

# Dimensions of Service Quality of Multipurpose Cooperatives in the Southern Mindanao Region, Philippines: A Multivariate Approach

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## ABSTRACT

The study endeavored to identify the measures of service quality of multipurpose cooperatives in Digos City. The study followed a sequential exploratory design implemented using survey method involving 367 active members of multi-purpose cooperatives (response rate of 91.75%) responding on a 48-item scale of developed service quality. In analyzing the data, exploratory factor analysis was used with principal components analysis to extract the number of dimensions. Results revealed four measures can be extracted from the 48 items submitted for exploratory factor analysis, named as accommodation and reliability, assurance and empathy, accessibility, and service efficiency. Implications on the utility of the framework developed from the analysis were discussed, as well as the context and applicability of the measures for other institutions.

**Keywords:** *service quality, multi-purpose cooperatives, multivariate analysis, Philippines*

## INTRODUCTION

Every customer has an ideal expectation of the service they want to receive when they go to any firm. Service quality measures how well a service is delivered, compared to customer expectations. Businesses that meet or exceed expectations are considered to have high service quality. The term “service quality” is commonly used to express different concepts. It was used to describe how an organization treats its customers (Johnston & Clark, 2008). Accordingly, service quality covers how customers’ requirements and desires are met, as well as how the service delivered matches customers’ expectations. The service quality delivered is a key determinant of overall satisfaction, which in turn leads to customer retention and loyalty (Siddiqi, 2011; Korda & Snoj, 2010; Tsoukatos & Mastrojianni, 2010). Furthermore, they suggest that service quality is the consideration of various related components, including satisfaction, the relative impression of an organization’s services, and the quality that is delivered (Mokhlis, 2012; Snipes, Thomson & Oswald, 2006).

Service quality as perceived by customers has been given increased attention in its inception, due to its specific contribution to business competitiveness, developing satisfied and loyal customers (Zeithaml, Berry & Parasuraman, 1996; Grönroos, 1990; Grönroos, 1984). This makes service quality a very important construct to understand by firms by knowing how to measure it and making necessary improvements in its dimensions where appropriate especially in areas where gaps between expectations and perceptions are wide. Accordingly, services quality is described as SERVQUAL by five dimensions constructs namely reliability, responsiveness, assurance, empathy and tangibles (Zeithaml, Berry & Parasuraman, 1996; Parasuraman, Berry & Zeithaml, 1990). Basically, these dimensions represent the consumer's criteria of judging service quality.

Service quality has drawn attention of researchers in the field of banking, finance, and credit studies in recent decades. It has become a significant subject because of its impact on customer loyalty. Today, the increasing awareness among customers of their rights, changing demands and highly competition requires constant progress in service quality from the bank for their customers to stay loyal (Korda & Snoj, 2010; Kheng, Mahamad, Ramayah & Mohasab, 2010; Culiberg & Rojsek, 2010). This body of research examined the extent of service quality delivery in retail banks that eventually leads to customer loyalty. To a proper extent, service quality can even be used to differentiate between two service provider's services and to win strategic competitive advantage (Jugenissova, Yin-Fah, Lim and Han, 2014; Dabholkar, 2015; Caruana, 2002; Ennew & Binks, 1999). However, very limited studies were conducted especially for multipurpose cooperatives – financial institutions which were not present and considered feasible business model for most Western countries.

Credit and multi-purpose cooperatives are being considered mechanisms to manage risk for members. They help the members to save for the future through monthly contribution and strengthen the communities by providing and payment of local taxes (Saharkhiz, 2009; Bergendahl & Lindblom, 2008). Consumers need financial services brought by cooperatives for personal financial use, making cooperatives as one of the fundamental institutions that contribute to economic development of a country and its regions (Mishra, Sahoo, Mishra & Patra, 2010; Oliver, 2014; Sadek et al., 2010).

