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"Managing Digital Development for Sustainable Economy"

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FOREWORD

We welcome you to the First International Conference on Information Technology Applications and Systems (ICITAS) held February 3, 2018 in Surabaya, East Java, Indonesia. ICITAS 2018 provides a highly competitive forum for global exploration of the latest developments in Information Technology and their direct impact on the economic sustainability. Therefore, we carefully chose and embraced the theme of this conference as "Managing Digital Development for Sustainable Economy".

We are pleased to present the proceedings of the conference as its published record. In overall, the technical committee has selected 40 papers to be published, which comprises authors from various countries and regions. The topics may include, but not limited to the following: Information and Communication Technology, Business and Economics Applications, and Applications of Digital Media Technology in Arts Design.

We want to express our gratitude to the members of the Program Committee and the Technical Committee, as well as the external reviewers for their hard work in reviewing all the submission papers. We also thank the three invited speakers, Prof Nai-Wei Lo (National Taiwan University of Science and Technology), Prof. Kamarul Hawari bin Ghazali (Universiti Malaysia Pahang), and Mr. Kresnayana Yahya, for sharing their insights with us. Finally, the conference would not be possible without the excellent papers contributed by authors. We thank to all the authors for their contributions and their participation in ICITAS 2018! We hope that this program will further stimulate research in Information Technology systems and their applications in the present time and in the future, and provide practitioners with better techniques, algorithms, and tools for deployment.

Dr. Jusak

Head of Committee of the ICITAS 2018

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KEYNOTE SPEAKER

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• Machine Vision System, Image Processing, Signal Processing, Intelligent System, Vison Control, Computer Control System, Thermal Imaging Analysis (in all related applications - Electrical, Medical, Environment) and Computer Engineering

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Keynote Speaker 2

Dr. Nai-Wei Lo got his Ph.D. degree in Electrical Engineering from State University of New York at Stony Brook, USA, in 1998. He worked as research assistant at TNT Information Systems Inc. in 1997 to 1998. From 1998 to 2000, he worked at H&L Technique Inc. as a software consultant for AT& T Business and Global Services. From 2000 to 2002, he worked at Lucent Technologies as member of technical staff.

Dr. Nai-Wei Lo joined the Department of Information Management in National Taiwan University of Science and Technology in 2003, and he has become professor from 2015. In addition, he has been the director of Taiwan Information Security Center, National Taiwan University of Science and Technology (TWISC@NTUST) since 2014. His research interests include smart grid security, IoT/IoV security, web technology, and cloud security.

Keynote Speech Title: Indoor Positioning-based Mobile Payment System Using BLE Technology

Abstract – The development of information technology has paved the way for faster and convenient payment process flows and new methodology of design and implementation for next generation payment system. The usage growth of smartphones in nowadays has fostered a new and popular mobile payment environment. Most of the current generation smartphones support BLE technology to communicate with nearby BLE-enabled devices. It is plausible to construct an Over-the-Air BLE-based mobile payment system as one of the payment methods for people living in modern societies. In order to secure the BLE-based mobile payment system, a secure indoor positioning-based mobile payment authentication protocol and corresponding mobile payment system is designed. The authentication protocol consists of three phases: initialization phase, session key construction phase, and authentication phase. A prototype is implemented to assess the performance of the designed mobile payment system.

Keynote Speaker 3

Krenayana Yahya is a Director of Enciety Business Consult and also aLecturer at Department of Statistics ITS. Not only served as Director of Enciety Business Consult, this Jakarta-born man is also listed as a Commissioner of PT Petrokimia Gresik. In addition he is also a Board of Trustees LEAD Indonesia (one of the program The Foundation of Sustainable Development or Foundation for Sustainable Development of the UK). Not only that, a number of important positions in several organizations such as the Chairman of the Association of Indonesia Manager Surabaya Branch, President of the Association of Indonesian Marketing area of East Java, and various other important positions in the field of statistics, environment, marketing to democracy. Mr. Yahya who holds a master's degree at the University of Wisconsin, USA is known to actively fill interactive dialogue in various mass media such as Suara Surabaya and JTV radio. His writing was often appeared in print media Java Post and Kompas Daily.

