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Bridging Tradition and Technology: The Digital Transformation of Cooperative Practices at Masjid Al-Ala

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ABSTRACT

The *Sistem Koperasi Masjid Al-Ala* is a web-based platform developed to modernize and streamline cooperative management at Masjid Al-Ala in Jitra, Malaysia. By addressing the challenges of ineffective management, limited transparency, and low member engagement, the system aims to enhance operational efficiency, financial transparency, and member participation. Built using the Prototyping Methodology, the system incorporates user feedback to deliver seamless functionalities such as membership registration, investment tracking, and financial reporting. Usability testing, involving 30 participants, highlighted the system's strengths in navigation, design appeal, content clarity, and functionality, with mean satisfaction scores ranging from 4.28 to 4.54 on a 5-point scale. Reliability analysis using Cronbach's Alpha further confirmed the robustness of the evaluation instruments. User feedback underscored the need for additional features, including mobile accessibility and enhanced administrative tools such as advanced search and pagination. The findings demonstrate that the *Sistem Koperasi Masjid Al-Ala* effectively bridges the gap between traditional cooperative management practices and modern digital solutions, paving the way for greater community engagement and operational sustainability. Future enhancements will focus on expanding mobile capabilities and refining administrative functionalities to better serve the evolving needs of the mosque community.

1. Introduction

Masjid Al-Ala, located in Jitra, functions as a dual-purpose institution that integrates religious services with commercial activities, thereby fostering meaningful community connections while fulfilling dual operational roles. Within its region, Masjid Al-Ala has emerged as a pivotal organization, serving both as a unifying center and an operational support network for its members. However, the mosque faces challenges similar to those encountered by various community-based cooperatives, particularly in effectively managing its cooperative initiatives due to the absence of standardized regulatory oversight. These challenges are exacerbated by weak leadership structures, limited

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transparency, and low member engagement, which collectively hinder the operational efficiency of cooperatives in Malaysia [2,16].

In response to these challenges, the *Sistem Koperasi Masjid Al-Ala* was developed to establish a comprehensive cooperative management system. The primary aim of this system is to automate key processes such as membership registration, service payment management, and decision-making, in alignment with the organizational culture of the mosque, which emphasizes active member participation. By leveraging modern technological principles, the system seeks to enhance transparency, efficiency, and community engagement.

The absence of a standardized cooperative management framework has previously hindered the mosque's ability to effectively address economic and social challenges, particularly in areas such as membership engagement, financial transparency, and resource management. These identified gaps in operational efficiency were the core problems the system aimed to resolve. The chosen Prototyping Methodology facilitates an iterative process of continuous user feedback and design refinement, directly aligning with the goal of addressing these operational challenges by ensuring the system's functionalities evolve according to stakeholder needs. Issues such as ineffective coordination mechanisms, lack of transparency, and limited employee engagement have significantly impeded the mosque's cooperative activities. The *Sistem Koperasi Masjid Al-Ala* is designed to address these limitations by enhancing user experience, thereby supporting the mosque's overarching goals of establishing an empowered economy and a cohesive society.

The development of this system as a testbed is guided by three primary objectives:

- To identify the requirements for the Al-Ala Mosque Information Management System.
- To develop the Al-Ala Mosque Information Management System.
- To evaluate the Al-Ala Mosque Information Management System.

Beyond resolving the existing inefficiencies within administrative workflows, this project aspires to promote unity and support within the mosque community, thereby encouraging sustainable development. By facilitating more efficient decision-making processes and optimizing resource utilization, the system aims to strengthen communal bonds and enhance the mosque's adaptability to evolving community needs.

2. Literature Review

The introduction of cooperative systems has brought better ways to run membership programs and money management. Using new web and information tools enables these systems to serve users better by being more efficient and transparent. This study explores the history of cooperative systems while showing how these tools help religious and community organizations today. The research explores web-based cooperative systems for managing memberships and transactions, which help organizations run smoothly while attracting more members. The second research analyzes real-time reports and data monitoring systems to demonstrate how these tools make decisions better and operations clearer. Finally, the review analyses how web development frameworks especially cloud computing help develop platforms that grow as needed and serve multiple user groups. Our analysis demonstrates the evolution of cooperative systems and shows the effects of these innovations on community programs.

