CHAPTER 4

ANALYSIS, PRESENTATION, AND INTERPRETATION OF DATA

4.1 Demographic Profile of Respondents

Table 15:

Role Distribution of the Respondents

ROLE	MARKET OWNER	Rent Collector	TENANT
TOTAL	4	4	112
PERCENTAGE	3.33%	3.33%	93.33%

The table 15 above shows the frequency of the roles of the respondents who answered the survey questionnaire. There were a total of one hundred twenty (120) respondents. Four (4) respondents identified themselves as a Market Owner and Rent Collector, having both of the respondents a percentage of three point thirty-three (3.33) percent. There were a total of eight (112) respondents who answered as a Tenant, with a percentage of ninety-three point thirty-three (93.33) percent. Additionally, three (3) IT experts were included in the survey.

Table 16:

Market Phase Distribution of the Respondents

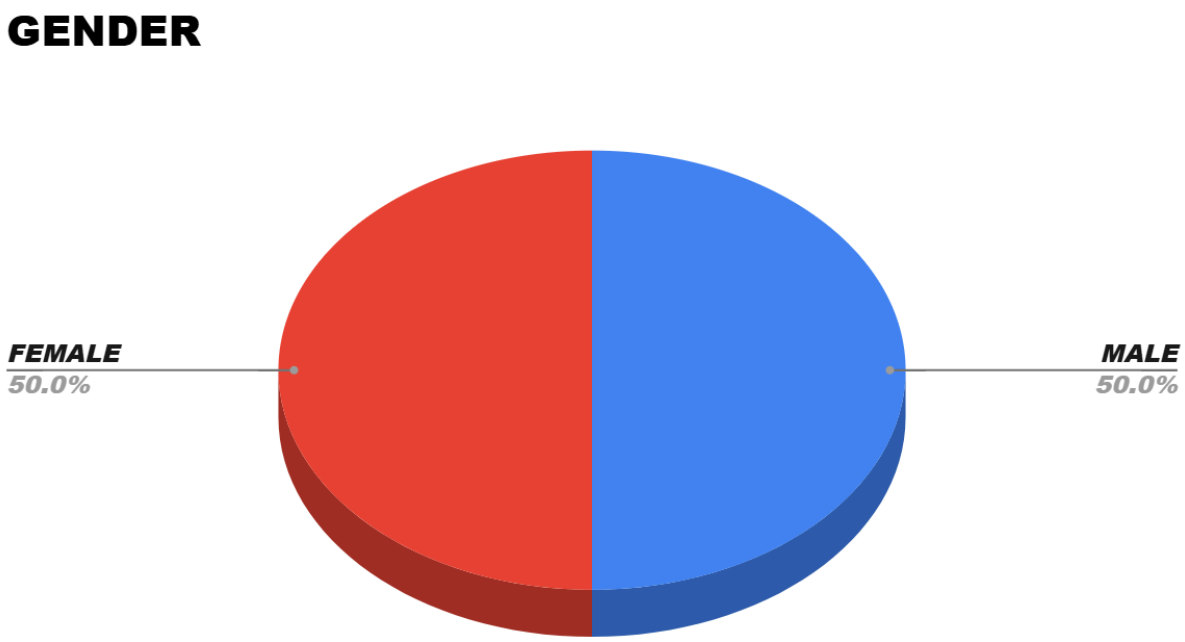
PHASE	PHASE ONE	PHASE TWO	PHASE THREE	PHASE FOUR
TOTAL	7	47	41	25
PERCENTAGE	5.83%	39.17%	34.17%	20.83%

The table 16 above shows the frequency of the market phase of the respondents who answered the survey questionnaire. There were a total of one hundred twenty (120) respondents who belonged to market phases. Seven (7) respondents who answered belong to the Phase One have a percentage of

5.83%. While in the Phase Two, there were forty-seven (47) respondents having a percentage of 39.17%. Then, in the Phase Three, there were forty-one (41) respondents having a percentage of 34.17%. Lastly, for Phase Four has twenty-five (25) respondents and a percentage of 20.83%.

Figure 41:

Gender of the Respondents



The figure 41 above shows the percentage of the gender of respondents. There were a total of one hundred twenty (120) respondents. Sixty (60) of them have a percentage of 50%, are female. While the remaining Sixty (60) have a percentage of 50%, are male.

4.2 Results and Discussion

MARKET OWNER

1. The developers are successful in solving the following problems that are needed in the Development and Evaluation of a Web-Based Tenant Management System for the Karuhatan Public Market									
PROBLEMS/ CRITERION	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1. The developers are successful in solving the problem of having **manual transactional records.**	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
2. The developers are successful in solving the problem of the **lack of audit trails.**	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
3. The developers are successful in solving the problem of having **inefficient, time-consuming data retrieval.**	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
4. The developers are successful in solving the problem of the	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

market owner about the **record keeping of tenant data**.									
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shown above shows the result of Survey Questionnaire 1 for the Market Owner in showing the following problems for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

(1) With a percentage of 100%, the Market Owner strongly agrees that the system succeeded in solving the problem of manual transactional records. Solving the problem obtained 4.00 weighted mean.

(2) With a percentage of 100%, the Market Owner strongly agrees that the system succeeded in solving the problem of lack of audit trails. Having a weighted mean of 4.00.

(3) In terms of a inefficient, time-consuming data retrieval, the Market Owner strongly agrees about the system having a percentage of 100% and a weighted mean of 4.00.

(4) For the record keeping of tenant data, the system succeeded in solving the problem with a percentage of 100%, that is strongly agree. Overall, the obtained a weighted mean of 4.00.