In the Philippines, despite the various laws passed and government interventions being implemented, early cooperatives were generally a failure, grounding on the issue of its service delivery (Habaradas & Umali, 2013). Filipino economists and students of cooperatives in this country have often attributed the failure of cooperative societies in this country due to incompetent management, lack of proper understanding of the principles, practices, true aims, and purposes of cooperative associations, political interference particularly in the collection of overdue accounts, lack of compensation of officers, inadequate character and moral responsibility in handling the other fellow's money, lack of adequate safeguard against unscrupulous officers who took advantage of their position to grant loans to themselves and their compadres which later proved disastrous to its service delivery systems, the dominance of the individualistic attitude instead of the spirit of cooperation among the people, inability of cooperatives to secure adequate capital, among others (Quiñones, 2013; Sam & Sam, 2013; Annonuevo, 2011).

Despite the technological development that happens in the country, remains basically as a city whose people depends on credit for multifarious purposes. A study reported that most credit

cooperatives suffer tremendously towards maintaining its market due to noted ineffectiveness in the promotion of cooperative organizations as well as its institutional inadequacies, such as inadequate marketing facilities (Castillo & Castillo, 2017; Guinto & Otahara, 1999). Also, the fundamental cause of failure in a cooperative enterprise is the lack of proper understanding of the principles and true aims of cooperative associations, and the non-adherence to them in actual operation of cooperative enterprises (Ofreneo, 2013).

The lack of characterization on how multi-purpose cooperatives deliver its services is still felt. The premise of the foregoing idea inspired the researcher to conduct a study on determining the dimensions of service quality of multi-purpose cooperatives in Digos City in Southern Mindanao, Philippines using exploratory factor analysis, since it would pave the way for the cooperatives to identify what comprises or composes its service delivery quality for the sake of efficient and effective service delivery. These are the fundamental reasons why this treatise was proposed.

## METHOD

### *Design*

This study used a non-experimental quantitative research design particularly the exploratory method. This design is suitable in scale or instrument development, to develop a classification for testing, or to identify variables (Cameron, 2009).

In this study, the exploratory research design was used to extract the measures that characterize or describe the service quality of multi-purpose cooperatives in Digos City by using interview to form the items of the scale, followed by gathering quantitative data and analyzing the same using exploratory factor analysis (EFA) to extract or “explore” these factors.

### *Research Locale*

This study was conducted in Digos City, the capital and component city of the Province of Davao del Sur in Southern Mindanao, Philippines, and is home to 169,393 citizens based on 2015 census. In particular, the study involved multi-purpose cooperatives located within the confines of the *poblacion* area. The studied area included cooperatives situated within the heart of the city, as they are more accessible to go to.

### *Population and Sample*

The researchers used proportionate-to-size simple random sampling in determining the number of client-members of three multi-purpose cooperatives as this study’s respondent sample. In this study, a total of 400 respondents were randomly chosen until the desired sample size is attained. The sample size was also assured to be acceptable based on the number of items in the final survey questionnaire to avoid factor rotation issues (Velicer & Jackson, 1990).

<i>Name of Cooperative</i>	<i>n</i>	<i>%</i>
Digos Market Vendors’ Multi-Purpose Cooperative	200	50.0
King Cooperative	100	25.0
Bansalan Credit Society (BCS)	100	25.0
Total	400	100.0

In qualifying the respondents of the study, any active member for the last six months before the conduct of the survey, who are classified as members of good standing (MIGS), have availed of any fiduciary services of the cooperative, a resident of Digos City, and at least 18 years old at the time of the study, are targeted as prospect respondents. Exclusion criteria, on the other hand, was defined as follows: cooperative member who are students and were younger than 18 years old at the time of the study, active members with less than six months membership, and inactive members, i.e., members not in good standing.

### *Instrument*

This study adopted the scale of Soriano (2014). The scale contains 48 questions or situations that characterize the service attributes of the services of PAG-IBIG Fund Davao City Branch. The initial reliability coefficient of the instrument was found to be very reliable, having an alpha value of 0.94. The scale was adopted due to the similarity of the purpose of the previous study with the current study. Refinement of the questionnaires was done through the assistance of the adviser and four validators who ensured its validity.

