

# INTERNATIONAL CONFERENCE



The Second International Conference on  
Engineering and Technology Development

# 2<sup>nd</sup> ICETD 2013

27, 28, 29 August 2013, Bandar Lampung, Indonesia



**PROCEEDINGS**



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Hosted by :

Faculty of Engineering and Faculty of Computer Science,  
Bandar Lampung University (UBL), Indonesia

# 2<sup>nd</sup> ICETD 2013

THE SECOND INTERNATIONAL CONFERENCE  
ON ENGINEERING AND TECHNOLOGY DEVELOPMENT

28 -30 January 2013  
Bandar Lampung University (UBL)  
Lampung, Indonesia

## PROCEEDINGS

Organized by:



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## PREFACE

The Activities of the International Conference is in line and very appropriate with the vision and mission of Bandar Lampung University (UBL) to promote training and education as well as research in these areas.

On behalf of the Second International Conference on Engineering and Technology Development ( 2<sup>nd</sup> ICETD 2013) organizing committee, we are very pleased with the very good response especially from the keynote speaker and from the participans. It is noteworthy to point out that about 80 technical papers were received for this conference.

The participants of the conference come from many well known universities, among others : University Kebangsaan Malaysia – Malaysia, APTIKOM – Indonesia, Institut Teknologi sepuluh November – Indonesia, Surya Institute – Indonesia, International Islamic University – Malaysia, STMIK Mitra Lampung – lampung, Bandung Institut of Technology – Bandung, Lecture of The Malahayati University, B2TP – BPPT Researcher – lampung, Starch Technology Center – Lampung, Universitas Islam Indonesia – Indonesia, Politeknik Negeri Malang – Malang, University of Kitakyushu – Japan, Gadjah Mada University – Indonesia, Universitas Malahayati – Lampung, Lampung University – lampung, Starch Technology Center – Lampung, Universitas Riau – Riau, Hasanuddin University – Indonesia, Diponegoro University – Indonesia, King Abdulaziz University – Saudi Arabia, Parahyangan Catholic University – Indonesia , National Taiwan University–Taiwan, Surakarta Christian University – Indonesia, Sugijapranata Catholic University – Indonesia, Semarang University – Indonesia, University of Brawijaya – Indonesia, PPKIA Tarakanita Rahmawati – Indonesia, Kyushu University, Fukuoka – Japan, Science and Technology Beijing – China, Institut Teknologi Sepuluh Nopember – Surabaya, Researcher of Starch Technology Center, Universitas Muhammadiyah Metro – Metro, National University of Malaysia – Malaysia.

I would like to express my deepest gratitude to the International Advisory Board members, sponsor and also to all keynote speakers and all participants. I am also gratefull to all organizing committee and all of the reviewers who contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector of Bandar Lampung University (UBL) who give us endless support to these activities, so that the conference can be administrated on time

Bandar Lampung, 29 August 2013-08-26

Mustofa Usman, Ph.D  
2<sup>nd</sup> ICETD Chairman

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## Table Of Content

Organizing Committee .....	i
Table Of Content.....	v
Keynote Speaker	
1. Recent Advances in Biofuel Cell and Emerging Hybrid System <b>Abdul Aziz Ahmad and Raihan Othman</b> .....	1
2. Waste Utilization Study Tailing Gold Mine in Way Linggo-Lampung, as Fine Aggregate Materials for Producing Mortar Materials based on concept of Green Technology <b>Lilies Widodojoko &amp; Susilawati</b> .....	8
3. Infrastructure Health Monitoring System (SHM) Development, a Necessity for Maintance and Investigation <b>Prof. Dr. Priyo Suprobo, Faimun, Arie Febry</b> .....	17
4. Four Phases Quality Function Deployment (Qfd) By Considering Kano Concept, Time And Manufacturing Cost <b>Prof. Dr. Moses L Singgih, Dyah L. Trenggonowati, Putu D. Karningsih</b> ....	22



Speaker

1. Comparative Analysis for The Multi Period Degree Minimum Spanning Tree Problem  
**Wamiliana, Amanto, and Mustofa Usman**..... 39
2. Choosing The Right Software In Supporting The Successful of Enterprise ERP Implementation  
**Yodhie Yuniarthe, Idris Asmuni**..... 44
3. Climate Adaptive Technology In Maintaining Vernacularism Of Urban Kampong Case study: Kampung Adat (Indiginous) Mahmud, Bandung District, West Java  
**Marcus Gartiwa**..... 50
4. The Prospect Of Diesohol In Facing Fossil Fuel Crissis  
**M.C. Tri Atmodjo**..... 63
5. The Potential Of Agriculture And Forestry Biomass Wastes As Source Of Bioenergy  
**Hardoyo**..... 66
6. The Importance of Education Facility as Sustainable Urban Generation Tool  
**Fritz Akhmad Nuzir, Haris Murwadi and Bart Julien Dewancker** ..... 71
7. The implementation of Secton Method for Solving Systems of Non Linear Equations  
**Nur Rokhman** ..... 80
8. Quality Control Analysis Into Decrease The Level Defects On Coffee Product  
**Heri Wibowo, Sulastri and Emy Khikmawati** ..... 85
9. Public Transpotion Crisis In Bandar Lampung  
**Ida Bagus Ilham Malik** ..... 89
10. Geospatial Analysis of Land Use Change in Way Kuripan Watershed, Bandar Lampung City  
**Candra Hakim Van Rafi'1., Dyah Indriana Kusumastuti2., Dwi Jokowinarno**..... 99
11. Material Utilization Technology Of Agriculture And Forestry Waste  
**Hardoyo**..... 105
12. The Supply Chain System Of Cassava On The Tapioca Industry  
**Hardoyo**..... 108
13. Glass Technology In Natural Light Glasses On Aperture Element In The Architecture World  
**Muhammad Rija & MT Pedia Aldy** ..... 113

