

## Research Article

# Designing an Accounting Information System to Facilitate Zakat Calculations for Jam'iyyah Businessmen (Persis Banjaran)

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**Abstract.**

The information system was designed and developed on Jam'iyyah (Persis Banjaran) businessmen in Bandung Regency. One of the main problems faced by these business actors is the inability to record economic transactions and compile them in adequate financial reporting to determine how much zakat should be paid accurately. This is due to the lack of knowledge of business actors about the importance of good financial reporting as a basis for calculating zakat by the Al-Quran and Al-Hadist. Designing the correct accounting information system and developing it according to the needs of business actors can solve the problems faced by Jam'iyyah (Persis Banjaran) business actors. The design and development of this accounting information system resulted in an application named Kaashir as a result of excellent thinking and collaboration between the community services team at Universitas Islam Bandung (Unisba) and the information technology development team from the Persis Banjaran Youth group. The accounting information system design process has progressed to the application development stage, specifically with the Kaashir application. The current stage of development involves beta testing to evaluate the application's preparedness for the implementation stage, which will encompass a broader range of users in the coming year. The development of accounting information systems in the form of the Kaashir application will continue so that all business people in Indonesia can widely use this application.

**Keywords:** accounting information systems, businessmen, zakat calculation

## 1. INTRODUCTION

Banjaran sub-district has a total of 74 household industries [1]. Home industry development is inseparable from business people's creative ideas in achieving a decent life. These business people are primarily members of Jam'iyyah PC Persis Banjaran, located on Jalan Pajagalan 115 Banjaran. Jam'iyyah PC Persis Banjaran was established with the vision o"The realization of Al-Jama'ah which has excellence and exemplary in implementing the Qur'an and As-Sunnah in the fields of Education, Da'wah, Social Community, and Economy in 2030." Several missions were carried out to realize this

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vision, one of which was “Implementing the Jam’iyyah Jihad Programme in the form of the main themes of the five-year Jihad Plan”. Furthermore, the Jam’iyyah jihad program related to this PKM is the jihad program in the social and economic work field chaired by Mr. Roni, SE, MM. One of the main jihad programs in social and economic work is encouraging members, congregations, and people to develop Islamic business/commerce so that successful business people emerge.

Based on the results of a Zoom meeting on 28 November 2022 with one of the deputy heads of the field of social and economic work of Jam’iyyah Persis Banjaran and 3 business people of the Jamiyyah youth group (Persis Banjaran) that one of the main problems faced by Jam’iyyah Persis Banjaran business people is the problem of designing an accounting information system which can then produce quality financial statement information with accurate dimensions so that they can easily calculate the amount of zakat that must be paid annually. Currently, the business actors of the youth group still use a makeshift information system or just exist, even though many business actors do not have a systematic recording of purchases, sales, and finances.

So it is challenging to calculate zakat; in other words, they do not find an accurate figure of the amount of zakat they have to pay. Some youth business actors systematically record financial transactions and financial reporting by designing a simple accounting information system. However, it is felt that there are still many shortcomings, so several periods of effort to develop the system have stopped. In designing the accounting information system, the youth group business actors (Persis Banjaran) should have a spirit and sincere soul for the benefit of the people, especially in the obligation to pay zakat with accurate calculations. Allah has said in QS. Al-Bayyinah / 98 verse 5 means: “Yet they are not told except to worship Allah by purifying obedience to Him in (practicing) a straight religion, and that they establish prayer and pay zakat, and such is the straight religion”. The message in the verse should be the spirit of youth group business actors (Persis Banjaran) and continue to be an awareness of business management with the design of an adequate accounting information system.

However, in reality, many business actors still do not balance business management with the development of adequate accounting information systems because they are too focused on worship content [2]. The lack of attention to the administrative aspects of financial management, especially on the accounting information system, is reflected in the conclusion of the meeting results through the Zoom meeting that the financial information report is still made “simply” or as long as it exists so that the calculation of zakat is not based on accurate financial accounting information. One of the reasons is

that business management is still based on a “full trust” approach. Business managers are considered unlikely to abuse the trust given to them because they have the same religious background and interests. The Community Partnership Programme initiated by the Community Services institution of Unisba through accounting training activities and assistance in designing accounting information systems as a means of calculating zakat is expected to be able to provide the best solution to the difficulties faced by the Jam’iyyah Persis Banjaran youth group business actors.

