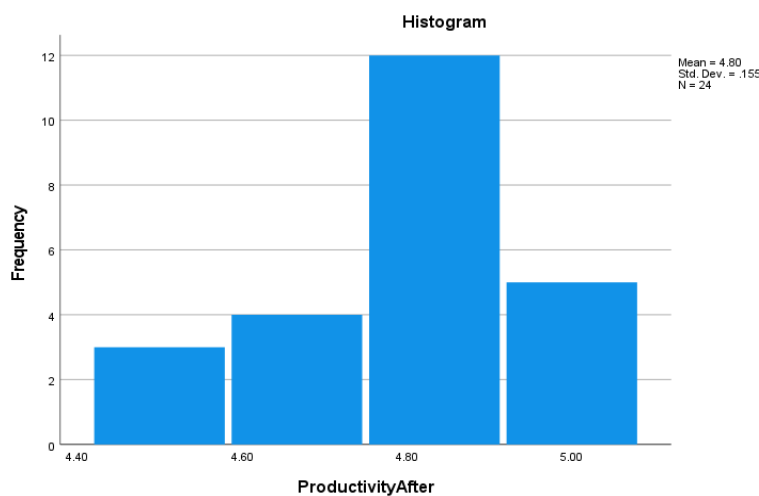


Figure 2.4: Data Distribution for Productivity After Implementation

Both 'ProductivityAfter' and 'WorkEfficacyAfter' have skewness and kurtosis values within the conventional range of normality (± 2), implying that the data for both variables can be assumed to have a reasonably symmetrical distribution around the mean, with no extreme scores distorting the analysis. Thus, the distributions post-implementation for these variables are largely in line with normal expectations, which allows for standard parametric statistical analyses to be applied.

Table 2.8
Normality Test After Implementation

			Statistic	Std. Error
ProductivityAfter	Mean		4.7986	.03169
	95% Confidence Interval for Mean	Lower Bound	4.7331	
		Upper Bound	4.8642	
	5% Trimmed Mean		4.8040	
	Median		4.8333	
	Variance		.024	
	Std. Deviation		.15526	
	Minimum		4.50	
	Maximum		5.00	
	Range		.50	
	Interquartile Range		.17	
	Skewness		-.605	.472
	Kurtosis		-.198	.918
WorkEfficacyAfter	Mean		4.6726	.06170
	95% Confidence Interval for Mean	Lower Bound	4.5450	
		Upper Bound	4.8002	
	5% Trimmed Mean		4.6905	
	Median		4.7143	
	Variance		.091	
	Std. Deviation		.30225	
	Minimum		4.00	
	Maximum		5.00	
	Range		1.00	
	Interquartile Range		.39	
	Skewness		-.903	.472
	Kurtosis		-.229	.918

Given that the dataset exhibits a normal distribution for the purposes of this action research, a Paired T-test analysis was utilized to determine the efficacy of the intervention. The variables were examined both pre- and post-intervention to ascertain any significant differences, allowing for an evaluation of the intervention’s impact. The findings for Paired T-test can be seen in Table 2.9 below: -

Table 2.9
Paired Sample Statistics for Cycle 1

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	WorkEfficacyB	1.2738	24	.29463	.06014
	WorkEfficacyAfter	4.6726	24	.30225	.06170
Pair 2	ProductivityBefore	1.3264	24	.30487	.06223
	ProductivityAfter	4.7986	24	.15526	.03169

The data indicated that the intervention had a significant positive impact on both work efficacy and productivity, as reflected by the increase in mean scores. The higher mean scores for 'WorkEfficacyAfter' and 'ProductivityAfter' suggested that respondents perceived their work efficacy and productivity to have improved after the intervention. Furthermore, the decreased standard deviation for 'ProductivityAfter' implied that the intervention led to more uniform productivity scores among respondents. Generally, the intervention seemed to have effectively enhanced work efficacy and productivity among the respondents, yielding more consistent outcomes in productivity after the intervention. This indicated that the implemented changes had a harmonizing effect on productivity levels and overall perceived work efficacy. Nevertheless, conducting a paired t-test was crucial to statistically confirm these observations.

Consequently, the t-values derived from the paired t-test analysis were utilized to determine the significance of the findings. With a 95% confidence level and 24 degrees of freedom, the threshold for a significant t-value was set at 2.064. According to Table 2.10, the t-value for work efficacy reached 35.498, and for productivity, it was 46.811. These t-values significantly surpassed the critical threshold of 2.064, indicating a marked difference in both work efficacy and productivity before and after the intervention. The reliability of these findings was further substantiated by examining the p-values which for statistical significance to be confirmed, these values had to be lower than the 0.05 threshold. The analysis revealed that the p-values for both work efficacy and productivity were indeed below the 0.01 level, confirming the statistical significance of the results.

Table 2.10
Paired Samples T-Test Result for Cycle 1

		Paired Samples Test								
		Paired Differences						t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	WorkEfficacyB - WorkEfficacyAfter	-3.39881	.46906	.09575	-3.59688	-3.20074	-35.498	23	<.001	
Pair 2	ProductivityBefore - ProductivityAfter	-3.47222	.36338	.07417	-3.62566	-3.31878	-46.811	23	<.001	

Conclusion

At the conclusion of the action research, the researcher had successfully determined the impact of implementing a centralized digital platform on the productivity and work efficacy of officers managing the Commercial Properties Portfolio at both the headquarters and regional levels in FELDA. Spanning ten months, from May 2023 to February 2024, the research utilized a mixed-method approach for data collection. Qualitative methods were employed for identifying problems, while quantitative methods were used for collecting data both before and after the intervention.