14. An Eksperimental Permeable Asphalt Pavement Using Local Material Domato Stone On Quality Of Porous Asphalt <b>Firdaus Chairuddin, Wihardi Tjaronge, Muhammad Ramli, Johannes Patanduk</b> .....	117
15. Coordination Of Architectural Concepts And Construction Systems <b>Eddy Hermanto.</b> .....	129
16. Seismic Assessment of RC Building Using Pushover Analysis <b>Riza Ainul Hakim.</b> .....	136
17. Viscosity and Liquidity Index Relation for Elucidating Mudflow Behavior <b>Budijanto Widjaja and Shannon Hsien-Heng Lee.</b> .....	143
18. The Use of Pozzolanic Material for Improving Quality of Strontium Liquid Waste Cementation in Saline Environment during Nuclear Waste Immobilization Process <b>Muhammad Yusuf, HayuTyasUtami, Tri SulistiyoHariNugroho, SusetyoHarioPutero</b> .....	148
19. Geospatial Analysis Of Land Use And Land Cover Changes For Discharge At Way Kualagaruntang Watershed In Bandar Lampung <b>Fieni Yuniarti, Dyah Indriana K, Dwi Joko Winarno.</b> .....	153
20. Wifi Network Design For High Performance <b>Heru Nurwarsito, , KasyfulAmron,BektiWidyaningsih</b> .....	161
21. Studi on The Efficiency Using Nature Materials in The Structural Elements of Reinforced Concrete Beam <b>Yasser , Herman Parung , M. Wihardi Tjaronge, Rudy Djamaluddin.</b> .....	167
22. The Research Of Slow Release Nitrogen Fertilizer Applied In Sugarcane (Saccharum Officinarum) For Green Energy Bioethanol <b>M.C. Tri Atmodjo, Agus Eko T. Nurul Rusdi, Sigit Setiadi, and Rina.</b> .....	179
23. Energy Utilization Technology Of Agriculture And Forestry Waste <b>Hardoyo.</b> .....	185
24. Implementation Of Fuzzy Inference System With Tsukamoto Method For Study Programme Selection <b>Fenty Ariani and Robby Yuli Endra.</b> .....	189
25. The Analysis of Video Conference With ITU Standarization (International Telecommunication Union) That Joining in Inherent At Bandar Lampung University <b>Maria Shusanti F, Happy Reksa</b> .....	201

26. The E-internal audit iso 9001:2008 based on accreditation form assessment matrix in study program for effectiveness of monitoring accreditation  
**Marzuki, Maria Shusanti F.** ..... 207
27. The Developing Of e-Consultations For Effectiveness of Mentoring Academy  
**Ahmad Cucus, Endang K** ..... 214
28. The Evaluation of information system performance in higher education case study with EUCS model at bandar lampung university  
**Reni Nursyanti, Erlangga.** ..... 221
29. The Analysis Of History Collection System Based On AndroidSmartphone With Qr Code Using Qr CodeCase Study: Museum Lampung  
**Usman Rizal, Wiwin Susanty, Sutrisno.**..... 230
30. Application of Complaint Handling by Approach Model of ISO 10002 : 2004 to Increase Complaint Services  
**Agus Sukoco and Yuthsi Aprilinda.** ..... 235
31. Towards Indonesian Cloud Campus  
**Taqwan Thamrin, Iing Lukman, Dina Ika Wahyuningsih** ..... 252
32. Bridging Router to ADSL Modem for Stability Network Connection  
**Arnes Yuli Vandika and Ruri Koesliandana.**..... 257
33. The Effect of Use Styrofoam for Flexural Characteristics of Reinforced Concrete Beams  
**Yasser , Herman Parung, M. Wihardi Tjaronge, Rudy Djamaluddin** ..... 261
34. The Estimation Of Bioethanol Yield From Some Cassava Variety  
**M.C. Tri Atmodjo**..... 273
35. Effect of Superficial Velocity of Pressure Difference on The Separation of Oil And Water by Using The T-Pipe Junctionl  
**Kms. Ridhuan and Indarto.**..... 277
36. The use of CRM for Customer Management at Cellular Telecommunications Industry  
**Ayu Kartika Puspa.**..... 293
37. Indonesian Puslit (Centre Of IT Solution) Website Analysis Using Webqual For Measuring Website Quality  
**Maria Shusanti Febrianti and Nurhayati.** ..... 297
38. The E-internal audit iso 9001:2008 based on accreditation form assessment matrix in study program for effectiveness of monitoring accreditation  
**Marzuki, Maria Shusanti F.** ..... 307