2. The developers are successful in showing the following features in the Development and Evaluation of a Web-Based Tenant Management System for the Karuhatan Public Market.									
PROBLEMS/ CRITERION	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1. Log in and log out of the account provided by the	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

administrator in the system.									
2. I can access the dashboard, edit my details, process payments and upload my GCash QR Code.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
3. I can view the Rental Payment Reports of my tenants.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
4. I can edit and approve or view the Rental Payment Status of my tenants when they pay in Cash or GCash.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5. I can view, edit, delete my tenant's details, and upload a lease.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
6. I can create/add tenant accounts and collector accounts which I can view, edit, and delete.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

7. I can view and edit the stall details my phase occupies.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
8. I can view the details of the application form and approve or reject a pending application.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
9. I can export the Reports, Users, Stalls and Requests list/table.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
10. I can view, accept or reject a pending tenancy inquiry form.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
11. I can view and edit my own profile.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
12. I can change my password.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
13. I can add, delete, and edit the News Updates page.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
14. I receive notifications via email and website.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

GENERAL WEIGHTED MEAN	4 = Strongly Agree

The data shown above shows the result of Survey Questionnaire 2 for the Market Owner in showing the following problem and features for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

(1) With a percentage of 100%, the Market Owner strongly agrees that the system allows the Market Owner to log in and out using the provided account. It obtained 4 weighted mean.

(2) In the matter of accessing the dashboard, editing my details, processing payments and uploading a GCash QR Code, the Market Owner strongly agrees which has a percentage of 100% and obtained a weighted mean of 4.

(3) About viewing the Rental Payment Reports of the tenants, the obtained percentage is 100% and a weighted mean of 4.

(4) The Market Owner strongly agrees to edit and approve or view a Rental Payment Status of the tenants, with a 100% rating, that, receiving a weighted mean of 4.

(5) The Market Owner, with a percentage of 100%, strongly agrees to the view, edit, delete a tenant's details, and upload a lease, a weighted mean of 4.

(6) With a percentage of 100%, the Market Owner strongly agrees that they can create/add tenant accounts and collector accounts to the system, obtaining a weighted mean of 4.

(7) The Market Owner, having a percentage of 100%, strongly agrees that they can view and edit the stall details occupancy to the system, obtaining a weighted mean of 4.

(8) Having a percentage of 100%, the Market Owner strongly agrees that they can view and approve or reject pending applications to the system, obtaining a weighted mean of 4.

(9) With a 100% percentage, the Market Owner, strongly agrees that they can exports the Reports, Users, Stalls and Requests list/table to the system, obtaining a weighted mean of 4.

(10) Achieving a 100% percentage, the Market Ownerstrongly agrees that the system, they can manages pending tenancy inquiries such as view, accept, or reject, obtaining a weighted mean of 4.

(11) With a percentage of 100%, the Market Owner strongly agrees that they can view and edit my own profile. They obtained a weighted mean of 4.

(12) In terms of changing a password, the Market Owner strongly agrees about the system having a percentage of 100% and a weighted mean of 4.00.

(13) For the News Updates, the system succeeded in uploading, edit or delete a certain conent with a percentage of 100%, that is strongly agree. Overall, the obtained a weighted mean of 4.00.

(14) The Market Owner fully agrees, with a 100% rating, that the system effectively receive notifications via email and website, reflected by a weighted mean of 4.00.

3. Are the following factors based on ISO 25010 successfully achieved by the system?									
ISO 25010	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
FUNCTIONAL SUITABILITY									
FUNCTIONAL COMPLETENESS - Degree to which the set of functions covers all the specified tasks and user objectives. *Market Owner: "I was able to utilize the functionalities to manage collector and tenant user accounts, including viewing, editing, and deleting a tenant's and*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

collector's information, sending notifications, and exporting and printing reports."									
FUNCTIONAL CORRECTNESS - is the degree to which a product or system produces the desired results. *"I was able to manage the collector and tenant user accounts in the market phase I own, including viewing, editing, and deleting information from their accounts."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
PERFORMANCE EFFICIENCY									
TIME BEHAVIOR - Degree to which the response and processing times and throughput rates of a product or system, when performing its functions, meet requirements. *"The notifications were quickly sent to the target user and I was also able to receive notifications."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
COMPATIBILITY									
INTEROPERABILITY - The degree to which a system, product, or component can exchange information with other products and mutually use the information that has been exchanged.	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

"The data is accurate and is being displayed in the reports ."									
USABILITY									
APPROPRIATENESS RECOGNIZABILITY - The degree to which users can recognize whether a product or system is appropriate for their needs. *"The website features intuitive labels that are easy to understand."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
RELIABILITY									
AVAILABILITY - The degree to which a system, product, or component is operational and accessible when required for use. *Market Owner: "The system is always accessible when I need to manage collectors, stalls and tenants."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
SECURITY									
CONFIDENTIALITY - Degree to which a product or system ensures that data are accessible only to those authorized to have access. *"I cannot access other market owners' data."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
MAINTAINABILITY									

TESTABILITY - Degree of effectiveness and efficiency with which test criteria can be established for a system or component and tests can be performed to determine whether those criteria have been met. *Market Owner: "I was able to manually test the pending tenant application feature by checking if the status changes appeared correctly in the system."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
PORTABILITY									
INSTALLABILITY - Assesses the ease with which the software can be installed and set up in a new environment. *"I was able to access the website after entering the URL and login to my account without any setup issues."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shows the result of the Survey Questionnaire 3 for Market Owner about the following factors based on ISO 25010 for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

FUNCTIONAL SUITABILITY

Functional Completeness. The Market Owner's feedback indicates that the system's functionalities fully align with user objectives, particularly for managing collector and tenant accounts. This includes comprehensive tasks such as viewing, editing, deleting information, and managing notifications and reports. The rating of 4.00, with a percentage of 100%, demonstrates that the system covers all specified requirements effectively, meeting the needs of users for complete functional support.