Several previous studies related to training and assistance in recording simple book-keeping and preparing financial reports for several business actors in several MSMEs have been carried out in various regions in Indonesia. Conducted development of accounting information systems in Wajak Lor village in Bali to improve internal control of village financial management [3]. In the same year, carried out the design of a sales accounting information system by utilizing the Microsoft Visual Basic 6.0 Program at an SMEs in South Sumatra to help make sales reports more precise, fast, accurate, and relevant [4]. Likewise, Syahrenny, et al. (2022) [5] helped one of the MSMEs in Surabaya engaged in manufacturing (Beauty Lily Collection) through the development of an inventory accounting information system. Next Hendri, et al. (2022) [6] assisted an MSME called Otak-Otak Regata in Batam City in designing and implementing an accounting information system. The assistance was carried out to facilitate MSMEs in recording transactions and financial reporting by standards.

In 2019, Wakhdan & Aditya [7] researched the Implementation of Sharia Accounting Systems in Sharia Financing Savings and Loan Cooperatives in Purworejo Regency with the results of research that only 40% of members of the Purworejo Regency Sharia Financing Savings and Loan Cooperative have the financing process up to reporting financing by the Introduction to Financial Accounting Standards 101, PSAK 102 and PSAK 102.

PSAK 107. Tubarad & Desriani (2019) [8] have also conducted training and preparation of financial reports using financial applications based on PSAK EMKM and PSAK Syariah at BMT Muhammadiyah in the Tulang Bawang Region with the aim that BMT managers can compile and report each transaction, especially zakat by PSAK 109. In 2014, Fu [9] researched the Design of the Accounting Information System of Modern Enterprises under the Informatization Environment. The results of his research state that hardware and software are two essential components in designing accounting information systems.

Based on the results of the research mentioned above, the problem of recording purchases, inventory, and even sales that are not good will result in financial reporting that is unable to support optimal business decision-making in achieving good performance and even the most essential thing as Islamic entrepreneurs they are unable to produce calculations of how much zakat they have to pay when the conditions have been met. The number of business actors from Jam'iyah Persis Banjaran who can still survive now indicates the willingness and high business spirit of business actors to continue learning to improve the quality of life and the nation's economy. However, these business actors still need to be assisted in maintaining their enthusiasm for advancing a growing and sustainable business through increased understanding and practice of good financial recording and reporting in an adequate accounting information system design to produce accurate zakat calculations for the sustainability of their business that Allah SWT blesses.

## 2. METHODS

The method used in this research is a descriptive-analytical method with data collection techniques in the form of in-depth interviews with several business people. The process of designing an accounting information system is carried out in stages: development of the application named Kaashir version 1.0 with recording functions and business activity reports, testing for limited users and application improvements based on feedback (alpha testing), re-testing of the Kaashir version 1.0 application with wider users (beta testing), user support and application maintenance. During mentoring, the Community Services team also used post-test and pre-test tools.

In the application development stage, the features designed are: master data, stock items, procurement, sales, cash flow, sales activity report, simple financial report, zakat calculation. While testing the results of the design and development of an accounting information system that was successfully realized in the form of an application Kaashir, two tests were carried out, namely in the form of alpha testing and beta testing. Alpha testing is one type of user acceptance testing that is carried out on a limited basis.

This test is carried out within a limited internal scope. In alpha testing, internal developer staff only carry out product or application testing. This test is usually done to find basic product bugs or defects. Whether the basic functions are working is ensured through this one test. Alpha testing was carried out with a total of 5 business participants from the Persis Banjaran youth group. At the same time, beta testing is

done by involving real users. Product or application developers will ask several users to test functionally functional products. In this study, beta testing was carried out with real users, totalling ten business people. Before alpha testing and beta testing, the research team explained the material related to increasing understanding of the knowledge of recording economic transactions and adequate financial reporting to facilitate the calculation of zakat from trading businesses carried out by businessmen.

The research team used pre- and post-test instruments to determine the extent of the businessmen’s understanding of the accounts commonly used in recording and/or accounting reporting. This research was conducted on businessmen in the Jam’iyah Persis Banjaran environment which is located at Jl. Pajagalan No.115, Banjaran, Bandung Regency in the period February to August 2023.

### 3. RESULTS AND DISCUSSION

A series of activities carried out in the process of designing this accounting information system can be seen in the table below:

TABLE 1: System Designed and Development Schedule and Activities.