39. Enhancing Quality Software Through CMMI-ISO 9001:2008 and ISO 9126 <b>Agus Sukoco</b> .....	320
40. Value Analysis Of Passenger Car Equivalent Motorcycle (Case Study Kartini Road Bandar Lampung) <b>Juniardi, Aflah Efendi</b> .....	337
41. Alternative Analysis Of Flood Control Downstream Of Way Sekampung River <b>Sugito, Maulana Febramsyah.</b> .....	347
42. Analysis Of Fitness Facilities And Effective Use Of Crossing Road <b>Juniardi, Edi Haryanto.</b> .....	353
43. Study On Regional Development Work Environment Panjang Port Lands In Support Bandar Lampung City As A Service And Trade <b>Ir. A. Karim Iksan, MT, Yohn Ferry.</b> .....	359
44. Analytical And Experimental Study Bamboo Beam Concrete <b>Hery Riyanto, Sugito, Juli</b> .....	370
45. Comparative Analysis Of Load Factor Method Static And Dynamic Method (Case Study Akdp Bus Route Rajabasa - Bakauheni) <b>A. Ikhsan Karim, MT., Ahmad Zulkily.</b> .....	378
46. Optimization Utilization Of Water Resources dam Batutegei Using Method Of Linear Program <b>Aprizal, Hery Fitriyansyah</b> .....	386
47. Characteristics Generation Traffic Patterns And Movement In Residential Area (Case Study Way Kandis Residential Bandar Lampung) <b>Fery Hendi Jaya, Juniardi,</b> .....	392
48. Use Study On Slight Beam Reinforced Concrete Floor Plate in Lieu Of Secondary Beam <b>Hery Riyanto, Sugito, Lilies Widodjoko, Sjamsu Iskandar</b> .....	399
49. Observation Of The Effect Of Static Magnetic Field 0.1 Mt On A-Amylase Activity In Legume Germination <b>Rochmah Agustrina, Tundjung T. Handayani, and Sumardi.</b> .....	405
50. Effectiveness Analysis Of Applications Netsupport School 10 Based Iso / Iec 9126-4 Metrics Effectiveness <b>Ahmad Cucus, Nelcy Novelia</b> .....	413
51. Comparative Performance Analysis Of Banking For Implementing Internet Banking <b>Reza Kurniawan</b> .....	418

## **Indonesian Puslit (Centre Of IT Solution) Website Analysis Using Webqual For Measuring Website Quality**

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**Abstract** - *Media websites are all available information on the Internet. Needs also use websites in need in an enterprise, companies can more easily promote their products using the website penjualan. Kualitas services in disseminating information on the sales website has become a very important requirement, as this may impact the level of subscriber satisfaction and community wide that will access the company's website. INDONESIA CV.PUSLIT website. INDONESIA Research Center or the IT Solution Center Indonesia is one of the companies engaged in the sale of which is highly dependent to the Internet. It is important for a website to be able to make the Research Center INDONESIA assessment of the quality of the website using the WebQual is one method or technique of measuring the quality of the website is based on the perception of the end user. This is because the Research Center is a company focused to serve the development of the product - software products (software or system) based Information Technology is marketed only through the website. This method is an extension of the widely used SERVQUAL prior to the measurement of service quality*

**Keyword** : *Webqual, Website, information, quality, useability, service, interaction*

## INTRODUCTION

Website or World Wide Web (WWW) is all available information medias in Internet. The need of using website is also needed in a company, A company usually is easier to promote their product using website sales. The service quality in sharing informations on this website has been important needed because it will give impact in level customer satisfaction and all citizens who want to access it. At the end of improving that service quality will become as the indicator of successful of that company on sailing and customer's level satisfaction. The Website of IT Solution Centre company is one of company that join in sailing which really related with internet. It's really important for PUSLIT Indonesia website to make appraisal or scoring on their website quality that give some views of their characteristics program from a service quality of web design, information quality, and interaction quality using webqual which is one of method or website quality leveling method based on the last user. This method is an improving from SERVQUAL that has been used by many companies on service quality measurement. Webqual has been developed since 1998 and has got some interactions on dimension stacking and the grain questions. Webqual 4.0 is designed based on observation in three (dimension) areas quality such as information quality, usability, and service interaction.

## PROCEDURE

Webqual has been developed since 1998 and has got some interactions on dimension stacking and 14 grain questions (Barnes and Vidgen, 2002). Webqual 3.0 was designed by observing in 3 areas, such as :

1. The information quality from information system observation (Information Quality). Information Quality is the quality of content that available on site, accepted or not

accepted for user purpose like accuracy, the form and the relation (Barnes and Vidgen, 2002, p. 122)

2. The interaction and the service quality from information system quality observation (Service Interaction Quality). System interaction quality is a quality from service interaction that happen by the users when they investigate into the deeper site, which will view in believing and empathy. For example: The issue from the safing of information and transaction, product delivery, personalisation, and communication with site's owner (Barnes and Vidgen, 2002, p. 122).
3. The usability from human computer interaction. Usability is a quality that related with site design, for example the appearance, the easier way of using navigation, and the view that will be sent to the user.

The quality measurement website model is made based on Barnes and Vidgen, 2003, The list of the question is made by 3 webqual dimension.