Keynote Speech Title : Digital development for sustainable economy

The development issues today is strongly related to the developments of Technology. Technology introduction to a society is mainly a choice and related to the readiness to accept and utilized for the good of the improvement of welfare. Digitalization becomes a mean and a purpose to achieve sustainable development. Educating the young and bridging the digital divide becomes the most important aspect before to decide what and which technology should be implemented in a society, in a public sector and overall for business development. Disruptions will come and replacing, renewing, through innovation and developing application to reduce time, increasing speed and integrating most activities that reduce the impact on the degradation of the earth.

The role of development should define and prioritize the steps toward improving quality of life through managing the digital policy in the stages of development. Consideration the impact and the negative side of the use of IT should be anticipated through policy developments. Technology by itself is neutral, but preparing the infrastructure to used, to be used by whom and for what purposes will the main cause to regulate. The digital divide should be considered as a real concern not to widen the welfare gaps and the increase of economic disparity.

Currently in Indonesia the IT Index of developments showed that Jakarta has the most advanced IT usage, Infrastructure and supported for business, while most villages and outer Island like Papua has very poor access for internet

Indonesian archipelago has its problems in disparity of level support for mostly several infrastructure. Better and more justice in prioritizing is on the way to make it even and more welfare instruments will cover.

On the other hand better access for communication and improving connectivity will improve the chances to integrate IT with most public sectors like transportation, online courses, retail, and public utility access. The future of IT will certainly a great help for human development in general. The improvement of policy development will be a real support for most development instrument. Specifically policy development for digitalization will be most valuable through the better understanding and the right implementation of sustainable development

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I : INFORMATION AND COMMUNICATION TECHNOLOGY

Implementation of Online Sales Information System for Sandals Craftsmen In Berbek Village

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***Abstract*— Berbek Village has 55 families with livelihoods as sandals craftsmen about 40%. The problem of the last five years is the sales of sandals craftsmen has decreased by 50% that bring the economy level decreased. Therefore, the craftsmen want to expand their market share and hope it will increase the sales of sandals. The solution offered is Online Sales Information System. The research methodology using Waterfall Model was started with survey and interview, system analysis, database design, coding using PHP programming language and MySQL database, system testing, training for sandals craftsmen, and system evaluation by filling and processing of questionnaire. Training results show that sandals craftsmen can sell their products through an online sales information system that has been created. System evaluation results have also shown that online sales information system can be well received by sandals craftsmen.**

Keywords*— *online sales; sandals craftsmen; sales information system

I. INTRODUCTION

Berbek Village has 55 families with livelihoods as sandals craftsmen about 40%. Sandals that is produced in the form of rubber-based sandals with various models. The sandals are usually sold at traditional markets in Sidoarjo and Surabaya.

The problem of the last five years is the sales of sandals craftsmen has decreased by 50% that bring the economy level decreased. Therefore, the craftsmen want to expand their market share and hope it will increase the sales of sandals.

Based on the existing problems, the solution offered is Online Sales Information System, so that sandals craftsmen can sell the products widely through the internet. Therefore, the objective of this research is creating Online Sales Information Systems. Online sales information systems can expand market share [1]. Online sales can also contribute to the growth of the regional economy without substantial investment [2].

Online sales information system has been created using PHP programming language and MySQL database. PHP is chosen because PHP can be used on all operating systems [3]. In addition, another advantage of PHP is PHP has good connectivity with many DBMS [4]. MySQL is chosen because it is widely used to build web applications that use databases as their source and data management [5]. MySQL is an open source software that means free to use on various operating systems [6]. The model that used for developing the information system is Waterfall Model proposed by Jogiyanto [7]. Waterfall Model is widely used to develop almost all application both desktop and online.

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II. RESEARCH METHODS

To create an online sales information system, this research used System Development Life Cycle Method with Waterfall Model as shown in Fig. 1. The stage of making an online sales information system in Berbek Village, Sidoarjo are:

1. System engineering is done through data collection by survey and interview with sandals craftsmen.
2. System analysis, especially functional requirements analysis.
3. System design, especially database design.
4. Coding or making an online sales information system.
5. Trial and train an online sales information system to sandals craftsmen.
6. System evaluation by filling and processing the questionnaire.