Functional Correctness. The Market Owner confirmed the system's accuracy in performing its intended functions. The ability to view, edit, and delete account information without error signifies that the system consistently provides accurate and reliable outputs. The rating of 4.00, with a percentage of 100%, reflects confidence in the system's correctness and effectiveness in delivering the desired outcomes.

PERFORMANCE EFFICIENCY

Time Behavior. The system's ability to send notifications promptly, as experienced by the Market Owner, underscores its efficiency in response times. This immediate processing aligns with the user's expectation of quick communication and demonstrates the system's strong time behavior, meriting a rating of 4.00 with a percentage of 100%.

COMPATIBILITY

Interoperability. The system's integration capabilities are validated through accurate data display in reports. The "Strongly Agree" response, with a rating of 4.00 and a percentage of 100%, indicates that data exchange and mutual usage across different modules or components within the system are seamless, supporting effective information flow.

USABILITY

Appropriateness Recognizability. With intuitive labels and an easy-to-understand interface, the

system meets user expectations for usability. The Market Owner's acknowledgment that labels are straightforward implies that users can easily recognize the system's relevance to their needs, justifying a rating of 4.00 with a percentage of 100%.

RELIABILITY

Availability. The system's consistent accessibility for managing collectors, stalls, and tenants highlights its reliability. The Market Owner's ability to access the system as needed affirms the high level of operational readiness, supporting a "Strongly Agree" rating of 4.00 with a percentage of 100%.

SECURITY

Confidentiality. The Market Owner's assurance that unauthorized data is not accessible showcases the system's robust confidentiality measures. This outcome, rated at 4.00 with a percentage of 100%, highlights the system's success in protecting sensitive data from unauthorized access.

MAINTAINABILITY

Testability. The Market Owner could effectively test features, such as monitoring status changes for tenant applications, which points to the system's strong testability. This feature allows for efficient verification of system behaviors, supporting its reliability and maintainability, with a rating of 4.00 and a percentage of 100%.

PORTABILITY

Installability. The ease with which the Market Owner accessed the system, simply by entering the URL and logging in without setup issues, reflects the system's high portability. This user experience, rated at 4.00 with a percentage of 100%, highlights that the system is accessible and easy to install in different environments.

RENT COLLECTOR

1. The developers are successful in solving the following problems that are needed in the Development and Evaluation of a Web-Based Tenant Management System for the Karuhatan Public Market									
PROBLEMS/ CRITERION	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1. The developers are successful in solving the problem of having **manual transactional records.**	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
2. The developers are successful in solving the problem of the **lack of audit trails.**	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
3. The developers are successful in solving the problem of having **inefficient, time-consuming data retrieval.**	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
4. The developers are successful in solving the problem of the market owner about the	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

record keeping of tenant data.									
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shown above shows the result of Survey Questionnaire 1 for the Rent Collector in showing the following problems for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

(1) With a percentage of 100%, the Rent Collector strongly agrees that the system succeeded in solving the problem of manual transactional records. Solving the problem obtained 4.00 weighted mean.

(2) With a percentage of 100%, the Rent Collector strongly agrees that the system succeeded in solving the problem of lack of audit trails. Having a weighted mean of 4.00.

(3) In terms of a inefficient, time-consuming data retrieval, the Rent Collector strongly agrees about the system having a percentage of 100% and a weighted mean of 4.00.

(4) For the record keeping of tenant data, the system succeeded in solving the problem with a percentage of 100%, that is strongly agree. Overall, the obtained a weighted mean of 4.00.

2. The developers are successful in showing the following features in the Development and Evaluation of a Web-Based Tenant Management System for the Karuhatan Public Market.									
PROBLEMS/ CRITERION	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1. Log in and out of the account provided by the administrator in the system.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

2. I can access the dashboard.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
3. I can view, download, and print the Rental Payment Reports of the tenants.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
4. I can edit the Rental Payment Status of the tenants when they pay in GCash.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5. I can update the Payment Status of a tenant when they pay in Cash.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
6. I can set a tenant's outstanding balance.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
7. I can remind a tenant to pay rent.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
8. I can view the stall details my phase occupies.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
9. I can view and edit my own profile.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
10. I can change my password.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

11. I receive notifications via email and website.	**4**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shown above shows the result of Survey Questionnaire 2 for the Rent Collector in showing the following problem and features for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

(1) The Rent Collector could log in and out of their account easily. This feature received a rating of 4.00 and a percentage of 100%.

(2) Dashboard access was seamless and effective. It was rated 4.00 with a percentage of 100%.

(3) Viewing, downloading, and printing rental payment reports were smooth and reliable. This functionality received a rating of 4.00 and a percentage of 100%.

(4) Editing the rental payment status for GCash payments worked efficiently. It was rated 4.00 with a percentage of 100%.

(5) Updating payment status for cash payments met expectations. This feature was rated 4.00 with a percentage of 100%.

(6) Setting tenant outstanding balances was straightforward and efficient. It received a rating of 4.00 and a percentage of 100%.

(7) The system effectively enabled reminders for tenant rent payments. This functionality was rated 4.00 with a percentage of 100%.

(8) Viewing stall details was accessible and informative. It received a rating of 4.00 and a percentage of 100%.

(9) Profile viewing and editing options were user-friendly and functional. This feature was rated 4.00 with a percentage of 100%.