1.1 Web-Based Cooperative Management Systems

Online cooperative solutions bring major benefits to membership tracking and financial system management. These platforms switch from hand-processing tasks to automated options which boost

accuracy and save administrative work. The 2018-built iKOOP platform brings together essential cooperative services such as user signup and tracking of money through its system. The platform's intuitive design and robust functionality have set a benchmark for user-friendly cooperative systems, enabling cooperatives to better engage with their members and streamline their operations [9].

MOCCIS in Malaysia adopted computerized systems to improve its business processes, demonstrating the effectiveness of digital solutions in enhancing operational efficiency and member services. Similarly, in the European Union, systems such as the European Cooperative Society's (SCE) platform have also leveraged digital tools to improve transparency and communication with members, showing a wider adoption of web-based cooperative management systems across the globe. In the United States, platforms like Co-Op Web Solutions and the National Cooperative Business Association (NCBA) provide similar features, such as automated financial reporting, member registration, and data analysis, underscoring the global trend towards digitalization in cooperative management. These examples underscore the importance of web-based systems in transforming cooperative management and fostering a more engaged user base.

1.2 Real-Time Reporting and Data Visualization

Real-time data tracking and visualization tools have become essential to run modern cooperative systems effectively. These technologies help administrators take better decisions through real-time access to financial data and transaction records. ANGKASA shows how real-time data sharing improves operations across Malaysian national cooperatives. By centralizing information and enabling dynamic reporting, ANGKASA has streamlined its operations and improved transparency across its member cooperatives [3].

Simple dashboards and visual presentation tools help users better interpret difficult financial data through clear and understandable displays. Users become more involved and trust development rises as the system shows financial data clearly which leads to new cooperative technology innovation.

1.3 Modern Web Development Frameworks for Cooperative Platforms

The use of modern web development platforms has enabled cooperative systems to expand and provide better access globally. Cloud computing, along with web technologies such as HTML, CSS, and JavaScript, facilitates the creation of scalable platforms that can be accessed from multiple devices and user locations. Recent studies have examined web-based cooperative management systems not only in Malaysia but also in other regions, offering insights into global trends. For example, platforms such as iKOOP in Malaysia and Co-Op Web Solutions in the United States have demonstrated the effectiveness of these tools in increasing member engagement, streamlining operations, and enhancing transparency. A comparative analysis of these systems reveals common challenges and innovations that transcend national boundaries, offering valuable lessons for global cooperative management. Users can access these systems through any internet device to register online and receive real-time updates while benefiting from automatic service transactions.

Cloud computing helps cooperatives keep their services running at top levels without interruptions. The combination of HTML and CSS web tools produces flexible interfaces that work well across all types of devices and users. New technological developments enable cooperative platforms to become more flexible and accessible for all users as they change their preferences.

A comparative analysis of web-based cooperative management systems highlights key similarities and differences in the implementation of these systems across different regions. While the Malaysian systems like iKOOP and MOCCIS focus on membership management and financial tracking, global

platforms such as Co-Op Web Solutions and the European Cooperative Society (SCE) place a stronger emphasis on regulatory compliance and cross-border cooperation. These systems also share common challenges, such as the need for scalable solutions that can accommodate growing membership bases and the importance of ensuring data security and user trust in online platforms. By examining these global systems, we gain valuable insights into best practices and innovations that can inform future developments in the Malaysian context.

The challenges faced by community cooperatives in terms of inefficient management, lack of transparency, and low member engagement are well-documented in the literature. For example, Mohamad and Othman [13] argue that the Malaysian cooperative movement is plagued by weak governance structures, outdated practices, and a general lack of research focus. They contend that improvements are long overdue in the sector to address these issues of transparency and member participation [13]. Similarly, Mohamad and Othman [13] point out that many cooperatives suffer from inadequate web presence and poor communication, leading to a lack of transparency and diminishing member trust. These studies underscore the need for modern technological solutions to improve transparency and engagement, which is central to the digital transformation of cooperative practices in mosques.