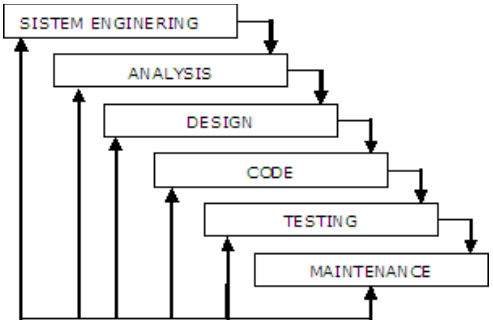

Fig. 1. Waterfall Model

III. RESULTS

A. The Result of Data Collection

The data collection was done by survey and interview. The main thing that was gained during the survey and interviews is the sandals selling process and the sandals craftsmen problems that occur. In addition, there are also some data collected in this stage, namely:

1. Data about the type of sandals
2. Data about sandals
3. Data about SMEs, including: SME name, owner name, bank name, and contact person.

B. The Result of System Analysis

Based on the analysis conducted, there are two groups of users who use the application, which is the owner of SME as sellers and general users as buyers. The functional requirements for each user are as follows:

1. Owner of SME (Seller)
   a. Maintenance of sandals category
   b. Maintenance of items or sandals
   c. Order handling
2. General Users (Buyer)
   a. Online order with transfer payment method
   b. Confirmation payment of online order
   c. Monitoring of shipments

C. The Result of Design

The design result in this research is database design. There are 17 tables used in the online sales information system. The database design can be seen in Fig. 2.

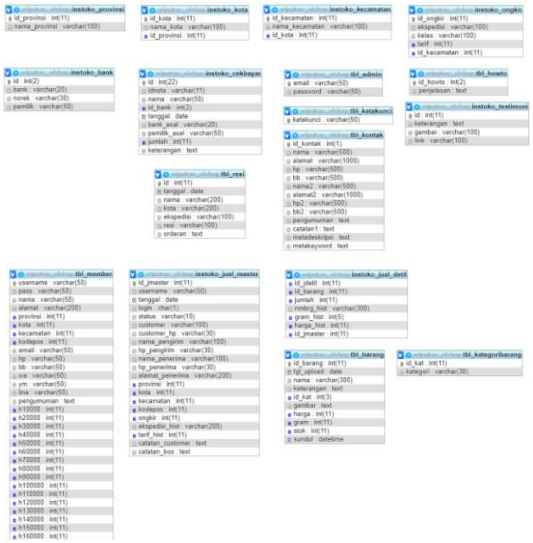

Fig.2. Design of Database

D. The Result of Development Information System

D.1. Seller's pages (sme owners)

To enter as a seller or owner of a SME, users can visit the website address: http://olshop.wiputra.com/administrasi. This seller's page is used to set categories, product items, delivery charges, member, shopping instructions, payment account numbers, seller contacts, and galleries. In addition, the seller's page used to serve incoming customers orders and invoice for delivery of goods.

On the add category page, the seller can add, edit, and delete product category. The view of add category page can be seen in Fig. 3.

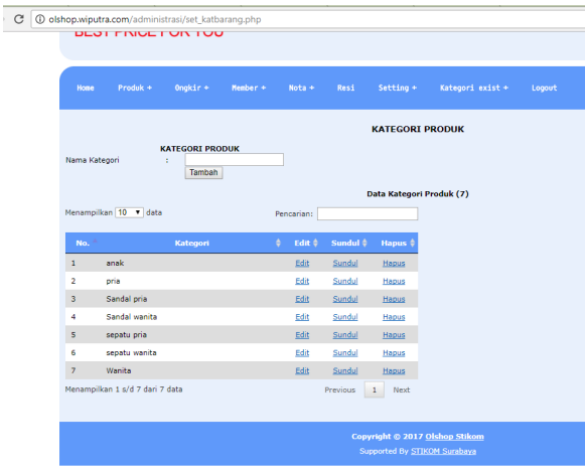

Fig. 3. Add category page

On the add product page, the seller can add product by uploading the image and filling in the product name, category, price, weight (gram), stock, variant, and description. The display of the add product pages can be seen in Fig. 4.