(10) Changing passwords was secure and easy to manage. It received a rating of 4.00 and a percentage of 100%.

(11) Notifications via email and website were prompt and reliable. This functionality was rated 4.00 with a percentage of 100%.

3. Are the following factors based on ISO 25010 successfully achieved by the system?									
ISO 25010	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
FUNCTIONAL SUITABILITY									
FUNCTIONAL COMPLETENESS - Degree to which the set of functions covers all the specified tasks and user objectives. *Collector: "I was able to view and edit the Rental Payment Status of the tenants within the market phase I oversee."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
FUNCTIONAL CORRECTNESS - is the degree to which a product or system produces the desired results. *Collector: "I was able to edit the outstanding balance of a tenant."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
PERFORMANCE EFFICIENCY									

TIME BEHAVIOR - Degree to which the response and processing times and throughput rates of a product or system, when performing its functions, meet requirements. *"Tenants receive the notification quickly when I Remind a tenant to pay their rent."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
COMPATIBILITY									
INTEROPERABILITY - The degree to which a system, product, or component can exchange information with other products and mutually use the information that has been exchanged. *"The data is being displayed in the reports."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
USABILITY									
APPROPRIATENESS RECOGNIZABILITY - The degree to which users can recognize whether a product or system is appropriate for their needs. *"The website features intuitive labels that are easy to understand."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
RELIABILITY									
AVAILABILITY - The degree to which a system,	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

product, or component is operational and accessible when required for use. *Collector: "The system is always accessible when I need to approve that I have collected rental payments from a tenant."*									
SECURITY									
CONFIDENTIALITY - The system protects the users' data. *"The data of a collector cannot be seen by other tenants and collectors."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
MAINTAINABILITY									
TESTABILITY - Degree of effectiveness and efficiency with which test criteria can be established for a system or component and tests can be performed to determine whether those criteria have been met. *Collector: "I was able to manually test the pending rental payment status feature by checking if the status changes appeared correctly in the system."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
PORTABILITY									
INSTALLABILITY - Assesses the ease with which the software can be	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

installed and set up in a new environment. *"I was able to access the website after entering the URL and login to my account without any setup issues."*									
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shows the result of the Survey Questionnaire 3 for Market Colector about the following factors based on ISO 25010 for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

FUNCTIONAL SUITABILITY

Functional Completeness. It has been highly rated by the Collector, who affirmed that it fully covers the tasks required to manage the Rental Payment Status of tenants within their phase. This includes the ability to view and edit payment statuses, ensuring all specified tasks and objectives are adequately supported. The rating of 4.00 a strongly agree, with a percentage of 100%, indicates that the system meets user expectations in delivering complete functionality for efficient tenant account management.

Functional Correctness. With the Collector successfully editing tenants' outstanding balances. This indicates that the system reliably produces the expected results without errors or inconsistencies, maintaining data accuracy and supporting effective financial oversight. This functionality also received a "Strongly Agree" rating of 4.00 (100%), showing high confidence in the system's accuracy.

PERFORMANCE EFFICIENCY

Time Behavior. Rated 4.00 a strongly agree, with a 100% satisfaction level, for meeting the required response times. The Collector noted that notifications were delivered promptly when reminding

tenants about payments, ensuring timely communication and efficiency in the system's performance. This quick processing response is essential for ensuring that all users remain informed and that payments are managed efficiently.

COMPATIBILITY

Interoperability. The system displays accurate data in the reports, allowing effective exchange of information across different system components. This seamless data flow ensures that the system's reports are up-to-date and informative, which was rated 4.00 a strongly agree with 100% satisfaction. This attribute highlights the system's ability to integrate and exchange information effortlessly, supporting the Collector's need for accurate data visibility.

USABILITY

Appropriateness Recognizability. The website features intuitive labels that are easy for users to understand, allowing the Collector to navigate and operate the system effectively. This ease of use demonstrates that the system is well-designed for its users, ensuring that tasks can be completed without confusion or frustration. The system was rated highly, 4.00 a strongly agree, with a 100% satisfaction level.

RELIABILITY

Availability. The system maintained a rating of 4.00 a strongly agree (100%), as it was consistently accessible for the Collector's tasks, such as approving collected rental payments. This reliable accessibility ensures that critical functions are always available when needed, supporting the Collector's operational needs and contributing to the system's dependability.

SECURITY

Confidentiality. The system restricts data access, ensuring that a collector's data is not visible to other tenants or collectors. This protective measure received a "Strongly Agree" rating of 4.00 with a percentage of 100%, showing that the system successfully safeguards user data, maintaining privacy and

security within its operational environment.

MAINTAINABILITY

Testability. The system was demonstrated by the Collector's ability to manually verify the pending rental payment status feature, checking that status updates appeared correctly in the system. This rating of 4.00 a strongly agree (100%) reflects the system's ease of testing, ensuring that the Collector can validate system behaviors and that the system maintains high performance and reliability over time.

PORTABILITY

Installability. It received a rating of 4.00 a strongly agree with a satisfaction percentage of 100%, as the Collector reported no issues in accessing the website by simply entering the URL and logging in. This effortless setup and access demonstrate the system's portability, ensuring users can easily connect to the system in different environments without additional setup challenges.

TENANT

1. The developers are successful in solving the following problems that are needed in the Development and Evaluation of a Web-Based Tenant Management System for the Karuhatan Public Market									
PROBLEMS/ CRITERION	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1. The developers are successful in solving the problem of having **manual transactional records.**	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
2. The developers are successful in solving the problem of the	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

lack of audit trails.									
3. The developers are successful in solving the problem of having **inefficient, time-consuming data retrieval.**	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
4. The developers are successful in solving the problem of the market owner about the **record keeping of tenant data**.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shown above shows the result of Survey Questionnaire 1 for the Tenant in showing the following problems for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

(1) With a percentage of 100%, the Tenant strongly agrees that the system succeeded in solving the problem of manual transactional records. Solving the problem obtained 4.00 weighted mean.