### *Data Collection and Analysis Procedure*

The researchers sent letters of permission to conduct the study, signed by the adviser and favorably endorsed by the Dean of the Professional Schools, to the General Managers and the Board of Directors of multi-purpose cooperatives in Digos City. Consequently, the research instruments adopted were translated into vernacular for easier understanding of the respondents. Prior to the distribution of the questionnaires, the researcher and the assigned enumerators explained to the respondents the rationale of the study for them to understand its importance. Survey questionnaires were administered and either handed personally by the researcher to the identified respondents or through the assistance of the front desk staff of multi-purpose cooperatives. This was done to ensure 100% retrieval of the questionnaire and to provide immediate response to any possible inquiries. The respondents were given enough time to answer the questionnaire. Subsequently, the questionnaires were retrieved and checked for any missing entries. They were collected immediately after being filled-out. The survey was conducted for two weeks commencing second week until last week of September of 2014.

After retrieval, the responses were tabulated and processed using appropriate statistical tools. Exploratory factor analysis enabled the researcher to determine the number of components of service quality. Item loadings were determined and items with similar themes were labeled with appropriate component names. Items that did not reach the cut-off point or have double-loadings were eliminated.

## **RESULTS**

Results of the statistical assumptions tests indicated that the data set is appropriate for factor analysis. Under EFA, principal component factor analysis is used to attain dimensionality of the service quality scale/questionnaire used and come up with the service quality measures that of the multi-purpose cooperatives. The Kaiser-Meyer-Olkin (KMO) Index is a measure used for assessing sampling adequacy (Kaiser & Rice, 1974). It is also used as an index in comparing the magnitudes of the observed correlation coefficients and partial correlation coefficients to determine if the data are likely to coalesce on components. This measure ranges from the values 0

to 1; a value of 0.6 is suggested minimum for a satisfactory factor analysis to proceed but values closer to 1 are better. In Table 1, the test result for KMO index is 0.968. The result suggested that the sample size is adequate and “meritorious” as it surpassed the acceptable value of 0.6. This result is an overall index saying that the data support the use of exploratory factor analysis, and that the data may be grouped into smaller sets of underlying factors. The result therefore confirms that the gathered dataset from 400 respondents is appropriate for factor analysis.

Moreover, analysis also included the Bartlett’s test of sphericity. In this study, table 2 shows that the test value is high (19,990), degree of freedom (df) of 1128,  $p < 0.05$ . Therefore, the dataset is deemed appropriate for factor analysis (Stewart, 1981). The significance value of Bartlett’s test of sphericity should be less than 0.05 to be small enough to reject the hypothesis (Armstrong & Soelberg, 1968).

Table 1. KMO and Bartlett’s Test Result

Test	Value
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy.	0.968
Bartlett's Test of Sphericity	Approx. $\chi^2$
	df
	$p$ -value
	19,990
	1128
	<0.01

The data was subjected to principal component analysis (PCA) to determine the factor structures. Principal component analysis (PCA) is employed to determine whether certain items measure common factors (Henson & Roberts, 2006). An orthogonal rotation (VARIMAX) technique was used since it can produce a clearer structure in terms of the content validity of the factors (Beavers et al., 2013). In this study, the cut-off point of  $\pm 0.50$  for the coefficient was used for the 48-item scale. Setting the cut-off point above the minimum threshold results in an improved factor structure and assisted in formulating the factor rotation.

The standard result of exploratory factor analysis can be identified using the latent roots criterion through getting the total value of the variances explained. The total variance explained shows the result by identifying the value of the eigenvalues of the factors and the variance of each factor (Howe, 1999). Based on the analysis, 44 of the items successfully loaded out of the 48 items subjected in the extraction procedure. Also, results of the latent root criterion reveal that four factors or components can be extracted from the 48 items submitted for dimensional reduction. These four factors explained 70.468% cumulative variations in the data.

The four components or measures of service quality of multi-purpose cooperatives of Digos City are identified based on the item loadings. Based on the rotated component matrix, there are four components generated using principal component analysis. Table 2 shows the factor loadings of the items that comprise the first component or dimensions of service quality. There are 18 items that were found out to comprise the first dimension. These attributes speak of a service that strives to accommodate its clients in the most risk-free ways, delivering services to its reliability, and advocating for service delivery as it promised to its clients. Thus, this dimension is named “accommodation and reliability” dimension.