See on this table below

**Table 4 WebQual 4.0 Instrument**

Quality	Description
Usability	
1	I find the site easy to learn to operate
2	My interaction with the site is clear and understandable
3	I find the site easy to navigate
4	I find the site easy to use
5	The site has an attractive appearance
6	The design is appropriate to the type of site
7	The site conveys a sense of competency
8	The site creates a positive experience for me
Information Quality	
9	Provides accurate information
10	Provides believable information
11	Provides timely information
12	Provides relevant information
13	Provides easy to understand information
14	Provides information at the right level of detail
15	Presents the information in an appropriate format
Interaction Quality	
16	Has a good reputation
17	It feels safe to complete transactions
18	My personal information feels secure
19	Creates a sense of personalization
20	Conveys a sense of community
21	Makes it easy to communicate with the organization
22	I feel confident that goods/services will be delivered as promised
Overall impression	
23	My overall view of this Web-site

Accordint to webqual theory, there is 3 dimentions that represent a website quality, such as usability, information quality, service interaction. As the ilustrated on the table 4. The user perception about a good information system is a system where the users feel satisfied because of the website quality. This quality is composed by 3 dimentions from webqual 4.0. The previous research suggest that webqual dimention can predict the user satisfaction and the user's purpose on using the system again.

## RESULT

Indonesian Puslit Website or The centre of IT solution Indonesia sailing or endorsment website from cv. puslit indonesia. The domain name of puslit Indonesia is puslit.com, because puslit is a company that foccus to serve developing software and system products based on information and technology (IT) that is only sold by this website. Making website that will be the main media for sailing must has good stabilitation and perfect accuration. From description above about Indonesian puslit website , we conclude that it is really important to able to make scorning of the website quality that will be used.

The data can be got from this observation result is qualitative data. The qualitative data is got from the quitioner respon of responden user and developer on puslit's website observation. This observation is observed to the responden who has used indonesian puslit website. The responden

is an actor who is drawn on use case.

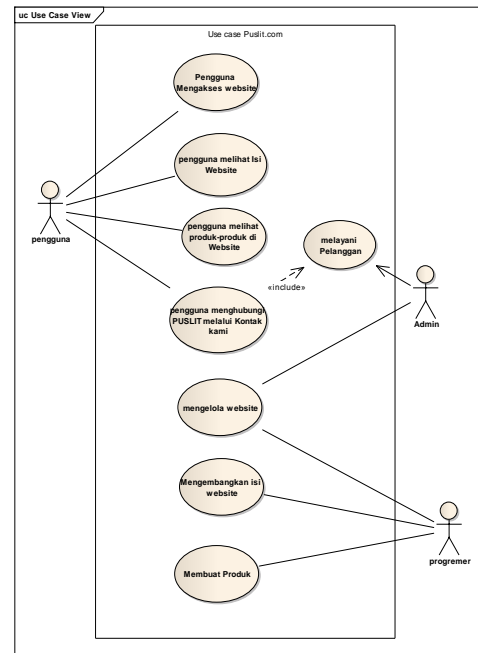


Diagram on picture 1

Gambar 10. Use Case Diagram

## The Quitioner Result

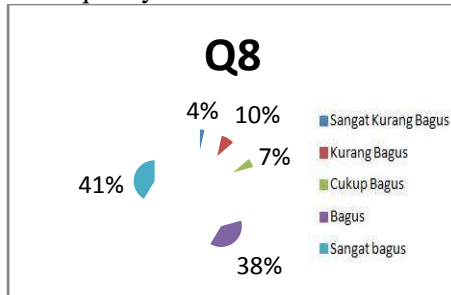
From all quitioner that we're got, 30 respondens are doing analysis data using microsoft office excel. The first step that we must be done is doing validation and rehabilitation test from the questions on quitioner. The validation and rehabilitation testing are the process for testing all available grain question on the quitioner, are the grain questions valid and reliable? If it is already valid and reliable it means those questions already can be used to measure the factors. The next step is testing all the factors, are them already valid to measure available constuct? In that grain testing, can be be has grain is not valid and reliable, so it must be replaced with another question. The validation testing is doing by seeing corrected item-total correlation dalam on factor analysis. Number of corrected item-total correlation is from the correlation of moment product between the grain

question that will be tested and the no. Of grain question.

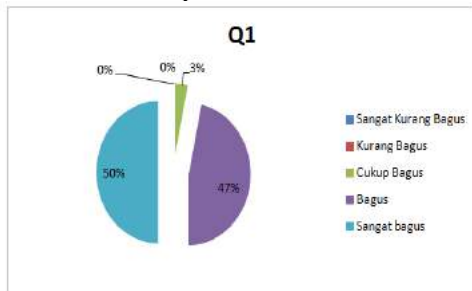
The Analisisi Data Of Quitioner Result

a. Web Information Quality

in web information quality has 8 question. Every question has level result and if it is compared by the number of the statistics will get last result to web information quality.



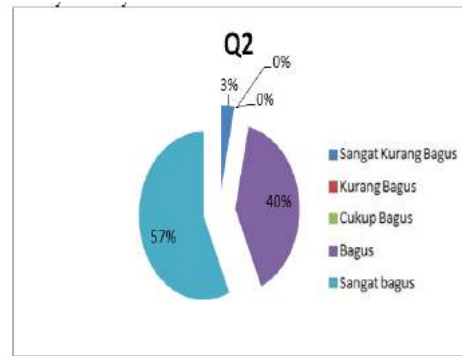
1. Question “I find the site easy to learn to operate?”.