Digitalisation in cooperatives has been studied extensively, with a focus on improving transparency, enhancing governance, and fostering better member engagement. Zainuddin *et al.*, [15] show that digitisation in cooperatives can significantly enhance their transparency and competitive advantage. However, they caution that challenges such as the digital divide and emerging power asymmetries must be carefully managed [15]. Cham *et al.*, [7] also identify that factors such as competitive pressure, governmental support, and organisational innovativeness are key determinants of successful digital adoption. These studies provide valuable insights into how technology can drive improvements in cooperative management. However, their general focus on cooperatives in a broader sense leaves a gap in understanding the specific needs of mosque-based cooperatives, especially regarding the automation of membership registration and real-time data access.

Specific studies on mosque-based cooperatives, however, begin to address the unique context of religious institutions. Ismail *et al.*, [10] highlight the role of mosque cooperatives as multifunctional business centres that empower communities. They stress the importance of modernising the management systems to include digital tools that allow for better governance, business networking, and community participation [10]. Abdul Kadir *et al.*, (2025) examine the integration of technology in mosque management, particularly focusing on member data profiling and online portals that enhance operational effectiveness and participation. These studies are valuable in understanding the need for digital solutions in mosque cooperatives, but they do not delve into the specifics of automating processes such as membership registration or financial reporting, which are critical to the ongoing study of the *Sistem Koperasi Masjid Al-Ala*.

Further literature on the digital transformation of cooperatives explores the relationship between technology and sustainable development. Antonucci *et al.*, [11] argue that digitalisation has the potential to transform cooperative enterprises, though it also brings new challenges, particularly regarding member participation and the potential for diminishing the cooperative's democratic values [11]. Similarly, the International Monitor (2022) discusses the opportunities and risks associated with digital tools in cooperatives, emphasizing the importance of balancing technological innovation with cooperative values of transparency and democratic decision-making [8]. These studies underscore the need to carefully consider the socio-economic implications of implementing digital systems in mosque cooperatives.

In the context of policy and technology adoption, national strategies such as Malaysia's MyDIGITAL initiative are pushing for digital transformation in cooperatives [12]. This initiative aligns with global trends that stress the importance of digitalisation for competitiveness in the cooperative sector [4]. However, these macro-level insights often fail to address the practical realities of implementing technology in smaller, community-based cooperatives, such as mosque-affiliated cooperatives. This study's focus on *Sistem Koperasi Masjid Al-Ala* aims to bridge this gap by offering a concrete example of how digital solutions can be used to enhance member participation and financial transparency.

While the literature offers a broad foundation on the role of digital transformation in cooperatives, the specific application to mosque-based cooperatives remains underexplored. Most studies focus on large-scale cooperatives or general frameworks for digital adoption, with limited attention to the unique challenges of religious institutions. Studies begin to address the context of mosque cooperatives but stop short of exploring the technicalities of digital systems that automate membership and financial processes. Moreover, some of the sources reviewed, such as the International Monitor report (2022), provide useful theoretical insights but lack practical, implementation-focused research on mosque cooperatives. Therefore, this paper contributes to the literature by addressing a critical gap in both the technological and operational aspects of cooperative management in religious institutions, particularly through the *Sistem Koperasi Masjid Al-Ala*.

Previous research has highlighted challenges such as inefficient management, lack of transparency, and low member engagement in community cooperatives [1], yet few studies have explored how digital solutions can directly address these issues in the specific context of mosques. While systems like iKOOP and MOCCIS have demonstrated improvements in cooperative management in Malaysia [1], these systems have generally focused on membership management and financial tracking, without sufficiently tackling the deeper issues of member participation and real-time data accessibility. This study, through the development of the *Sistem Koperasi Masjid Al-Ala*, fills this gap by focusing on automating membership registration, financial reporting, and fostering member engagement through transparent, real-time data access. Furthermore, the research utilizes the Prototyping Methodology to ensure that the system evolves based on continuous user feedback, a significant gap in many previous studies, which often lacked iterative development processes [6]. Therefore, this paper bridges a critical gap in both the technological and operational aspects of cooperative management systems in religious institutions.

2. Methodology

The Prototyping Methodology (as in Figure 1) was selected for its focus on iterative design and continuous user feedback. This approach is particularly well-suited for addressing the identified gaps in cooperative management, as it allows for frequent refinements based on real user experiences. By testing and refining prototypes in response to usability feedback, the methodology ensures the final system aligns with the operational needs of the mosque, addressing issues such as low member engagement and administrative inefficiency [5]. This approach uses a defined series of steps starting with requirements gathering to identify user needs, along with a quick design for system framework creation. Prototyping occurs in the development phase to create usable functional representatives of core features that receive user evaluations aimed at gathering feedback about both product usability and operational functionality. User feedback collected during this stage directs the prototype refinement process to make improvements that strengthen system execution and keep it consistent with stakeholder demands. The system receives implementation and maintenance after

final development which ensures both long-term operational functionality and flexibility. Such development methodology limits project risks and builds usability, and produces superior outcomes by enabling stakeholders to validate and continuously refine applications before complete release [5].

