### DESIGN OF QUALITY IMPROVEMENT FOR PRIME TIME PROGRAM ON ZORA RADIO USING QFD **METHOD**

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### **ABSTRACT:**

PT Radio Karang Tumaritis or mostly known as Zora Radio is a radio in Bandung owned by Yayasan Pendidikan Telkom (YPT). In 2015 Zora Radio changes new segment into young segments. Recorded from the establishment until now, Zora Radio had five times changes their radio segment. The changes that done by Zora Radio made they difficult to earn their revenue target especially from advertisement. That problem caused by the lack of awareness from young people about Zora Radio that has been changes their segment into youth segment. The lack of awareness from young people caused by program that inconsistent in prime time for a weekday program. Therefore, Zora Radio will do a quality improvement for prime time program to achieve their goals.

This research aims to provide recommendation to improve Zora Radio based on fifteen true customer needs using Quality Function Deployment Method (QFD). QFD is one of the quality improvement method that focus on Voice of Customer (VoC). In this research, QFD calculation that is used is QFD two iterations, which are House of Quality to determine technical requirement and Part Deployment Matrix to determine critical part.

Recommendation formulation drawn up by the data processing and concept selection using decision matrices, analysis and discussion with Management of Zora Radio, as well as benchmark to the competitor that aims to develop prime time program quality of Zora Radio. The recommendation given are, increasing transmitter power, increasing the speed of streaming, expand area of grounding system, eliminate relay program, make a program that consistent on prime time, make a creative team, replace and adding a number of equipment, determining the criteria of announcer age, determining the criteria mastery a foreign language especially English for an announcer, training the announcer on the first time in recruitment stage, evaluation and training periodically for announcer.

# Keywords: Zora, QFD, True Customer Needs, House of Quality, Part Deployment

#### 1. Introduction

PT. Radio Karang Tumaritis or better known as Zora Radio is one of the radio that currently changing segmentation to youth radio. Since its established until now, Zora Radio has undergone 5 times of segment changes. Recorded by the National Private Radio Association of Indonesia or Persatuan Radio Siaran Swasta Nasional Indonesia (PRSSNI) there are 55 active radio stations operate in Bandung, 8 out of 55 radio stations are targeting the youth segment [1] The number of radios that target the youth segment is a challenge to make a prime-time program that is interesting for the listeners, especially for Zora Radio who is just new to target this segment.

Based on the depth interview that has been done to the Director of PT. Karang Tumaritis on October 6, 2016, Zora Radio has not been able to achieve the target given as shown in the picture below<sup>[2]</sup>.

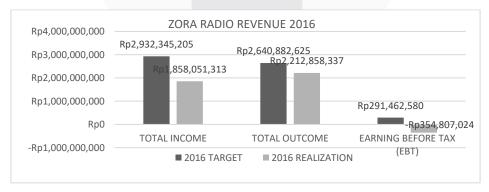


Figure I.1 Total Revenue of Zora Radio

Based on these problems, a preliminary survey was conducted to find out the awareness of the people regarding the existence of Zora Radio to 200 respondents consisting of high school students and students in Bandung with age range of 15-25 years old. The survey provided information that the top of mind radio for the youth segment is Prambors Radio while Zora Radio is in seventh position of eight radios with a percentage of 25% respondents who know about Zora Radio.

Preliminary survey data also explains the intensity of the majority of people listening to radio on every Monday to Friday in the morning, afternoon and evening.

The low awareness of the people towards Zora Radio has an impact on the number of listeners and revenues. As explained by Zora Radio Management, one of the cause the target has not been able to reach is the decline in revenue, especially for on air advertising expenditure since 2015 due to changes in segments that are often done by Zora Radio.

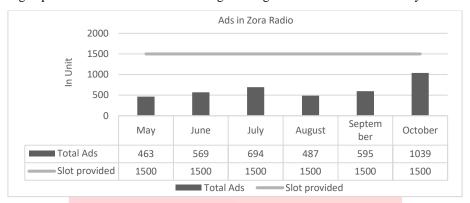


Figure I.2 Advertiser in Zora Radio

Zora Radio has a competitor who is established for ages in the radio segment of youth, Ardan Radio who has a prime-time program as its ace program that affects revenue from advertising. Apart from having a strong competitor that is more experienced, other obstacles experienced by Zora Radio is the discovery of complaints from listeners when they accessing the availability of services and listening to programs on Zora Radio.