No	Activities	Months-						
		1	2	3	4	5	6	7
1	Application Requirements Analysis	█						
2	Application Design		█					
3	Application Development (Iteration 1)			█				
4	Alpha Testing				█			
5	Improvement and Deployment (Iteration 2)					█		
6	Beta Testing						█	

In the development stage of Kaashir application version 1.0, the design of Kaashir application can be described as follows:

The result of application development includes:

The new structured, can be described:

The registration and activation process, can be described:

Out-of-Stock Notifications and Settings, can be described:

Financial flows, can be described:

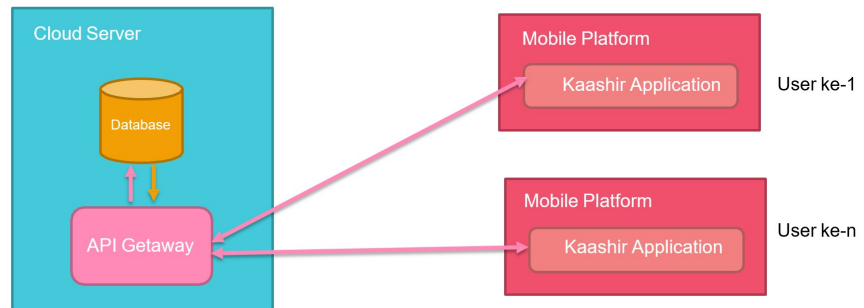


Figure 1: Application architecture of Kaashir.

☰ Kaashir	
Dashboard	
<b>Transaksi</b>	
Pengadaan	
Penjualan	
<b>Keuangan</b>	
Arus Uang	
Zakat	
Rekap Utang Piutang	
<b>Master</b>	
Data Barang	
Stok Barang	
Data Pelanggan	
Data Supplier	
<b>Laporan Aktivitas</b>	
Laporan Penjualan	
Laporan Pembelian	
Laporan Barang Terjual	
Profil	

Figure 2: The new structure of Kaashir application.

Zakat paying/calculation process, can be described:

The report of debt and credits, can be described:

The supplier data, can be described:

It can further be explained that based on the material presentation activities related to increasing understanding of the recording of economic transactions and adequate financial reporting, it can be used as the basis for calculating zakat from trading activities carried out by Jam'iyah Persis Banjaran businessmen. Testing the results of the design and development of accounting information systems in the form of Kaashir applications in alpha and beta testing. The presentation of accounting understanding material and alpha testing activities were conducted at the Banjaran Persis PC Office on Saturday,

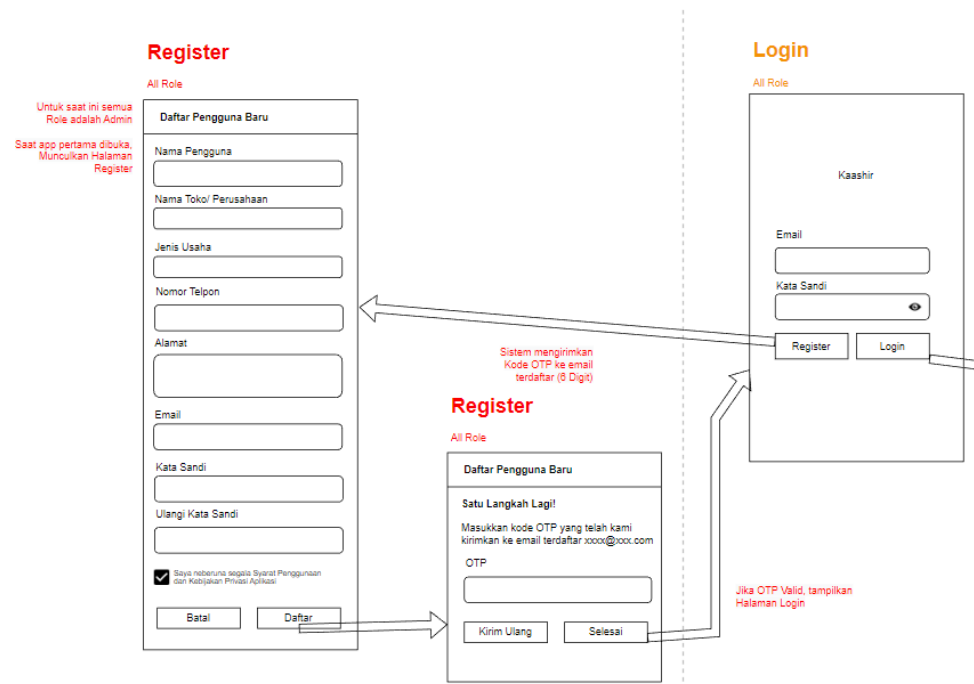


Figure 3: The registration and activation process of Kaashir application.