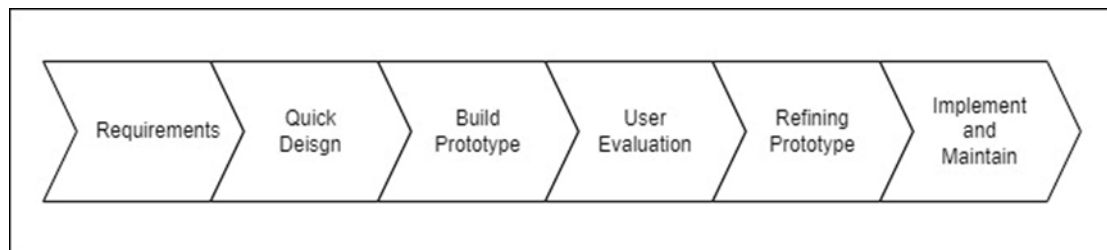


Fig. 1. Prototyping methodology

2.1 Requirements Gathering and Analysis

The development of the Al-Ala Mosque cooperative system began with a comprehensive requirements gathering phase. During this stage, stakeholders, including mosque administrators and cooperative members, were engaged through interviews and focus group discussions. The primary goal was to identify the system's functional and non-functional requirements. Key functionalities identified included membership registration, automated savings tracking, financial reporting, and real-time data access for users and administrators. Non-functional requirements focused on system scalability, security, and accessibility across different devices. This phase was critical as it laid the foundation for all subsequent design and development work, ensuring that the system would meet the actual needs of the users. The project team conducted interviews and focus group discussions with mosque administrators as well as cooperative members and potential users to understand stakeholder needs. A study of the mosque's current operations revealed operational shortcomings and current difficulties within cooperative practices. The primary requirements identified included:

- A streamlined membership registration process.
- The system includes the automation of savings tracking functions alongside financial reporting capabilities.
- Real-time data access for users and administrators.
- User-friendly interfaces accessible across devices.

The collection of requirements became a detailed specification that established the foundation for future development phases.

2.2 Quick Design

In the Quick Design phase, the development team worked on creating wireframes and mockups that represented the essential features of the system. The system's key components, including membership registration forms, financial transaction management, and reporting modules, were outlined in these initial designs. The designs focused on user interface elements, ensuring they were intuitive and easy to navigate. The mockups were then shared with stakeholders for initial feedback. This phase allowed for early validation of design concepts, ensuring alignment with user expectations. Based on the feedback, adjustments were made to enhance usability and functionality. Design tools helped generate wireframes and mock-ups that depicted essential components between membership registration forms and transaction management dashboards and reporting modules. The designers showed the concept designs to stakeholders who evaluated them based on

functional requirements and accessibility standards as well as attractiveness design factors. System design evolved through stakeholder feedback which ensured all elements followed user expectations [14].

2.3 Build Prototype

In the Build Prototype phase, the system's basic features were developed into a functional prototype. Using modern web technologies like HTML, CSS, JavaScript, and cloud computing, a working version of the system was created. This prototype included key functionalities such as membership registration, investment tracking, and basic reporting tools. The prototype allowed stakeholders to interact with the system and provide valuable feedback on its usability and performance. This phase was crucial for identifying and addressing any technical issues, as well as refining the user interface based on real-world usage. This phase utilized modern web technologies, including:

- Cloud Computing: User activity scaling and reliability improvements are attained through system implementations that adapt to enhanced user numbers.
- HTML, CSS, and JavaScript: For building a responsive and visually appealing user interface.
- Database Integration: Security measures were installed for creating member records along with investment information and transaction history storage in the database.

Membership registration, together with login features and authentication requirements and data tracking, and financial reporting, are main components of the prototype. User evaluation took place after primary testing that emphasized detecting and correcting technical problems.