Picture 11. The percentage chart of user response quitioner Q1

Based on picture 11, it shows 0% answer very not good, 0% answer not good, 03% answer good enough, 47% answer good and 50% answer very good. So from the level percentage that many respondens answer very good.

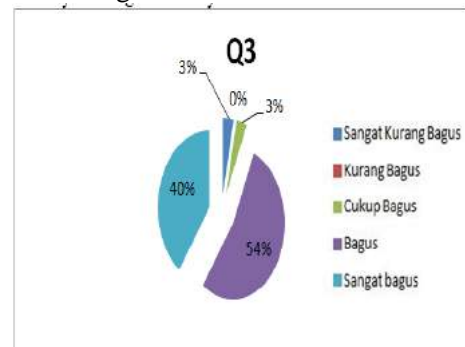
2. Question “My interaction with the site is clear and understandable?”.



Picture 12. The percentage chart of user response quitioner Q2

Based on picture 12, it shows 3% answer very not good, 0% answer not good, 0% answer good enough, 40% answer good, 57% answer very good, So from the level percentage that many respondens answer very good.

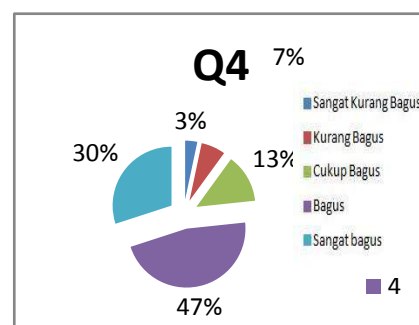
3. Question “I find the site easy to navigate?”



Picture 13. The percentage chart of user response quitioner Q3

Based on picture 13, it shows 3% answer very not good, 0% answer not good, 3% answer good enough, 54% answer good, 40% answer very good. So that by percentage level many respondens answer very good.

4. Question “I find the site easy to use.”

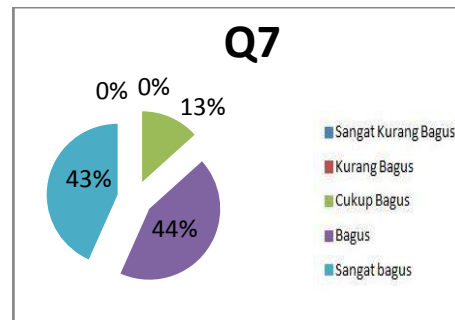




7. Questions “The site conveys a sense of competency.”

Picture 14. The percentage chart of user response quitioner Q4

Based on picture 14, it shows 3% answer very not good, 7% answer not good, 13% answer good enough, 47% answer good, 30% answer very good. So that by percentage level many respondents answer good.



5. Question “The site has an attractive appearance”

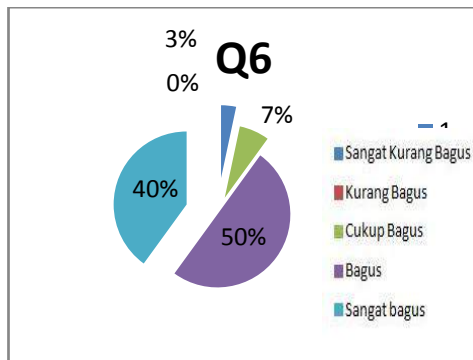
Picture 15. The percentage chart of user response quitioner Q5

Based on picture 15, it shows 3% answer very not good, 0% answer not good, 10% answer good enough, 47% answer good, 40% answer very good. So that by percentage level many respondents answer good.

Picture 17. The percentage chart of user response quitioner Q7

Based on picture 17, it shows 0% answer very not good, 0% answer not good, 13% answer good enough, 44% answer good, 43% answer very good. So that by percentage level many respondents answer good.

6. Question “The design is appropriate to the type of site”.



Picture 16. The percentage chart of user response quitioner Q6

Based on picture 16, it shows 3% answer very not good, 0% answer not good, 7% answer good enough, 50% answer good, 40% answer very good. So that by percentage level many respondents answer very good.

8. Question “The site creates a positive experience for me.”

Picture 18. The percentage chart of user response quitioner Q8

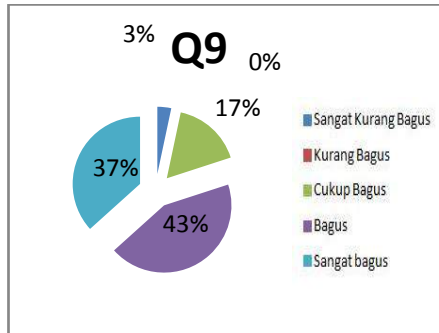
Based on picture 18, it shows 4% answer very not good, 10% answer not good, 7% answer good enough, 38% answer good, 41% answer very good. So that by using percentage level many respondents answer very good.

In website information quality from 8 question, that consist of Q1,Q2,Q8 the result is very good and the result for the rest such as , Q3,Q4,Q5,Q6,Q7 is good. Finally the last result of website information quality is in good level.

### B. Site Design Quality

In site design quality has 7 questions. Every bquestions has level result and after cmpparing with the no. Of the statistics will get final level result to site design quality.