(2) With a percentage of 100%, the Tenant strongly agrees that the system succeeded in solving the problem of lack of audit trails. Having a weighted mean of 4.00.

(3) In terms of a inefficient, time-consuming data retrieval, the Tenant strongly agrees about the

system having a percentage of 100% and a weighted mean of 4.00.

(4) For the record keeping of tenant data, the system succeeded in solving the problem with a percentage of 100%, that is strongly agree. Overall, the obtained a weighted mean of 4.00.

2. The developers are successful in showing the following features in the Development and Evaluation of a Web-Based Tenant Management System for the Karuhatan Public Market.									
PROBLEMS/ CRITERION	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1. Log in and out of the account provided by the administrator in the system.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
2. I can access the dashboard, see my recent rental payments, view the guide map, and upload my GCash QR Code Receipt.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
3. I can pay for the rent today or for my outstanding balance via GCash.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
4. I can view my previous Approved and Rejected Application Forms.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

5. I can view and edit my pending application forms.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
6. I can view and edit my own profile.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
7. I can change my password.	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
8. I receive notifications via email and website	**112**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
GENERAL WEIGHTED MEAN	**4 = Strongly Agree**								

The data shown above shows the result of Survey Questionnaire 2 for the Tenant in showing the following problem and features for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

(1) The log-in and log-out functions were rated "Strongly Agree" at 4.00 with a 100% ratings, indicating that users can securely access and exit the system with ease.

(2) The dashboard provides access to essential features like viewing recent rental payments, a guide map, and the option to upload a GCash QR Code Receipt. This feature achieved a "Strongly Agree" rating of 4.00 with a 100% ratings, showing that users find the dashboard both accessible and comprehensive, with relevant information and actions conveniently available.

(3 The ability to pay rent or outstanding balances via GCash was rated "Strongly Agree" at 4.00, with a 100% satisfaction level. This shows that the system effectively integrates digital payment methods, making the process easy and efficient for users.

(4) The feature for viewing previously approved and rejected application forms allows users to track their application history. Rated "Strongly Agree" at 4.00 with a 100% ratings, this functionality offers clarity and accessibility to users, ensuring they can easily view past applications.

(5) The ability to view and edit pending application forms received a "Strongly Agree" rating of 4.00 with a 100% ratings, underscoring the system's flexibility and usability. Users can make necessary changes to pending applications, which supports accuracy and responsiveness.

(6) The option to view and edit personal profiles was rated "Strongly Agree" at 4.00 with a 100% ratings, demonstrating that the system allows users to manage their own information easily. This feature is essential for user control over account information and aligns with best practices in user profile management.

(7 The system's password change feature achieved a "Strongly Agree" rating of 4.00 with a 100% ratings, confirming its role in maintaining account security. Users can change their password as needed, supporting the system's commitment to user data protection.

(8) Users receive notifications through email and the website, keeping them informed of important updates. This feature, rated "Strongly Agree" at 4.00 with a 100% satisfaction rate, ensures timely communication, allowing users to stay updated on account-related activities.

3. Are the following factors based on ISO 25010 successfully achieved by the system?									
ISO 25010	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
FUNCTIONAL SUITABILITY									
FUNCTIONAL COMPLETENESS - Degree to which the set of functions covers all the specified tasks and user objectives.	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

Collector: "I was able to view and edit the Rental Payment Status of the tenants within the market phase I oversee."									
FUNCTIONAL CORRECTNESS - is the degree to which a product or system produces the desired results. *Collector: "I was able to edit the outstanding balance of a tenant."*	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
PERFORMANCE EFFICIENCY									
TIME BEHAVIOR - Degree to which the response and processing times and throughput rates of a product or system, when performing its functions, meet requirements. *"Tenants receive the notification quickly when I Remind a tenant to pay their rent."*	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
COMPATIBILITY									
INTEROPERABILITY - The degree to which a system, product, or component can exchange information with other products and mutually use the information that has been exchanged.	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

"The data is being displayed in the reports."									
USABILITY									
APPROPRIATENESS RECOGNIZABILITY - The degree to which users can recognize whether a product or system is appropriate for their needs. *"The website features intuitive labels that are easy to understand."*	**78**	**69.6 %**	**34**	**30.4 %**	**0**	**0**	**0**	**0**	**3.7**
RELIABILITY									
AVAILABILITY - The degree to which a system, product, or component is operational and accessible when required for use. *Collector: "The system is always accessible when I need to approve that I have collected rental payments from a tenant."*	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
SECURITY									
CONFIDENTIALITY - The system protects the users' data. *"The data of a collector cannot be seen by other tenants and collectors."*	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
MAINTAINABILITY									
TESTABILITY - Degree of effectiveness and efficiency with which test criteria can be established for a system	**112**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

or component and tests can be performed to determine whether those criteria have been met. *Collector: "I was able to manually test the pending rental payment status feature by checking if the status changes appeared correctly in the system."*									
PORTABILITY									
INSTALLABILITY - Assesses the ease with which the software can be installed and set up in a new environment. *"I was able to access the website after entering the URL and login to my account without any setup issues."*	**68**	**60.7 %**	**44**	**39.3 %**	**0**	**0**	**0**	**0**	**3.61**
GENERAL WEIGHTED MEAN	**3.92 = Strongly Agree**								

The data shows the result of the Survey Questionnaire 3 for Tenant about the following factors based on ISO 25010 for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The General Weighted Mean is 3.92, which falls in the range of Strongly Agree on the Likert Scale.