These complaints can be used as parameters of the listener's dissatisfaction with the services and programs provided. Meanwhile, radio competitor such as Ardan Radio have performed well-run services and programs, so there is no complaint about the services and programs presented which is similar to Zora Radio.

Based on these problems, Zora Radio must take action to improve program quality so that radio program can compete and win over its competitors.

# 2. Literature Review

### 2.1 Quality Function Deployment (QFD)

QFD is a structured method used in the process of product planning and development to define the specifications of customer needs and wants, and systematically evaluate the capabilities of a product or service in meeting customer needs and wants<sup>[3]</sup>. Quality Function Deployment (QFD) is one way to improve the quality of goods or services by understanding the needs of the consumer and then connecting them with the technical characteristics to produce a good or service at each stage of making the goods or services produced<sup>[4]</sup>.

# 2.2 QFD First Iteration

QFD first iteration convert voice of customer (VoC) into the technical requirement or the technical from the product or service specification requires a matrix that can meet the customer needs that called House of Quality (HoQ) which is a planning matrix<sup>[3]</sup>. HoQ chart as follows:

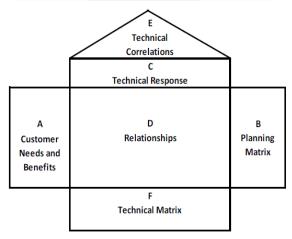


Figure 2.1 House of Quality

### 2.3 Concept Development

Concept Development is a stage that is based on the technical characteristics of first iteration of QFD which will subsequently be derived in the second iteration QFD stage. A product can satisfy customers and be successful in the market depending on the high value for the underlying quality measure of the concept<sup>[5]</sup>. The purpose of this stage is to help the company to improve the concept that is currently running to become better. The development of the concept consists of two stages, namely the stage of concept generation and the concept selection stage

### 2.4 QFD second iteration

QFD second iteration also known as part deployment. In this design process and service improvement<sup>[3]</sup>, part deployment matrix described as follows.

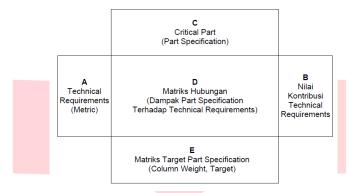


Figure 2.2 Part Deployment

### 3. Research Methodology

Conceptual model on this research described as follows:

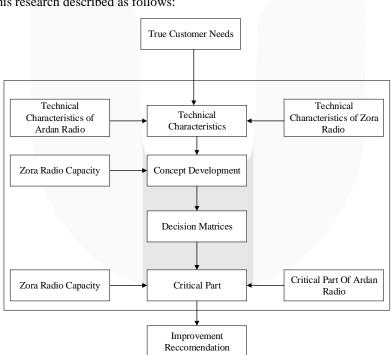


Figure 2.3 Conceptual Model

First stage in doing this research is to obtain true customer needs that have been done in previous research using Integration of Service Quality and Kano Model. At this stage will also get the value of customer satisfaction index (CSI) for every true customer needs. CSI and Kano categories are used to find the value of adjusted importance. In addition, the technical characteristics of Ardan Radio were used as a comparison to determine the technical characteristics of Zora Radio.

The second stage is Concept Development where there will be several concepts that must be selected from various concept alternatives. The development of the concept is done through two stages, namely the stage of concept generation and the concept selection stage. Next is determine the critical part obtained from a combination of technical characteristics on first iteration of QFD with the development of predefined concepts. The next step is to determine the priority of the critical part made through the Ardan Radio benchmark. Ability owned by Zora Radio will also determine the priority of critical part.

## 4. Analysis

The input of this research is true customer needs, customer satisfaction index, and Kano category that obtained from the previous research about design listener's needs of radio program at prime time using integration of service quality and Kano model<sup>[6]</sup>. Next technical requirement is determined for each true customer needs.