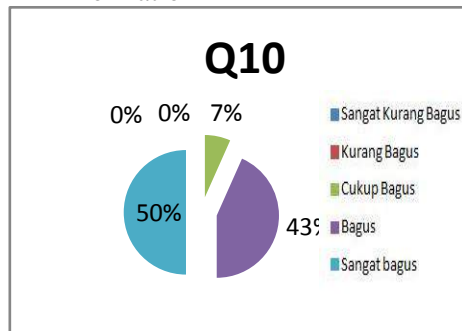
9. Question “Provides accurate information?”.



Picture 19. The percentage chart of user response quitioner Q9

Based on picture 19, it shows 3% answer very not good, 0% answer not good, 17% answer good enough, 43% answer good and 37% answer very good .So that by using percentage level many respondents answer good.

10. Question “Provides believable information

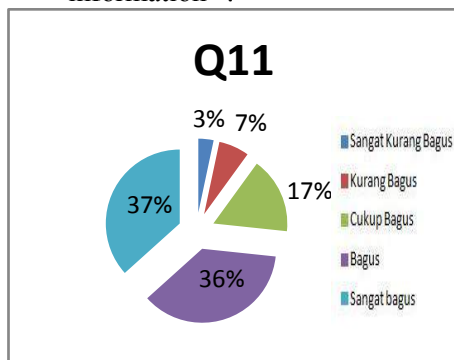


Picture 20. The percentage chart of user response quitioner Q10

Based on picture 20, it shows 0% answer very not good, 0% answer not good, 7% answer good enough, 43% answer good, and the rest say that it is very good(50%).

So that by using percentage level many respondents answer good.

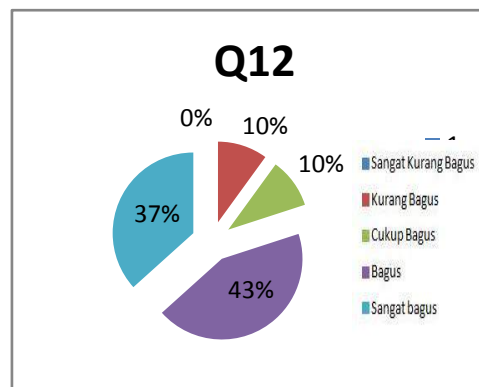
11.Question “Provides timely information” .



Picture 21. The percentage chart of user response quitioner Q11

Based on picture 21, it shows 3% answer very not good, 7% answer not good, 17% answer good enough, 36% answer good, 37% answer very good. So that by using percentage level many respondents answer very good.

12.Question “Provides relevant



information” .

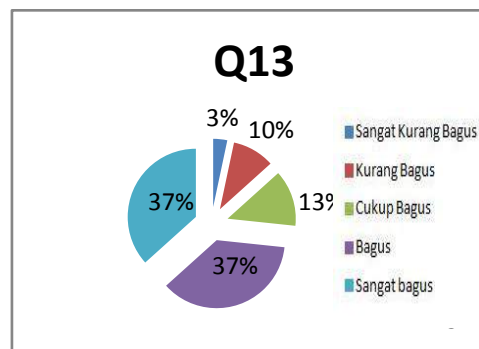
Picture 22. The percentage chart of user response quitioner Q12

Based on picture 22, it shows 0% answer very not good, 10% answer not good, 10% answer good enough, 43% answer good, and 37% answer very good.

So that by using percentage level many respondents answer good.

13. Question “Presents the information in an appropriate format ”

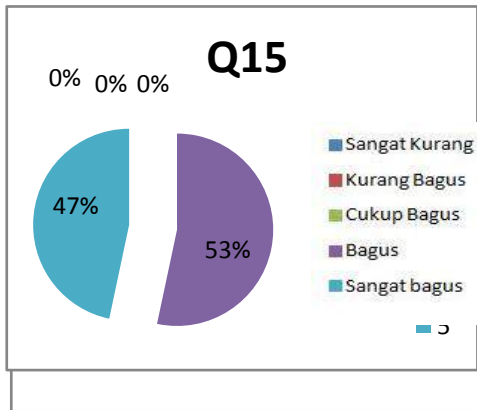
Picture 23. The percentage chart of user



response quitioner Q13

Based on picture 23, it shows 3% answer very not good, 10% answer not good, 13% answer good enough, 37% answer good, and 37% answer very good. So that by using percentage level many respondents answer very good.

14. Question “Provides information at the right level of detail”



Picture 24. The percentage chart of user response questioner Q14

Based on picture 24, it shows 7% answer very not good, 0% answer not good, 17% answer good enough, 33% answer good, and 43% answer very good. So that by using percentage level many respondents answer very good.

15. Question “Presents the information in an appropriate format”

Picture 25. The percentage chart of user response questioner Q15

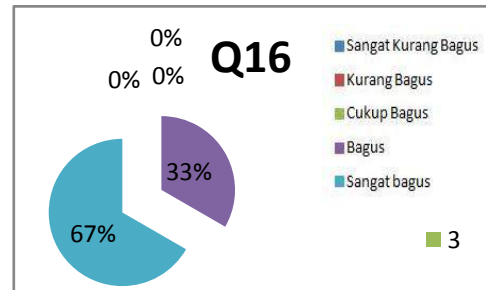
Based on picture 25, it shows 0% answer very not good, 0% answer not good, 0% answer good enough, 53% answer good, and 47% answer very good. So that by using percentage level many respondents answer good.