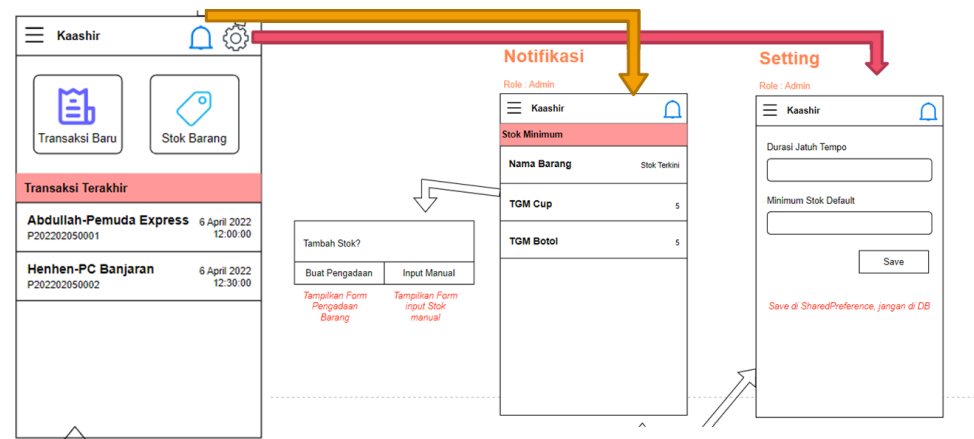


Figure 4: The out-of-stock notifications and setting of Kaashir application.

15 April 2023, from 08.00-12.00 with 5 participants from the PC Youth group. Persis Banjaran. Along with the presentation of the material, the research team distributed pre-test and post-test instruments to explore the increase in understanding of business actors related to recording economic transactions and adequate financial reporting.

Based on the results of alpha testing, we can explain further as follows:

Functional Testing of the design and development of the AIS produced under the name Kaashir application, the results are:

25 out of 26 features tested all work well on smartphone devices, although there are some notes from the participants.