FUNCTIONAL SUITABILITY

Functional Completeness. The system received a "Strongly Agree" rating of 4.00, with 100% satisfaction for indicating that it fully supports the Collector's needs. This includes the ability to view and

edit tenants' Rental Payment Status, ensuring the system meets all specified tasks and objectives for comprehensive account management.

Functional Correctness. Rated as "Strongly Agree" at 4.00, with 100% satisfaction. The Collector confirmed that they could accurately edit the outstanding balance of tenants, reflecting that the system produces reliable and expected results in all operations.

PERFORMANCE EFFICIENCY

Time Behavior. The system received a "Strongly Agree" rating of 4.00 with 100% satisfaction. The Collector noted that tenants received notifications promptly when reminded to pay their rent, confirming the system's responsiveness in delivering notifications in a timely manner, essential for efficient payment processing and communication.

COMPATIBILITY

Interoperability. Indicating that the system effectively exchanges and displays data across components. The Collector's feedback on accurate data display in reports demonstrates the system's capability to maintain information consistency, a critical requirement for efficient report generation. It was rated "Strongly Agree" at 4.00 with 100% satisfaction.

USABILITY

Appropriateness Recognizability. With 69.6% of respondents selecting "Strongly Agree" and 30.4% choosing "Agree," the system's usability is rated highly. Users found the website intuitive, with clear, easy-to-understand labels, helping them quickly recognize its relevance to their needs. This strong positive response reflects a user-friendly design that enhances overall satisfaction and ease of use.

RELIABILITY

Availability. Criterion received a "Strongly Agree" rating of 4.00 with 100% satisfaction., showing that the system is consistently accessible when needed for critical tasks, such as confirming collected payments. This high rating underscores the system's reliability, providing assurance that it is

available for users whenever required.

SECURITY

Confidentiality. The system achieved a "Strongly Agree" rating of 4.00 for with 100% satisfaction., as it ensures data protection by restricting access to only authorized users. The Collector's data is kept secure, preventing visibility by other tenants or collectors, meeting essential security standards for privacy and confidentiality.

MAINTAINABILITY

Testability. Indicating that it allows efficient testing of features. The Collector could manually verify the pending rental payment status feature, confirming that status changes appeared correctly in the system. This ease of testing supports effective maintenance and reliability over time, the system was rated "Strongly Agree" at 4.00 with 100%.

PORTABILITY

Installability. Received a high approval rating, with 60.7% of respondents marking "Strongly Agree" and 39.3% marking "Agree." This feedback highlights that users found accessing the website easy and free from setup issues, demonstrating an effortless installation process that allows for immediate system use. The high agreement rate confirms that the system minimizes barriers for new users and provides a smooth initial experience.

IT EXPERT

1. Are the following factors based on ISO 25010 successfully achieved by the system?									
ISO 25010	**STRONGLY AGREE (4)**		**AGREE (3)**		**DISAGREE (2)**		**STRONGLY DISAGREE (1)**		**WEIGHTED MEAN**
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
FUNCTIONAL SUITABILITY									
FUNCTIONAL COMPLETENESS - Degree to	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

which the set of functions covers all the specified tasks and user objectives. *Market Owner: "I was able to utilize the functionalities to manage collector and tenant user accounts, including viewing, editing, and deleting a tenant's and collector's information, sending notifications, and exporting and printing reports."* *Collector: "I was able to view and edit the Rental Payment Status of the tenants within the market phase I oversee."* *Tenant: "I was able to upload my GCash Receipt, receive notifications for payment reminders and confirmed payments."*									
FUNCTIONAL CORRECTNESS - is the degree to which a product or system produces the desired results. *Market Owner: "I was able to manage the collector and tenant user accounts in the market phase I own, including viewing, editing, and*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

deleting information from their accounts." *Collector: "I was able to view and edit the Rental Payment Status of the tenants within the market phase I oversee."* *Tenant: "I was able to view my personal rental data, including outstanding balances, recent payments, and daily rental payment summaries."*									
PERFORMANCE EFFICIENCY									
TIME BEHAVIOR - Degree to which the response and processing times and throughput rates of a product or system, when performing its functions, meet requirements. *Market Owner: "The notifications were quickly sent to the target user and I was also able to receive notifications."* *Collector: "Tenants receive the notification quickly when I Remind a tenant to pay their rent."* *Tenant: "When I make a payment, it is quickly*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

reflected in the dashboard Recent Rental Payments."									
COMPATIBILITY									
INTEROPERABILITY - Degree to which a system, product or component can exchange information with other products and mutually use the information that has been exchanged. *"The data is accurate and is being displayed in the reports ."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
USABILITY									
APPROPRIATENESS RECOGNIZABILITY - Degree to which users can recognize whether a product or system is appropriate for their needs. *"The website features intuitive labels that are easy to understand."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
RELIABILITY									
AVAILABILITY - Degree to which a system, product or component is operational and accessible when required for use. *Market Owner: "The system is always accessible when I need to manage collectors, stalls and tenants."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