**C. Usability Quality**

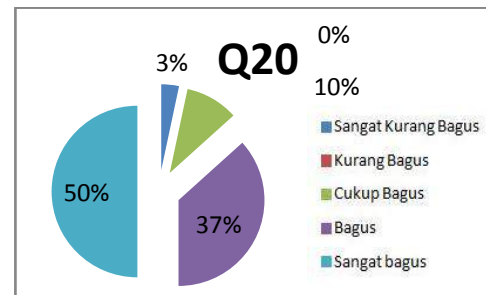
In the use of quality there are 7 questions. Every question has level result

and after comparing with the no. Of the statistics will get final level result for using of quality.

16. Question “Has a good reputation”

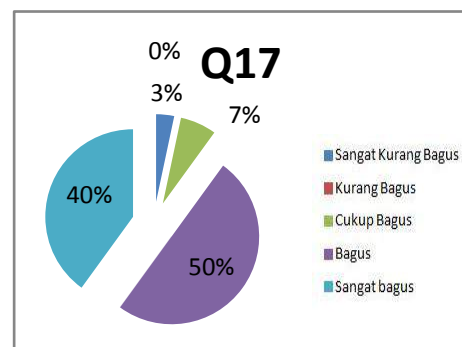


Picture 26. The percentage chart of user response questioner Q16



Based on picture 26 , it shows 0% answer very not good, 0% answer not good, 0% answer good enough, 33% answer good, 67% answer very good. So that by using percentage level many respondents answer very good.

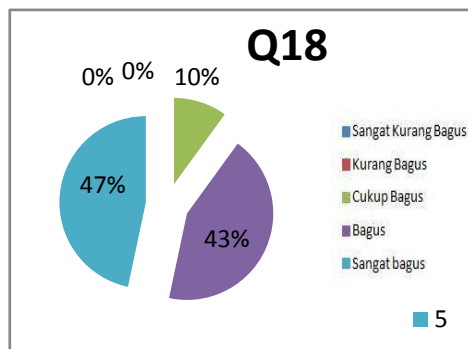
17. Question “It feels safe to complete transactions”



Picture 27. The percentage chart of user response questioner Q17

Based on picture 27 , it shows 3% answer very not good, 0% answer not good, 7% answer good enough, 50% answer good, 40% answer very good. So that by using percentage level many respondents answer good.

18. Question “My personal information feels secure ”



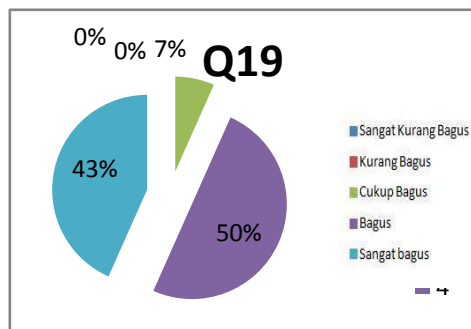
Picture 28. The percentage chart of user response quitioner Q18

Based on picture 28 , it shows 0% answer very not good, 0% answer not good, 10% answer good enough, 43% answer good, 47% answer very good. So that by using percentage level many respondents answer very good.

19. Question “Creates a sense of personalization”

Picture 29. The percentage chart of user response quitioner Q19

Based on picture 29 , it shows 0% answer very not good, 0% answer not good, 7% answer good enough, 50% answer good, 43% answer very good. So that by using percentage level many respondents answer good.

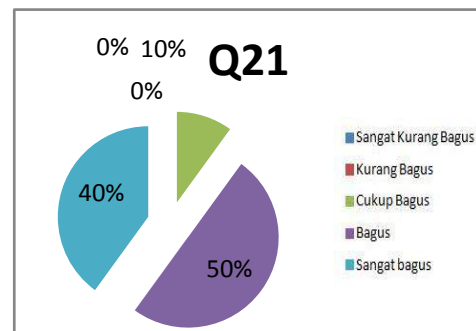


20. Question “Conveys a sense of community”

Picture 30. The percentage chart of user response quitioner Q20

Based on picture 30 , it shows 3% answer very not good, 0% answer not good, 10% answer good enough, 37% answer good, 50% answer very good. So that by using percentage level many respondents answer very good.

21. Question “Makes it easy to communicate with the organization.”

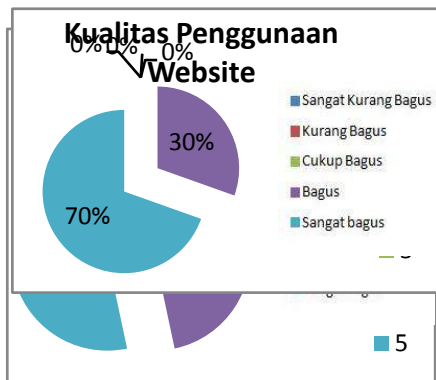


Picture 31. The percentage chart of user response quitioner Q21

Based on picture 31 , it shows 0% answer very not good, 0% answer not good, 10% answer good enough, 50% answer good, 40% answer very good. So that by using percentage level many respondents answer good.

22. Question “I feel confident that goods/services will be delivered as promised”

Picture 32. The percentage chart of user response quitioner Q22



Based on picture 32, it shows 0% answer very not good, 0% answer not good, 7% answer good enough, 40% answer good, 53% answer very good. So that by using percentage level many respondents answer very good.