2.4 User Evaluation

The User Evaluation phase involved a thorough usability testing process with 30 participants, including both mosque administrators and cooperative members. Participants engaged with the prototype by performing tasks such as member registration, tracking investments, and generating financial reports. Observations, surveys, and task performance metrics were collected to assess system usability and functionality. This phase provided critical insights into how well the system met user needs and highlighted areas for improvement, such as enhancing the search functionality for administrators and adding features like pagination for better data management. Test participants engaged with the system through operations such as member registration, alongside investment tracking and report creation. Data was collected through:

- Observation: Researchers tracked system usability problems by observing users' interactions with the software.
- Surveys: Staff gathered user surveys and assessments which measured both convenience of navigation and user contentment and system experience.
- Task Performance Metrics: The workflow measured users' performance through task completion statistics as well as actual task duration and the number of detected errors.

The evaluation phase generated essential feedback about which system features performed well and which areas needed adjustments.

2.5 Refining Prototype

T Based on the feedback gathered during the User Evaluation phase, the prototype underwent refinements. The system's user interface was improved by optimizing navigation paths and ensuring consistency across different pages. Technical issues identified during testing were addressed, and additional features, such as customizable reports and advanced search capabilities, were incorporated. These refinements ensured that the system better aligned with user expectations and operational requirements, making it more intuitive for both administrators and members. Key enhancements included:

- Improved User Interface: The interface received improvements through navigation optimization and uniformity across all navigation paths.
- Bug Fixes: Test-discovered technical problems received fixes during this phase.
- Additional Features: Incorporating user-requested functionalities, such as customizable reports and enhanced search capabilities.

System development through iterative prototyping helped separate features evolve toward meeting the expectations of users.

2.6 Implement and Maintain

In the final Implement and Maintain phase, the fully developed system was deployed in phases to ensure a smooth transition. A small group of users was selected for initial deployment to gather feedback and resolve any remaining issues before the system's full-scale launch. After deployment, the system was maintained through regular updates and support. User feedback was continuously collected to identify areas for improvement and ensure the system remained responsive to the evolving needs of the mosque community. Maintenance focused on adding new features, such as mobile accessibility and advanced administrative tools, to further enhance system functionality. System functionality alongside security and performance requirements received pre-deployment examination for operational readiness. A limited user group participated in an initial system launch to collect vital feedback used for alterations before general deployment. A maintenance plan was created after deployment to support the system's ongoing performance. The maintenance process focused on two main aspects, which included periodic functional upgrades and persistent issue monitoring, followed by reliable user support. The cooperative received user input regularly to develop future functional improvements that enable the system to adapt to their changing needs.

3. Analyst and Result

Usability testing and field evaluation of *Sistem Koperasi Masjid Al-Ala* incorporated testing with 30 participants to yield important information about the system regarding its navigational capabilities and structural components, and interactive content features. A comprehensive evaluation emerged from the quantitative rating together with qualitative feedback.

The ratings scale used in the usability testing and evaluations was a 5-point Likert scale, where participants rated various aspects of the system based on their experiences. The scale was as follows:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

This scale was applied to measure satisfaction in various areas such as navigation, design appeal, content clarity, system functionality, and overall user experience. The results were then analyzed using mean scores and standard deviations to assess overall user satisfaction and identify areas for improvement. This scale allowed us to quantitatively evaluate user feedback and gauge the system's effectiveness in addressing the identified gaps in cooperative management.

The feedback from users, based on the 5-point Likert scale, shows that the system's intuitive navigation and user-friendly interface have directly contributed to addressing the issue of ineffective management. A majority of users rated the system's information accessibility as either 4 or 5 (agree or strongly agree), with 66.7% of users finding the navigation easy. This suggests that the system has improved accessibility and reduced administrative workload, directly addressing key challenges in cooperative management.

3.1 Demographics

The participant population included diverse demographics to obtain thorough feedback. The voting participants numbered most at 50% from the 18–24 age group with 23.3% coming from the 45–54 age group. The remaining participant demographics consisted of 10% within the 25–34 age range while 3.3% were 55 years or older and 13.3% resided between 35 and 44 years. The participant demographic contained an equal number of men and women at 50%. Sixty percent of sample members attended school as their primary activity followed by employees who worked full-time at 26.7 percent of the sample and very few worked as retired persons or part-time workers. By having diverse participants, we achieved feedback representation from multiple user groups.