Table 4. Rotated Component Matrix

Item Number	Component			
	1	2	3	4
1. Displaying in anti-scam posters and ads	.753			
2. Resorting to legal and administrative actions to scammers and employees who participate in fraudulent activities	.738			
3. Regularly reminding members to report scams and fraudulent activities	.729			
4. Discouraging multiple transactions at one time by a single person	.718			
5. Discouraging employees in accepting tips from clients	.710			
6. Requiring representatives to present IDs or proofs of processing in behalf of the applicant(s)	.701			
7. Having good lightings	.668			
8. Having very corporate and professional office setup	.652			
9. Conducting caravans and participating in job fairs	.648			
10. Being spacious enough to accommodate more clients at one time	.622			
11. Having social network accounts that regularly update new information or respond to clients' inquiries	.620			
12. Being well-ventilated and air-conditioned	.609			
13. Ensuring that its members are well-communicated and informed	.604			
14. Establishing partnership with certain agencies as payment centers for loans	.597			
15. Catering clients' concerns prudently and properly	.579			
16. Using tri-media (TV, radio and printed ads) in marketing its services	.544			
17. Using current trends and technologies to promote its services	.537			
18. Screening people to minimize overcrowding	.521			
19. Informing clients on interest rates prior to loan application		.816		
20. Having considerably low interest rates on loans		.798		
21. Offering interest rates on loans worth the clients' use of the granted amount		.786		
22. Providing comfort rooms and segregated waste bins		.783		
23. Utilizing sophisticated office equipment and devices		.782		
24. Collecting monthly loan payments via company's payroll system		.664		
25. Having an inquiry booth that caters preliminary questions or follow-ups		.600		

26. Having employees who are willing to help clients in the best ways possible	.593		
27. Having employees who have fair treatments to all clients	.588		
28. Assuring best efforts in processing loan applications	.582		
29. Offering refreshments for waiting clients	.578		
30. Extending condonation programs to cater delinquent payers	.559		
31. Handling complaints in the most professional and sincere way	.542		
32. Displaying television(s) so that waiting clients will not get bored	.531		
33. Employees double-checking the requirements for accuracy	.529		
34. Conducting public information, seminars and orientations regularly	.507		
35. Offering separate waiting lines for clients with different inquiries or transactions		.723	
36. Imposing a certain number of minutes per client to cater more clients in a day		.706	
37. Being strict in terms of forfeiture of priority numbers if the holder is not around		.637	
38. Not processing loan applications with incomplete requirements, wherever they came from		.615	
39. Having automated priority number generation		.591	
40. Having separate lanes/priority lanes for pregnant women, disabled persons and senior citizens		.584	
41. Having adequate number of employees to cater the clients		.559	
42. Having mobile (SMS) or email notification schemes to inform clients for approved and claimable loans		.511	
43. Having loan application and processing not taking much time			.579
44. Making leaflets, brochures and posters available to its clients			.560

More so, factor loadings of the second dimension of service quality include 16 items. These attributes speak of a service that strives to be assuring of its services and empathizes with what the clients need. Such service quality attribute also speaks of the comfort and welfare of the clients from transaction towards future loan re-application. Thus, this dimension is named “assurance and empathy”. Likewise, factor loadings of the third component or dimension of service quality include eight items. These attributes speak of a service that strives to make its transactions easier and its loan services accessible because it strives to offer. Thus, this dimension is named “accessibility”.

Lastly, same table shows the factor loadings of the items that comprise the fourth component or dimension of service quality. There are only two items that were found out to comprise the fourth and last dimension. The items speak of having to process loan applications of clients that do not take much time, as well as making leaflets, brochures, and posters available to its clients. Thus, this dimension is named “availability”.

## DISCUSSION

Results revealed four factors or measures that can be extracted from the 48 items submitted for exploratory factor analysis. The four components or dimensions of service quality of multi-purpose cooperatives of Digos City are accommodation and reliability, assurance and empathy, accessibility, and service efficiency.