The action research's impact, focusing on the implementation of a centralized digital platform to access information on commercial properties at FELDA, can be segmented into two (2) key areas which were the employees and the organization. While the primary objective was to streamline the property information access process, the research also indirectly contributed to organizational improvement. The researcher successfully met the following objectives in the context of this action research: -

- (a) To assess how the decentralized information about commercial properties influenced the productivity and work efficacy of the officers in charge.
- (b) To implement the digital platform at both the headquarters and regional levels to enhance access to property information.
- (c) To evaluate the officers' productivity and work efficacy post-implementation of the platform.

The action research initially focused on the first objective, which involved illustrating the limitations intrinsic in the existing methods of accessing commercial property information. Insights were gathered from the employees' perspectives, leading to meaningful discussions with top management. These discussions considered various factors such as the features required for the proposed platform, the level of authority needed for accessing information, and the identification of departments responsible for maintaining these records. This comprehensive evaluation concluded in the decision to implement a centralized digital platform at FELDA. With the second objective, the researcher moved into the practical phase of implementing the centralized digital platform, aimed specifically at enhancing the accessibility of property information. This phase marked the realization of the digital platform for commercial properties at FELDA, leading seamlessly into the third objective, which was to evaluate the improvements in productivity and work efficacy following the centralized digital platform's implementation.

The action research's impact on both individuals and the organization was profoundly positive. On an individual level, the digital platform significantly eased the process of accessing property information, leading to notable improvements in productivity and work efficacy. The platform's efficiency in providing comprehensive access to commercial property information through a single interface eliminated the cumbersome need to physically handle documents, streamlining work processes. This enhancement in accessibility not only boosted employees' work efficacy but also had a positive impact on their overall job satisfaction. Moreover, the platform indirectly contributed to a rise in productivity by fostering more efficient completion of tasks. It addressed and resolved issues such as the time lost and frustration experienced in navigating scattered property information, while also minimizing the likelihood of errors. These improvements were instrumental in enhancing overall

performance and reducing the risk of inefficiencies or inaccuracies that could negatively impact the organization’s operations.

From the perspective of the organization, the deployment of the digital platform closely aligned with FELDA’s strategic objectives, particularly in terms of diversifying and developing new income streams by leveraging the value of their commercial properties. The ready availability and easy accessibility of information through this platform are crucial, as they play a significant role in facilitating informed decision-making. This is especially important in scenarios where timely and accurate information can impact the effectiveness of strategies aimed at property value maximization and revenue generation. By ensuring that crucial data about commercial properties is readily accessible, the platform not only streamlines processes but also empowers decision-makers with the tools needed for strategic planning and execution in line with FELDA’s broader business goals.

Top management also valued the cost-effectiveness of the intervention, as it required minimal investment compared to other potential solutions. This aspect of the platform was especially appreciated following significant expenditures on other organizational improvements. The effective implementation of the digital platform not only improved employee performance but also aligned with FELDA’s goal of becoming a more efficient and effective organization. Following these findings, management adopted methods to maintain and expand the platform’s use, ensuring it required minimal supervision and resources. This approach allowed for the possibility of future expansions or adaptations of the platform to suit evolving organizational needs. Table 3.1 in the action research summarizes the impact of the digital platform on both individuals and the organization.

Table 3.1
Research impact on individual and organization

Individual	Organization
<p>Enhanced Productivity: Easier access to property information improved individual productivity and work efficacy.</p> <p>Streamlined Processes: Reduced need for physical documentation, saving time and simplifying tasks.</p> <p>Increased Job Satisfaction: The simplified information access improved overall job satisfaction.</p> <p>Efficiency in Tasks: Minimized time wastage and errors, leading to more efficient task completion.</p>	<p>Strategic Alignment: The platform aligned with FELDA’s goal of diversifying income through commercial properties.</p> <p>Informed Decisions: Easy access to data facilitated strategic decision-making and revenue generation.</p> <p>Cost-Effectiveness: The platform’s implementation was financially efficient.</p> <p>Operational Efficiency: The platform streamlined processes and empowered decision-makers with crucial data.</p> <p>Future-Ready Platform: Management strategies for maintaining and expanding the platform ensured its adaptability for future needs.</p>

Upon completing the current research on the implementation of a centralized digital platform for commercial properties at FELDA, several recommendations for future studies emerge. These are based on the findings and challenges encountered during the research process, which included aspects such as the duration of the study, the need for multi-departmental involvement, and the impact of the development on overall job satisfaction.

Acknowledgement

I am grateful for the Director of the Asset Management Department at FELDA's full support and recognition of the potential benefits of my proposal. The engagement with the Commercial Unit Team has been productive, they were pleased to witness significant improvements in productivity and work efficacy following the implementation of the Centralized Digital Platform. The positive changes were evident across various departments, boosting overall morale and confirming the effectiveness of the intervention. I also appreciate the guidance and detailed explanations provided by my supervisor, AP Dr. Nomahaza Mahadi, who has also given us a clear understanding of Action Research I and II.

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