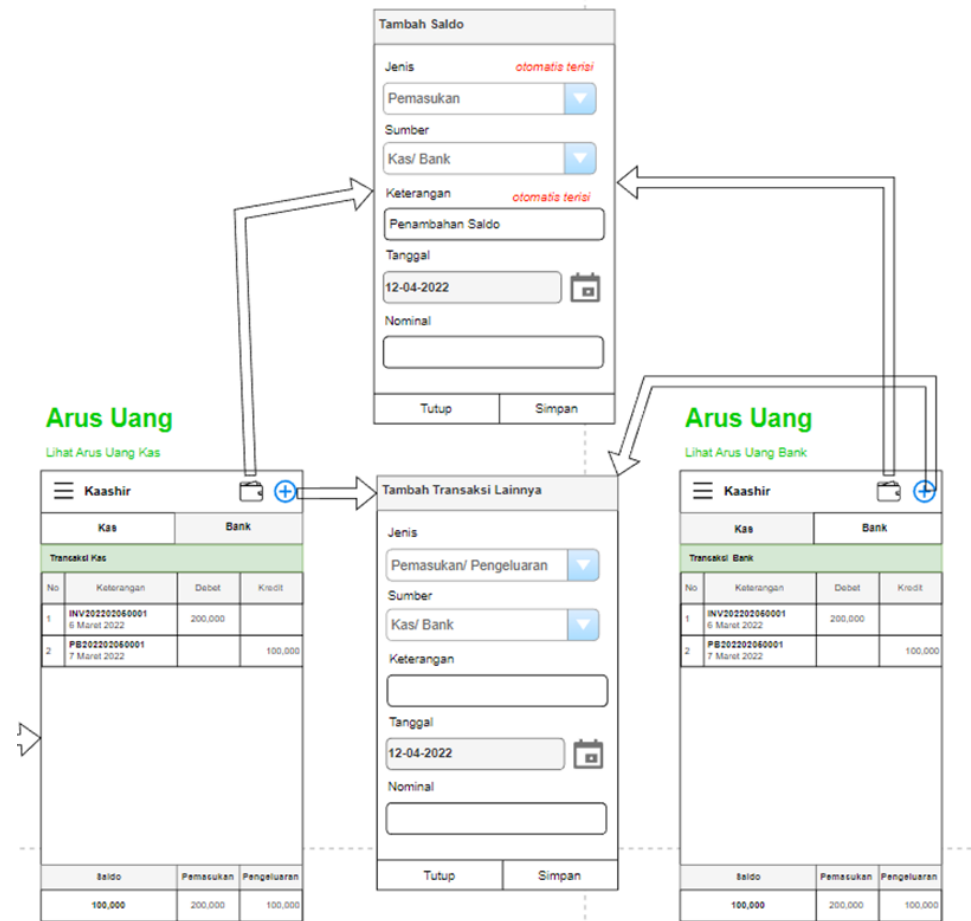


Figure 5: Financial flows of Kaashir application

The feature that does not work is the Add Supplier feature.

Only 10 out of 26 features could be tested on Tablet devices.

The reason is that some features in the master data did not work, so it could not continue to test other features.

Based on the user experience of using the Kaashir application, the following results were obtained:

In general, all participants gave a good assessment of the appearance in terms of color, font size, and layout. Only for users on the tab is the font size too small.

Features that are easy to use, according to participants, are Data Goods and Stock Goods.

The majority did not list features that were difficult to use

Most participants mentioned that the features that are very helpful for the participants' business activities are the Zakat and Procurement Features.



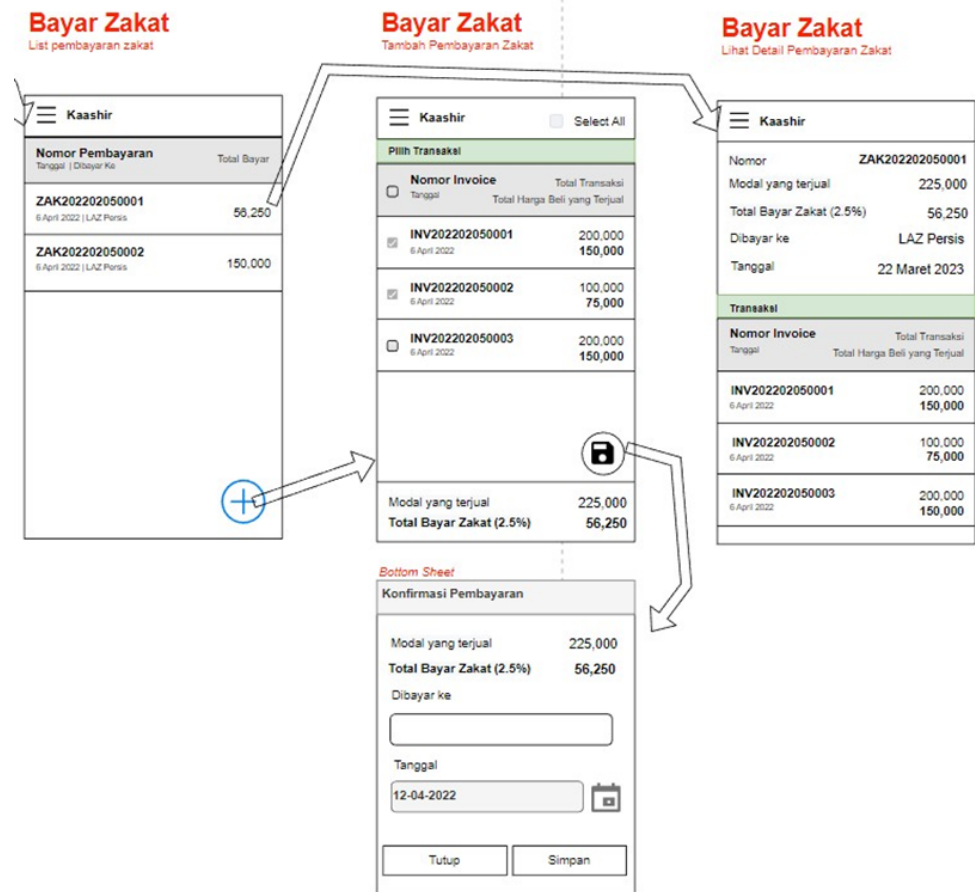
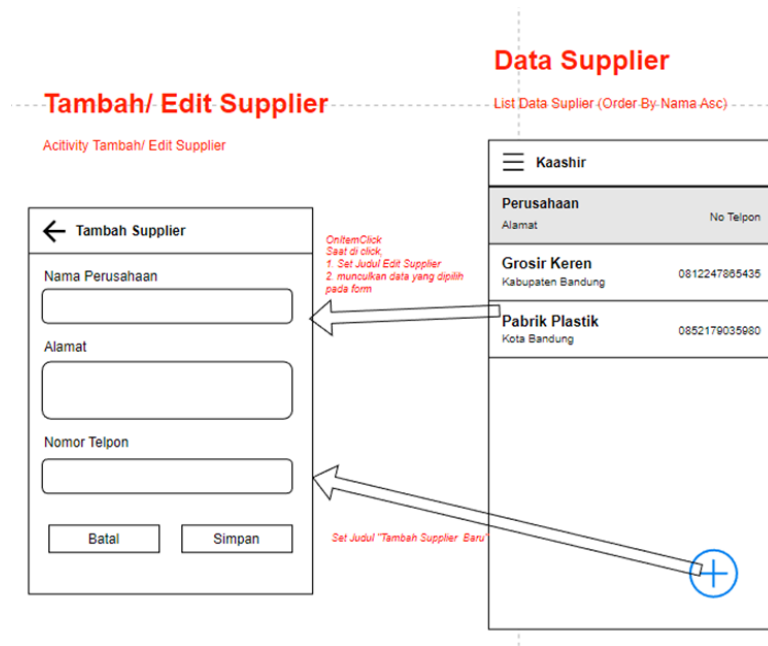