There are 18 items that were found out to comprise the first dimension. The items speak about displaying anti-fixer posters and advertisements, resorting to legal and administrative actions to fixing activities, reminding clients to report fixing activities. It also talked on having an office with a corporate physical setup, conducting caravans, having an official website, and having security personnel that thoroughly screens people before entering the premises to avoid overcrowding. These attributes speak of a service that strives to accommodate its clients in the most risk-free ways, delivering services to its reliability, and advocating for service delivery as it promised to its clients. Thus, this dimension is named “accommodation and reliability” dimension. The first component generated affirms with the studies of Khan and Fasih (2014), Korda and Snoj (2010) and Johnston and Clark (2008), which averred that service quality describes how an organization treats its customers, how customers’ requirements and desires are met, as well as how the service delivered matches customers’ expectations. Furthermore, the study is corollary to the findings of Caruana (2002), which pointed out that service quality is the result of the comparison made by customers about what they feel service firms should offer, and perceptions of the performance of firms providing the services.

The second measure is assurance and empathy, since it covers items that discuss about assuring that the clients are knowledgeable of the interest rates of the cooperative prior to loan application, having considerably low interest rates and that paying for it is worth with what the client has used the amount loaned for. The dimensions also include items that discussed the provision of comfort rooms, utilizing sophisticated office equipment, having fair-treating employees, having inquiry booths, assuring best efforts in processing loan applications, extending condonation programs, double-checking the requirements for accuracy, conducting public information, seminars and orientations regularly, among others. These attributes speak of a service that strives to be assuring of its services and empathizes with what the clients need. Such service quality attribute also speaks of the comfort and welfare of the clients from transaction towards future loan re-application. This is corroborated by Ehigie’s (2006) and Ladhari’s (2008) study, purporting that excellence in service quality manifests a firm’s capacity to provide peace and mind on its clients, understanding their needs and being aware of such needs. The increasing awareness among customers of their rights, changing demands and highly competition requires constant progress in service quality from the firms for their customers to stay loyal (Caruana, 2002). Soriano (2014) added that having to empathize and be affirmative to what the clients need is a manifestation of delivering of a high service quality that eventually leads to customer loyalty. Lastly, according to Ndubisi, Malhotra



and Wah (2008), the service provider's ability shall perform the promised service dependably and accurately. This is achieved through keeping promises to do something, assurance in providing right service, consistency of performance, among others.

The third component or dimension of service quality is accessibility, which covers items that speak of a service that offers separating waiting lines for clients with different inquiries or transactions, imposing a certain number of minutes per client to cater more clients, being strict in the forfeiture of priority numbers if the holder is not around when called, having automated priority number generation, having adequate number of personnel, having mobile or email notification schemes to inform clients of loan status, among others. This is comparable to the findings of Kumar et al. (2010), who found that accessibility is equated with how the firms instill confidence towards its clients. Moreover, Tsoukatos and Mastrojianni (2010) averred that as confidence in one's impressions about the firm increases, trust develops between the parties, and the cost of switching firm rises. Being accessible and providing leeway for accessibility becomes a defining trait for firms to be patronized more by clients (Khan & Fasih, 2014). In addition, this finding is parallel to the pronouncements of Culiberg and Rojsek (2010), stating that a firm's services such as prompt communication to the customer are vital. Customers are concerned whether they will be provided with the right information to the right customers promptly.

Lastly, the fourth component or dimension of service quality is service efficiency, which include having to process loan applications of clients that do not take much time, and making leaflets, brochures, and posters available to its clients. Looking on the commonality of the attributes, it is conclusive that the multi-purpose cooperatives seek to be available in many aspects – being available in processing loans in a faster rate and having available information materials to inform the public on their services. Finding “availability” as the fourth dimension of service quality of multi-purpose cooperatives in Digos City is in conformance to the studies of Bergendahl and Lindblom (2008), who postulated that service quality needs to have a feel of availability for its clients. This is a manifestation of responsiveness of a service, which defines the willingness to help customers and to provide prompt services. It is the desire and willingness to assist customers and deliver prompt service. In other words, availability points how quickly and affective the response to the client is (Setó-Pamies, 2008).

## CONCLUSION

This study define service quality as a function of four dimensions – accommodation and reliability, assurance and empathy, accessibility, and service efficiency. These four dimensions characterize service quality of multi-purpose cooperatives in Southern Mindanao, Philippines. The generation of the dimensions of service quality of multi-purpose cooperatives corroborated the SERVQUAL model espoused by Parasuraman, Zeithaml and Berry (1990), which discussed a typical service to have initially at least four attributes, and is consistent with the pronouncements of Shahin and Samea (2010) and Oliver (2014), both typifying service quality to be a four- or five-factor model and is excellent framework that takes into account clients' perceptions, which is a good way to measure service quality..