3.2 Navigation and Usability

The results from usability testing clearly demonstrate how the system's intuitive navigation and user-friendly interface address the identified problem of ineffective management. The Prototyping Methodology's focus on iterative refinement enabled us to enhance accessibility and reduce administrative workload, directly contributing to the resolution of the operational inefficiencies that were previously observed. By aligning the system design with user feedback, we successfully addressed core challenges such as low member engagement and inadequate transparency in the cooperative's operations. With 66.7% of users rating information accessibility as easy, the system has improved transparency by making essential data (e.g., financial reports and membership details) easily accessible to both administrators and members. This enhanced transparency fosters greater member trust and engagement. Additionally, the high satisfaction ratings for website organization (4 or 5 from 86.7% of users) indicate that the system's clear structure has facilitated easier participation, addressing the previously low member engagement.

3.3 Design and Visual Appeal

Users appreciated the system design improvements and aesthetic elements. Survey participants gave overall website design an average rating of 4 but also established high satisfaction by rating it at 5 by 36.7% of participants. A substantial number of users assigned text readability five stars (53.3%) along with forty-three percent who rated it four stars. Almost all respondents evaluated the colour scheme along with visual elements positively by rating them at least 4 on a 5-point scale. The system

management effectively combines functional demands with attractive elements based on survey responses.

3.4 Content and Instructions

Respondents identified content clarity alongside closure as strengths within the system design. Around fifty percent of participants considered the information clarity about investments and donations to be a four out of five while thirty percent assigned a perfect five. Survey participants viewed instruction procedures for submitting investments positively as indicated by 50% rating them 4 and another 33.3% rating them 5. The assessment results showed high marks for content completeness since 43.3% respondents graded it as 5 and an additional 50% chose a rating of 4. Only a few participants (3.3%) experienced difficulties comprehending particular pieces of information in the system. These data points show parts of the system that require optimization.

3.5 System Functionality

Users gave high marks for the system's basic capabilities by rating its transaction accuracy and quick response time highly. Acceptance studies show that 96.1% of users rated the system's transaction details accuracy at level 4 or above. 60% of participants evaluated system responsiveness at point 5 and an additional 36.7% rated it at 4. User assessment of system stability during use demonstrated positive results as 60% rated the system as very stable (5) while another 33.3% considered it stable (4). Users rated the system's functional aspects highly because it exceeded their expectations in every measure except one, no ratings fell below 3.

3.6 Reliability Analysis

Based on the Table 1, the reliability analysis of the questionnaire was conducted to ensure consistency in measuring the constructs: Navigation and Usability, Design and Visual Appeal, Content and Instructions, and System Functionality. The Cronbach Alpha scores demonstrated acceptable to excellent reliability patterns between 0.754 and 0.860 throughout all measurement constructs. Item D4 from Design and Visual Appeal received removal after weak corrected item-total correlation (0.432) which enhanced Cronbach's Alpha to 0.793. Analyses of System Functionality led to item F2 deletion because it produced a corrected item-total correlation value of 0.299 which enhanced the overall reliability to 0.754. The modifications verified that the questionnaire's remaining items provided reliable measurements which established the robustness of the questionnaire in its assessment of system usability alongside its design content and functionality.

Table 1
Reliability analysis

Construct	Item	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha if item deleted
Navigation and Usability	N1	.819	.720	.759
	N2		.635	.777
	N3		.557	.801
	N4		.499	.817
	N5		.580	.762
	D1		.592	.757
	D2		.5519	.782

Design and Visual Appeal	D3	.793	.616	.737
	D4		.432	.793
	D5		.714	.685
Content and Instructions	C1	.860	.690	.828
	C2		.700	.825
	C3		.562	.858
	C4		.759	.809
	C5		.682	.829
System Functionality	F1	.754	.568	.
	F2		.299	.754
	F3		.521	.712
	F4		.525	.712
	F5		.591	.673

3.7 Descriptive Analysis

Based on Table 2, the descriptive analysis provides an overview of participants' ratings for the four constructs: Navigation and Usability, Design and Visual Appeal, Content and Instructions, and System Functionality. Participants used the 1 to 5 Likert scale to rate each construct. The standard deviation (SD) measurement reflects participant response variance and lower figures signify uniform responses among participants.