In website information quality from 8 question, that consist of Q16,Q18,Q20,Q22 the result is very good and the result for the rest such as, Q17,Q19,Q21 Q3, is good. Finally the last result of website information quality is in very good level generally.

Website Quality	
Characteristics	Sacle of website quality
Usability	B
Information Quality	SB
Interaction Quality	SB

**Table 5 The last result of quitioner**

**The Analysis data of interview result**

This analysis is doing after did interview, so it will get last same level in quitioner such as very not good, not good, good enough, good, and very good. The level result from every available risk in interview gives result such as very not good 0%, not good 0%, good enough 0%, good 30%, and very good 70%. The quality of using website has last level result is very good or sangat baik (SB).

**The Merging data analysis results of quitioners and interviews**

After analyze the result of quitioner and interview those result will be mixed, so will give website measurement result puslit.com based on webqual 4 website quality.

**The Conclusion**

After analyze result of quitioner and interview, those result will be mixed and compared the needed level in instrument of webqual 4.

The Quality of Indonesian Puslit's site			
Characteristics	quitioner	Interview	Result
Usability	B	SB	SB
Information Quality	SB	B	SB
Interaction Quality	SB	SB	SB

**Table 6 The obsevation result of PUSLIT's site based on webqual**

Based on the submitting rersult and analyze data on this observation, so it can be taken a coclusion that 3 available characteristics in webqual such as usability, information quality, interaction quality are got very good result. (SB)

From 23 grains questions that make dimation from webqual 1 the questions is not because only include some and not for all and it is already representative by many factors questions above. From 3 dimitions webqual 4, only the function and the interaction quality that many people think influenced the customer's satisfying. Meanwhile the dimation of information quality is thought don't have any influenced to site user's satifaction. It

also can be as the seller's note to improve their content quality from their own site.

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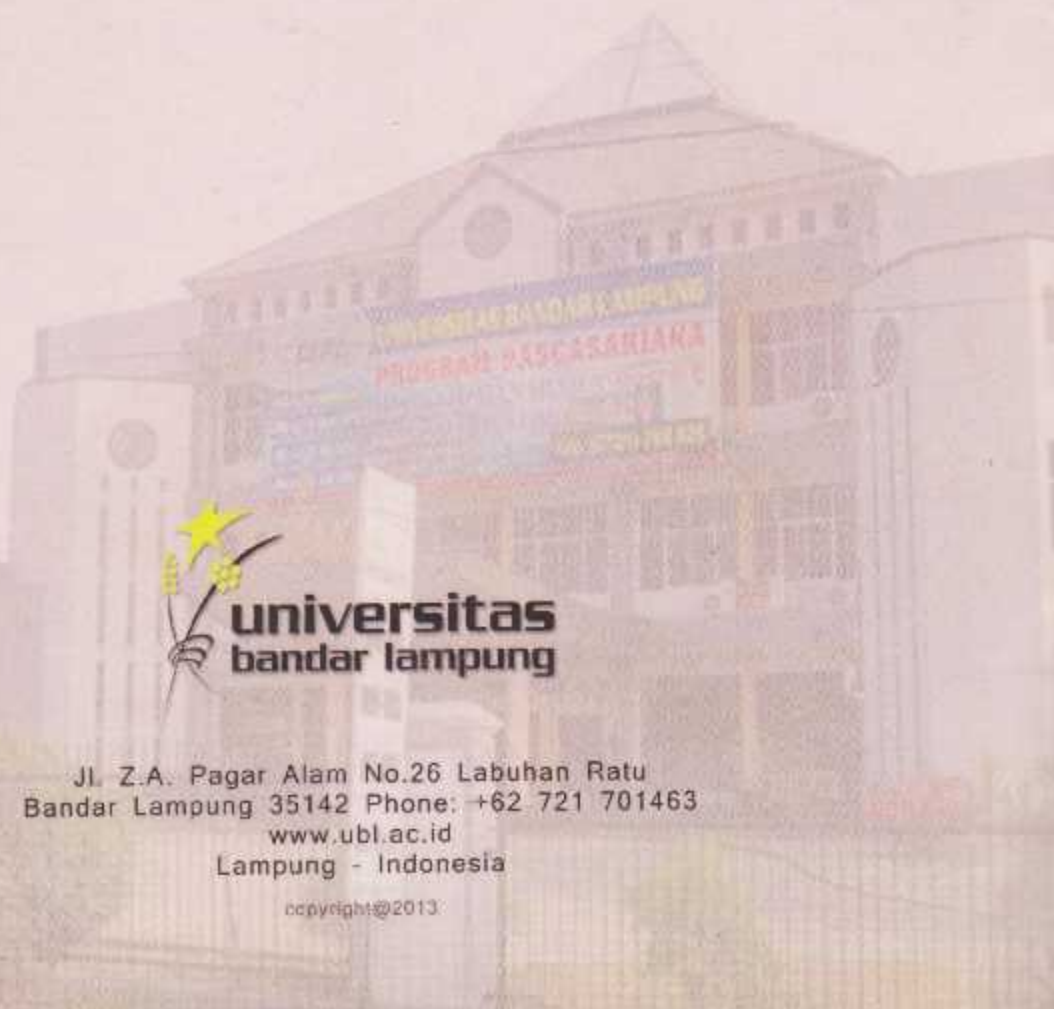
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