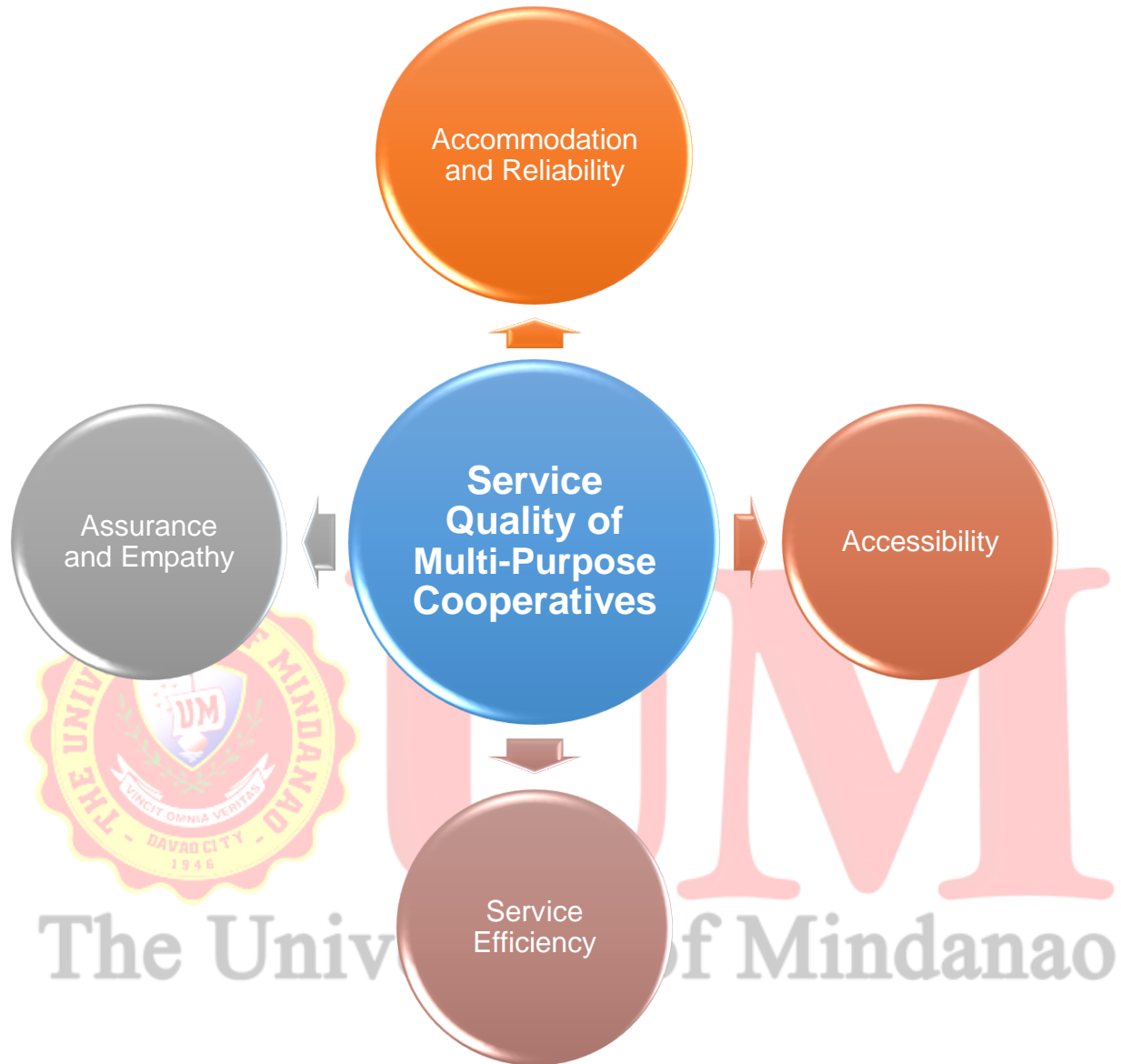


Figure 1. *Final Framework Showing the Measures of Service Quality of Multi-Purpose Cooperatives in Digos City*

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