Participants demonstrated the most satisfaction with System Functionality since its mean score reached 4.54 (SD = 0.404) indicating strong approval of system reliability and responsiveness. The system's aesthetics and layout received positive feedback as Design and Visual Appeal scored 4.38 (SD = 0.499) by participants. The assessment of system navigation and usability yielded a mean rating of 4.29 together with 0.492 standard deviation showing smooth operational ease. Users evaluated the content clarity and instruction sufficiency through a mean score of 4.28 with a standard deviation of 0.570.

A combination of high mean values and low standard deviations within all constructs shows both positive user satisfaction and widespread agreement among respondents about the *Sistem Koperasi Masjid Al-Ala*.

Table 2

Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MEAN_NAVIGATION	30	3.40	5.00	4.2933	.49196
MEAN_DESIGN	30	3.40	5.00	4.3800	.49924
MEAN_CONTENT	30	3.20	5.00	4.2800	.56957
MEAN_FUNCTION	30	3.80	5.00	4.5400	.40395
Valid N (listwise)	30				

4. Discussion

The *Sistem Koperasi Masjid Al-Ala* implements essential valuable features by offering easy-to-use cooperative functions which support member enrolment while monitoring investments and creating financial documents. Based on the usability testing results and user feedback, the system demonstrated strong performance across key constructs: Navigation and Usability, Design and Visual Appeal, Content and Instructions, and System Functionality. Users revealed high satisfaction with the

system since they maintained consistent mean scores between $M = 4.28$ and $M = 4.54$ while showing low standard deviation in these measurements.

Results from reliability analysis confirmed the questionnaire's validity for measuring user satisfaction because Cronbach's Alpha scores surpassed 0.7 across every construct thereby demonstrating good to outstanding internal reliability. A small-scale refinements process occurred through elimination of items D4 and F2 to elevate measurement reliability levels during the analysis period. The evaluation results demonstrate both the strong system performance and the dependable nature of feedback obtained from users.

User feedback highlighted areas for improvement, including the clarity of investment details and the need for a mobile application. These areas are crucial for improving member engagement and transparency. Simplifying the investment function and providing step-by-step guidance will make it easier for members to engage with the system, ultimately boosting participation. The addition of a mobile app will allow members to manage their cooperative activities on-the-go, further increasing engagement. These enhancements, alongside more robust administrative tools like advanced search and pagination, will ensure that the system better serves both members and administrators, addressing the initial challenges of low member engagement and inefficient management.

Administrative users provided feedback about backend execution processes which identified specific regions requiring improvement. Administrative users found it complicated to search for specific records because the current admin interface search feature proved limited in performance. Organizational performance will improve when administrators gain better control through filtering and advanced search techniques. The challenge of managing large datasets became more difficult because pagination features did not exist in the data display. The addition of pagination into the system would provide smooth navigation pathways while giving administrators better record management capabilities through controlled interface density.

For instance, while the system has demonstrated effectiveness in addressing issues of transparency and engagement, it does not address the practical difficulties associated with scaling the system across multiple mosques with varying levels of technological infrastructure. Additionally, the cost implications of system development, deployment, and ongoing maintenance are not fully explored, particularly in the context of resource-constrained religious institutions. The challenges posed by user diversity, including varying levels of digital literacy among mosque members. As a result, the system's adoption may face resistance from less tech-savvy members or administrators, limiting its overall impact. Furthermore, the system's reliance on mobile and internet access could exclude members in regions with limited connectivity, highlighting the need for a more comprehensive analysis of contextual constraints that could hinder the system's broader implementation and effectiveness.

The findings from the development of the *Sistem Koperasi Masjid Al-Ala* have significant implications for theory, research, and policy in the context of digital transformation in religious and cooperative settings. From a theoretical standpoint, the study contributes to the growing body of knowledge on the integration of digital technologies within community-based organizations, particularly religious institutions, highlighting how modern technological solutions can resolve traditional governance and engagement issues. Research-wise, the study opens new avenues for investigating the effectiveness of web-based platforms in fostering member participation, enhancing transparency, and improving operational efficiency in smaller, resource-constrained environments. It also underscores the need for more in-depth exploration into the barriers to technology adoption, such as digital literacy, infrastructure constraints, and varying levels of user engagement. For policy, the findings suggest that governments and religious organizations should prioritize investments in digital infrastructure, especially in rural and underserved areas, to ensure that cooperative systems

can benefit from the efficiency and transparency that technology offers. Furthermore, policies aimed at providing training for religious leaders and community members on digital tools could facilitate smoother transitions and more successful adoption of such systems.