Figure 6: Zakat paying/calculation process of Kaashir application.



Figure 7: The report of debt and credits of Kaashir application.



**Figure 8:** The supplier data of Kaashir application.

The majority of participants mentioned the features that are the advantages of the Kaashir application over other applications, such as the Zakat feature and the procurement feature.

However, the disadvantages are not yet supported in tabs and icons, which are confusing. From the two things mentioned above, the IT development team from PC assisted the research team. Persis youth received feedback to improve the features of the Kaashir application and will then become testing material in the Beta Testing stage.

The second stage of training and mentoring was held on Saturday, 17 June 2023, 13.00-15.00, in the PC meeting room. Persis Banjaran Office, Jl. Pajagalan No.115. In this activity, a sub-activity called Beta Testing was carried out. If alpha testing is only carried out by internal parties, beta testing is carried out by involving real users. Product or application developers will ask several users to test functionally functional products. The number of beta testing users is usually also limited. In this activity, we limit the number of participants to 10 business people in the PC. Persis Banjaran environment. The purpose of beta testing is basically similar to alpha testing, which is to look for bugs that may only be seen when many people use the product or application in a real work environment. In addition, beta testing is also done to get feedback from real users and ascertain what they really need. Alpha Testing and Beta Testing aim to test a product's or application's feasibility. This beta testing will be carried out for 2 consecutive months, and the results will later become feedback for the team to make improvements in the

application for when it is ready to be launched in the community and hopefully qualify for the submission of PKM proposals next year related to the implementation of the Kaashir application in the first year.

The research team used a pre and post-test to evaluate participants' understanding of the training materials. The test consisted of 9 closed and open questions on financial record keeping, and 7 on trade zakat. As an initial description, we mapped the participants based on the type of business. 4 out of 5 participants are engaged in trade, the rest are home industries.

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The first question on financial records started with a question to gauge the participants' opinion on the urgency and usefulness of financial records for business owners. The results showed that all participants believed financial recording is an essential and valuable activity. This is by the consideration of the selection of participants at the beginning of the PKM implementation that participants are business actors who already understand the urgency and usefulness of financial records because these participants will then become respondents in the implementation of alpha testing, beta testing and user acceptance test of Kaashir's sharia point of sales application development.

Next, participants were asked about consistency in carrying out financial records. The results are only 3 out of 5 participants who consistently do, the rest are still sometimes. From these answers, it can be concluded that basically, business actors understand the benefits of financial records, it's just that they are still constrained by the absence of tools and Human Resources (HR) who are qualified and have the availability of time to carry out financial records. Regarding accounting applications, 4 out of 5 participants used financial recording tools/software. 2 used Microsoft Excel software, and the rest used Shop Cashier, Cash Book, or Major based on Android.