Collector: "The system is always accessible when I need to approve that I have collected rental payments from a tenant." Tenant: *"The system is always accessible when I need to pay for my rent."*									
SECURITY									
CONFIDENTIALITY - The system protects the users' data. *Market Owner: "I cannot access other market owners' data."* *Collector: "The data of a collector cannot be seen by other tenants and collectors."* *Tenant: "The data of a tenant cannot be seen by other tenants."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
MAINTAINABILITY									
TESTABILITY - Degree of effectiveness and efficiency with which test criteria can be established for a system or component and tests can be	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

performed to determine whether those criteria have been met. *Market Owner: "I was able to manually test the pending tenant application feature by checking if the status changes appeared correctly in the system."* *Collector: "I was able to manually test the pending rental payment status feature by checking if the status changes appeared correctly in the system."* Tenant: *"I was able to manually test the make a payment feature by checking if the status changes appeared correctly in the Recent Rental Payments."*									
PORTABILITY									
INSTALLABILITY - Assesses the ease with which the software can be installed and set up in a new environment. *"I was able to access the website after entering the URL and login to my account without any setup issues."*	**4**	**100 %**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

GENERAL WEIGHTED MEAN	4 = Strongly Agree

The data shows the result of the Survey Questionnaire for IT Experts about the following factors based on ISO 25010 for the Development of a Web-Based Tenant Management System for the Karuhatan Public Market. The feedback from the three IT experts, all of whom rated the system "Strongly Agree" (4), highlights the strong alignment of the system with the ISO 25010 quality model. The General Weighted Mean is 4, which falls in the range of Strongly Agree on the Likert Scale.

FUNCTIONAL SUITABILITY

Functional Completeness. The system was evaluated as fully meeting the specified tasks and user objectives. Market Owners, Collectors, and Tenants all confirmed that the system's features allowed them to perform their essential functions, such as managing accounts, sending notifications, and editing payment statuses. With a rating of 4.00 and 100% satisfaction, the system ensures that all necessary functions are present and accessible to each user group.

Functional Correctness. The system consistently produces the desired outcomes for all users. Market Owners can manage tenant and collector accounts, Collectors can update payment statuses, and Tenants can track their payment information. The strong feedback of 4.00 and 100% satisfaction affirms that the system's functionality is accurate and effective.

PERFORMANCE EFFICIENCY

Time Behavior. All users reported quick responses from the system when performing tasks such as sending or receiving notifications, processing payments, and updating data. The system's efficiency in handling notifications and displaying payment data immediately after updates was highly appreciated, resulting in a 4.00 rating with 100% satisfaction. This demonstrates that the system meets the required time performance standards.

COMPATIBILITY

Interoperability. The system performs well in exchanging and displaying data across different roles. Users from all groups confirmed that the information displayed in reports was accurate and up to date, signifying that the system works effectively with other components and handles data well. The 4.00 rating and 100% satisfaction reflect that the system integrates seamlessly with external systems and tools.

USABILITY

Appropriateness Recognizability. The system's interface was found to be intuitive, with clear and easily understandable labels. Users could quickly recognize whether the system was appropriate for their needs. This feedback, with a 4.00 rating and 100% satisfaction, confirms that the system is designed in a user-friendly manner, ensuring a smooth experience for all types of users.

RELIABILITY

Availability. All users affirmed that the system was always accessible when they needed it, whether for managing accounts, approving payment statuses, or making payments. The 4.00 rating and 100% satisfaction demonstrate the system's high availability and its consistent operational reliability, allowing users to rely on it without interruption.

SECURITY

Confidentiality. The system effectively ensures data security, as each user type can only access data pertinent to their role. Market Owners cannot view other owners' data, Collectors cannot view other Collectors' data, and Tenants' data is protected from unauthorized access. The system received a 4.00 rating with 100% satisfaction, indicating robust security measures that maintain user privacy.

MAINTAINABILITY

Testability. The system allows users to manually test and verify its functionalities, such as checking status changes for applications and payments. The feedback shows that users can easily determine whether the system is functioning correctly. With a 4.00 rating and 100% satisfaction, the

system's maintainability is affirmed, making it easier for users to troubleshoot and validate system performance.

PORTABILITY

Installability. Users reported no issues in accessing the system or logging into their accounts after entering the website URL. The system received a 4.00 rating with 100% satisfaction, confirming that it is easy to install and set up without technical difficulties. This makes it convenient for new users to get started and ensures that the system is portable across different environments.

CHAPTER 5

SUMMARY, CONCLUSION, AND RECOMMENDATION

5.1 Conclusion

The capstone entitled “Development of a Web-based Tenant Management System for the Karuhatan Public Market" is a web-based tenant management system that aims to help the Karuhatan Public Market together with record-keeping. The market operates with an organizational hierarchy comprising of the market owner, rent collector, and tenants. With this, the processes would be in digital form, making them easier to organize and manage. As the Karuhatan Public Market needs to adopt a new system for improved accuracy and efficiency in transactional record-keeping. This means that the transition to a more technology-driven system will reflect a shift in the market’s culture towards the utilization of modern tools and methods for better transactional record-keeping and tenant management.

Based on the demographics of the one hundred (120) respondents which consists of people from the Karuhatan Public Market, four (4) Market Owner, four (4) Rent Collector, one hundred twelve (112) Tenant form different phases of the market. The specific number of respondents according to the market phases, seven (7) respondents belonged to Phase One, for Phase Two respondents are forty-seven (47), while forty-one (41) were from Phase Three and the remaining twenty-five (25) belonged to Phase Four. As for the gender demographics of all respondents, one hundred twenty (120) respondents. Sixty (60) of them are female. While the remaining Sixty (60) are male.

In solving the following Survey Questionnaire 1 problems in the Development of a Web-based Tenant Management System for the Karuhatan Public Market, eight (8) respondents which is the Market Owner and Rent Collector, a general weighted mean of four (4) were obtained. Tenant obtained a weighted mean also a four (4). Overall, all of the users generated weighted mean falls under the range of Strongly Agree and Agree based on the Likert Scale. The results demonstrate that the system has

effectively addressed key challenges associated with manual record-keeping, absence of audit trails, inefficient data retrieval, and tenant data management. Across all roles, there was consistent agreement, with each aspect of the system achieving a weighted mean of 4.00 and a satisfaction rate of 100%. These results indicate that the system has met its intended objectives and is capable of efficiently managing tasks and facilitating secure, organized processes for all user roles involved.