In conclusion, the *Sistem Koperasi Masjid Al-Ala* successfully created its user-friendly cooperative management system but needs user and administrator feedback to improve future versions. The systematic enhancements to investment details combined with mobile app integration and web clarity improvements alongside better search capabilities and pagination functions will both boost user quality and sustain system adaptability toward evolving community requirements. The enhanced features aim to make the cooperative management system both reliable and accessible to its users.

5. Conclusion

The development and implementation of the *Sistem Koperasi Masjid Al-Ala* represent a significant advancement in modernizing cooperative management practices for religious institutions. By addressing the challenges of ineffective management, limited transparency, and low member engagement, the system has successfully streamlined administrative workflows and enhanced member participation. The web-based platform, built using the Prototyping Methodology, has proven effective in automating key processes such as membership registration, investment tracking, and financial reporting, thereby aligning with the mosque's objectives of fostering an empowered economy and a cohesive community.

Usability testing and user feedback revealed high levels of satisfaction across multiple dimensions, including navigation, design appeal, content clarity, and system functionality, with mean satisfaction scores ranging from 4.28 to 4.54. The reliability analysis further validated the robustness of the evaluation instruments, confirming the accuracy and consistency of the user feedback collected. Despite these positive outcomes, user feedback highlighted areas for further improvement, particularly in enhancing investment management functionalities, integrating a mobile platform, and optimizing administrative tools such as search capabilities and pagination. Addressing these areas will be crucial for ensuring the long-term adaptability and effectiveness of the system.

Based on the given results and objectives in the paper, the findings clearly show that the *Sistem Koperasi Masjid Al-Ala* has successfully achieved its core goals. The system addressed the operational inefficiencies, low member engagement, and lack of transparency in the mosque's cooperative management through its automated processes like membership registration, investment tracking, and financial reporting. The usability testing results demonstrated high user satisfaction, with mean satisfaction scores ranging from 4.28 to 4.54, reflecting improvements in areas such as navigation, design appeal, content clarity, and functionality. The feedback highlighted critical areas for further refinement, including the need for mobile accessibility, better administrative tools, and clearer investment management functionalities. Furthermore, the Prototyping Methodology allowed for continuous system improvement based on user feedback, ensuring that the system evolved to meet the mosque community's needs. These findings confirm that the system successfully bridges the gap between traditional management practices and modern technological solutions, offering a model for enhancing transparency and community engagement in religious institutions.

Future research on the *Sistem Koperasi Masjid Al-Ala* could focus on evaluating its long-term impact on both operational efficiency and member engagement. A key direction would be to conduct longitudinal studies that track the system's effects over several years, assessing not only its technical performance and scalability but also its influence on the mosque community's social and economic

dynamics. Future studies could examine how the system influences member participation, decision-making processes, and the development of a cooperative culture within the mosque. Additionally, researchers could explore the broader impact of digital transformation in religious settings by comparing the *Sistem Koperasi Masjid Al-Ala* with similar initiatives across different cultural and religious contexts, assessing factors such as adaptability, user acceptance, and integration with other community-based technologies. To deepen the understanding of digital transformation in these settings, studies could also investigate the long-term sustainability of the system, focusing on issues such as cost-effectiveness, system maintenance, and the continuous alignment of technology with evolving user needs. Finally, research could explore how policies related to digital inclusion, infrastructure development, and training can enhance the adoption and effectiveness of such systems in religious organizations.

In conclusion, the *Sistem Koperasi Masjid Al-Ala* serves as a benchmark for digital transformation in cooperative management within religious organizations, demonstrating how the integration of modern technologies can overcome traditional management challenges. Future enhancements focusing on mobile accessibility, improved investment functionalities, and advanced administrative tools will not only expand the system's capabilities but also strengthen its role in fostering sustainable development within the mosque community. The findings of this research underscore the potential of web-based cooperative systems to revolutionize the management practices of religious institutions, paving the way for further studies on the integration of digital solutions in community-based organizations.

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