Table 4.1 Technical Characteristic

Atribute Code	True Customer Needs	Technical Characeristic	Code
AI1	Announcer have vast knowledge	Radio broadcaster requirement	K7
AI2	Broadcasters is creative in entertaining.	Radio broadcaster requirement	K7
AI3	Broadcasters who maintain good interaction with listeners	Radio broadcaster requirement	K7
INF2	The presence of educational discussion materials	Standard content on air	K4
		Standard on air program	K5
INF3	Info deliver accurately and based on National and	Standard information provided	K6
	International issues	Standard content on air	K4
		Standard on air program	K5
INF4		Standard information provided	K6
	Provide information on the latest songs (top hits / top chart).	Standard content on air	K4
		Standard on air program	K5
PC3	On air programs have the same program every day	Standard content on air	K4
		Standard on air program	K5
CA3	Songs played are songs with genre like pop, jazz, and RnB	Standard content on air	K4
		Standard on air program	K5
CA4	Material of discussion provided according to the needs of young people	Standard of program duration and advertising	К3
		Standard content on air	K4
		Standard on air program	K5
		Radio broadcaster requirement	K7
AD2	There is an official account in social	Media for communication with listeners	K8
TA1	Availability of online streaming	Media to listen to the radio	K2
		Standard on air program	K5
TA2	Availability of live online in social media	Media to listen to the radio	K2
		Standard on air program	K5
TA3	Availability of wide range of radio frequencies	Standard radio transmitter system	K1
TA4	The quality of the broadcast is clear	Standard radio transmitter system	K1
		Standard on air program	K5
TA 5	Streaming radio quality is stable	Standard radio transmitter system	K1
		Standard on air program	K5

Technical characteristic identified based on fifteen true customer needs. Technical characteristic identify based on fifteen true customer needs. Technical characteristic obtained by discuss with the management of zora radio and compare with the competitor Ardan Radio. The identification was obtained five priority technical characteristics that need to be improved.

Table 4.2 Technical Characteristic Priorities

No	Technical Characteristic	
1	Standard radio transmitter system	
2	Standard content on air	
3	Standard on air program	
4	Standard information provided	
5	Radio broadcaster requirement	

The technical requirement priorities as the input for concept development process. The existing concept of Radio Zora will be compared to the optimization concept, innovation concept and combination concept then the concept will be scored using decision matrices with the selection criteria are; effectiveness, efficiency, feasibility, and ease to be realized. As the result, the creating concept was chosen based on the brainstorming done with management of Zora Radio.

After the concept development process, the calculation process is going to QFD second iteration to obtain the critical part based on the technical requirement. The critical part are as follows

Table 4.3 Critical Part

Con	cept Attribute	Critical Part	
		Transmit power	
Transmitter power syst	em & grounding sys	Streaming speed	
		Grounding system	
Minimize the number of programs at prime time and			Number of relay program
create original radio pr	ograms		Number of programs at prime time
	gram criteria and equipm	pment	Establish the creative team part of the program
E 4 11 1 4 6			Stages of script creation
renewal			The type of equipment used
			Number of equipment used
	on delivery		Type of information
			Number of information source
Criteria of information			Criteria of information deliver
			information characteristic
			Age broadcaster criteria
		Criteria for foreign language proficiency	
Establish broadcaster c	riteria and developm	Stages of recruitment of broadcasters	
		Frequency of broadcaster training in one year	

From Table 4.3 it is then be calculated with part deployment matrix as well and from the matrix it can be determined the critical part priorities which are; transmit power, streaming speed, grounding system, number of relay program, Number of programs at prime time, Establish the creative team part of the program, the type of equipment used, number of equipment used, criteria of information deliver, age broadcaster criteria, stages of recruitment of broadcasters, frequency of broadcaster training in one year.

# 5. Conclusion

This research generate some conclusion: There are fifteen technical characteristic and five priorities of technical characteristic based on true customer needs. Based on the results of data processing using Quality Function Deployment method obtained seventeen critical part and thirteen priorities of critical part. Improvement for prime time program in Zora Radio. Improvement prime time program Zora Radio done by making recommendations to achieve each target have been set. There are thirteen recommendations that serve as a reference to Radio Zora to improve the quality of prime time programs.

# 6. Bibliography

[1] PRSSNI. (2015). Laporan tahunan 2015 PRSSNI. Bandung

Akao, Y. (1990a) An introduction to quality function deployment, in Akao, Y. (Ed.), Quality Function Deployment: Integrating Customer Requirements into Product Design, Productivity Press, Cambridge, MA.

- [2] Zora. (2016). Laporan Manajemen Keuangan ZORA 2016. Bandung
- [3] Cohen, L. (1995). *Quality Function Deployment: How to Make QFD Work for You*. Massachusetts: Addison Wesley Publishing Company
- [4] Ginting, Rosani. (2010). Perancangan Produk. Yogyakarta: Graha Ilmu.
- [5] Ulrich, Karl T., and Eppinger, Steven D., (2012). Product Design and Development. Edisi ke-4. New York: Mc Graw Hill Book
- [6] Safitri, F.F.(2017). Design Listener's Needs Of "Senja Manja" Program From Zora Radio Using Integration Of Service Quality And Kano Model. Bandung: Telkom University