In showing the following Survey Questionnaire 2 features in the Development of a Web-based Tenant Management System for the Karuhatan Public Market, a general weighted mean of 4 were obtained from both Market Owners and Rent Collectors. A general weighted mean of 4 was obtained also from Tenants. All of the users' general weighted mean falls under the category of Strongly Agree based on the Likert Scale. Therefore, this indicates that the system is successful in showing the features of system.

For the Survey Questionnaire 3, ISO 25010, there are different factors for determining the effectiveness of a system. On the Market Owner side and Rent Collector side, Functional Completeness, Functional Correctness, Time Behavior, Interoperability, Appropriateness Recognizability, Availability, Confidentiality, Testability, and Installability all had a weighted mean of 4. Also the IT experts' perceptions based on ISO 25010 that the system is successful in following the factors of the ISO 25010. The general weighted mean of the table is 4.0, which falls under the Strongly Agree range of the Likert Scale interpretation which means that the system is successful in following the factors of the ISO 25010.

On the Tenant perceptions based on the ISO 25010 evaluation tool, Functional Completeness, Functional Correctness, Time Behavior, Interoperability, Availability, Confidentiality, and Testability all had obtained a weighted mean of 4. Meanwhile, Appropriateness Recognizability with a weighted mean of 3.7 and Installability with a weighted mean of 3.61. The general weighted mean for Tenant perception is 3.63 which interprets to Strongly Agree range of the Likert Scale and indicates that the system is successful in following the factors of the ISO 25010.

Furthermore, following the system evaluation and completed testing, the findings confirm that the

system successfully incorporates all the functions and features desired by both developers and end-users.

5.2 Recommendations

These findings and suggestions are based on testing and assessments of the development of a web-based tenant management system for the Karuhatan Public Market conducted by respondents, clients, and IT specialists. Their varied perspectives aim to improve user experience, data management, system adaptability, and the system's interface, performance, and optimizations. Future developers looking to improve the creation of a web-based tenant management system for the Karuhatan Public Market should consider the following important suggestions.

(1) Guide Map Editing: Give the owner the ability to make changes to the guide map during renovations, giving them more freedom to update stall layouts.

(2) Error Resolution Tips: When users run into problems, like when a potential renter is unable to submit the rental application form, provide built-in error messages or instructions for fast repairs.

(3) Notification Enhancements: To make sure users are aware of new notifications, use a marquee-style notification display or include an indicator, such as a red dot or notification count on the bell icon.

(4) SMS alerts: With the ability for consumers to subscribe if they so choose, SMS alerts can be a better communication method than email.

(5) Filter Date Range for Daily Reports: To display records of paid, unpaid, or pending transactions within particular time frames (for example, October 1 to October 15), add a date range filter.

(6) Map Selection for Potential Tenants: To make navigation easier, let potential tenants choose their favorite stall straight from the application page's map.

(7) Tracking Outstanding Balances: For accurate record-keeping and convenient access, make sure that outstanding balances are documented with the precise date they were incurred.

(8) Chatbot API: By integrating a chatbot, you may streamline assistance and improve the user experience by helping people with their issues.

(9) Super Admin Features (Optional): If a Super Admin role is introduced, consider adding specialized features like analytics dashboards and chatbot APIs to address user concerns efficiently. However, if the system is designed with four owners managing as admins, this setup may already suffice for the current requirements.

(10) Recycle Bin/Archive Functionality: Introduce a recycle bin or archive feature to ensure that deleted data can be restored if accidentally removed. Data should remain in the archive for 30 days before being permanently deleted, providing users with a recovery window for any unintended actions.

(11) Flexible Payment Notes: To prevent confusion in payment collection, particularly for custom agreements between owners and tenants (e.g., weekly or monthly payment schedules), add a note field to the stall details. This feature should specify the agreed payment frequency, such as "Note: Weekly Payment" or "Note: Monthly Payment," ensuring clarity for both tenants and collectors.

(12) Report Archiving: Implement an automatic report archiving system to prevent data overload from daily records. Archived reports should remain accessible for future reference, particularly for tenants who are no longer active, ensuring a systematic approach to data management.

(13) Enhanced Report Flexibility: For reports and all functions involving data deletion, ensure that archive and recovery options are included. Permanently deleting data should not be allowed without a robust recovery mechanism in place.

Our suggestions as developers are meant to enhance our capstone project's usability and functionality. In order to accommodate future building renovations, we first suggest incorporating an API that would enable the customer to make changes to the market guide map. Clients would have more freedom thanks to this functionality, which would also guarantee that the system stays current with any modifications to the physical layout. Second, in order to give users a wider range of convenient and safe

payment integration options that meet their needs, we recommend adding APIs for bank transfers, more e-wallets, and other payment methods. Finally, since SMS can be expensive and incur additional operating costs, we advise looking into sustainable options for SMS notifications. In order to save money while preserving dependable communication, future researchers might look at alternate messaging providers or think about developing a unique notification software that makes use of Wi-Fi or Internet rather than paying SMS gateways, otherwise, as consideration for non tech people SMS may consider as well.. Since the system does not currently have these features, we strongly advise adding them since they would significantly improve the platform's functionality and adaptability. By satisfying a variety of changing user needs, these improvements will not only future-proof the system but also greatly increase user happiness.