The above answers confirm the condition of participants who are accustomed to using tools/technology assistance in financial recording, at least basic software such as MsExcel, which is usually used in personal computers (PCs) or laptops. One participant who stated that he had never used a tool to record finances when present at the event, confirmed that he was pretty accustomed to using smartphones for various needs other

than communication. This means that all participants were ready to participate in the alpha testing of the Sharia Point of Sales application.

Next, participants were asked about obstacles in carrying out financial recording. 3 out of 5 participants experienced obstacles for various reasons, including a process that was too long and “complicated”, difficulty accessing financial recording tools, and laziness so that it was not worked on. Furthermore, from the results of the post-test, which is also an evaluation material in the delivery of financial recording materials, data obtained that 3 out of 5 participants felt that the material was easy to understand. In contrast, the rest thought that it was pretty understandable. All participants stated that the material presented helped them.

Further questions concern the intention to record business finances consistently after the alpha testing activities. This is important because this workshop activity will be carried out simultaneously with the development of the Kashir Sharia point of sales application. All participants stated they are ready to carry out business financial records consistently. Next were specific questions related to trade zakat. This question was given because the advantage of Kaashir’s Sharia point of sales application is its ability to automatically calculate zakat and control the fulfilment of zakat obligations for its users. Therefore, the trade zakat material was given as brainstorming material and a common perception regarding the provisions and procedures for calculating trade zakat.

Based on the comparison of pre and post-test results, there is a uniform understanding of the law of trade zakat, its nishab, and haul, and how to calculate it. The resource person and the Chairman of PC Persis Banjaran, Ustadz H. D. Pandi delivered the fiqh material on trade zakat. He is a fiqh reference for all Persis Banjaran members. This material also confirms that the development of the zakat calculation feature on the Kashir Syariah Point of Sale application is by the fiqh provisions of trade zakat adopted by users. Next, when it is developed for the public, the opportunity will be opened to apply the provisions and procedures for calculating trade zakat by each fiqh school adopted by the user.

The post-test was closed with three final questions related to the socialization and practice of the Kashir application. Only 1 out of 5 participants scored 5 for ease of use. 40% gave a score of 4, and the rest scored 3. As a newly developed application, this assessment is precious for future development. Overall, the pre and post-test results show that the target of conducting alpha testing has been achieved. Furthermore, it will

be followed up with beta testing and the User Acceptance Test (UAT) implementation. Insha'Allah, it will be a road map for developing an Android-based accounting application that can be offered to the public, with a uniqueness that is not yet owned by similar applications, as well as being a road map in implementing sustainable Community Service.

The results of this study support the results of previous research, which states that the use of accounting information systems in the form of applications will be beneficial for the smooth operation of a small and medium business and can also support its financial performance as research conducted by Asefa, Rao and Yohannes (2020) [10], Putri and Maghfiroh (2022) [11], Serly and Delnecca (2023) [12], Yopie and Lim (2022) [6], Cahyani and Luke [13], and Hakiki, Yusniani, Arianto [14].

## 4. CONCLUSION

Research activities in the context of designing and developing accounting information systems as a basis for calculating zakat for Jam'iyyah Persis Banjaran business actors can be carried out well because there is a very harmonious collaboration between the research team and the information system development team from the PC Persis Banjaran Youth group. Based on the results of discussions held with the chairman of the economic field of PC Persis Banjaran, this partnership can be continued with programs that reach the wider community, especially among business people under the guidance of PC Persis Banjaran which is the primary support for the running of the economy of the community in this region.

The design and development of this accounting information system resulted in an application named Kaashir as a result of excellent thinking and cooperation between the Community Services Team of Universitas Islam Bandung (Unisba) and the Information Technology Development Team of Persis Banjaran Youth Group. The accounting information system design process has progressed to the application development stage, specifically with the Kaashir application. The current development stage involves beta testing to evaluate the application's readiness for the implementation stage, which will encompass a broader range of users in the coming year.

Persis Banjaran youth group is expected to make PC Persis Banjaran business actors more resilient in facing unexpected changes. The training and mentoring carried out in a short time are expected to The Kashmir application has raised the spirit and consistency

of business actors in recording and reporting finances most simply, but still can be accounted for. In the future, the development of the accounting information system that we have designed in the form of a Kaashir application can be used by MSME businesses throughout Indonesia.

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