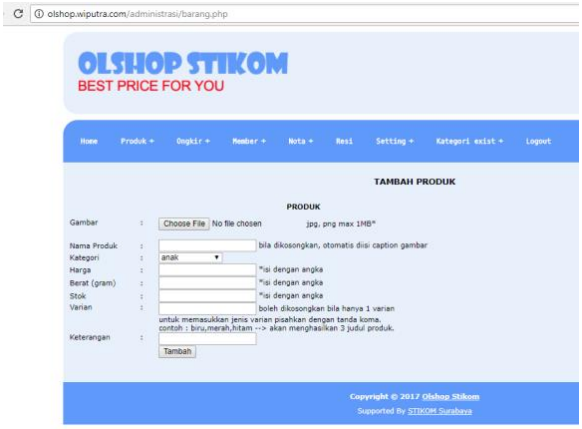

Fig. 4. Add product page

On the delivery charges page, sellers can manually add, edit, and delete delivery data one by one. For more details, this page can be seen in Fig. 5.

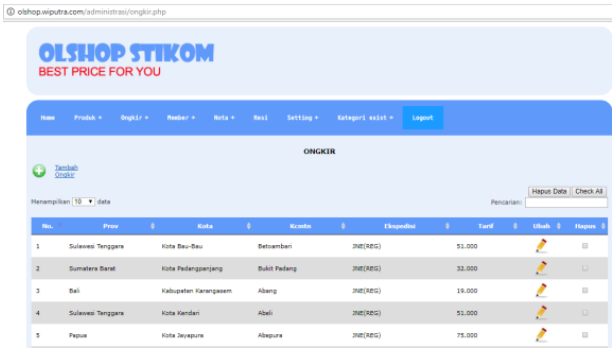

Fig. 5. Delivery charges page

This confirmation page is used to view the list of customers who have already confirmed the payment. Additionally, this page used to remove the payment that deemed invalid by the seller. More details, the confirmation page can be seen in Fig. 6.

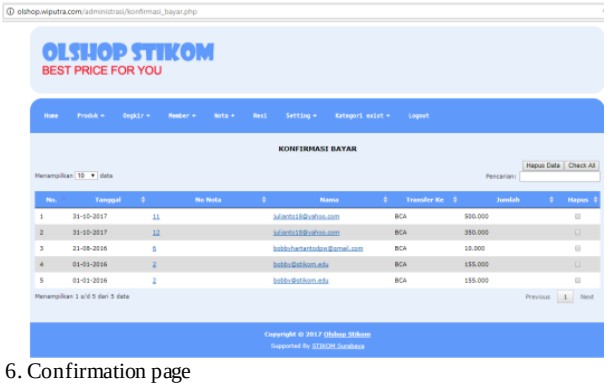

Fig. 6. Confirmation page

A new invoice page is used by the seller to see a list of recent invoice and the seller can also change the status of the invoice to be paid if the payment is considered valid after the seller sees a reference from the paid confirmation page. For more details, the new invoice page can be seen in Fig. 7.

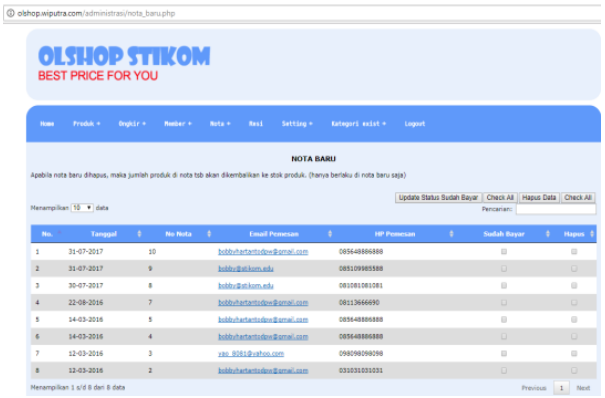

Fig. 7. New invoice page

The payment list page is used to view the list of invoice that has been paid. In addition, the seller may also modify the status of the invoice to be unpaid if the seller makes a mistake on the approval of the payment. The seller may also change the sales status to 'delivered' on this page. For more details, this payment list page can be seen in Fig. 8.

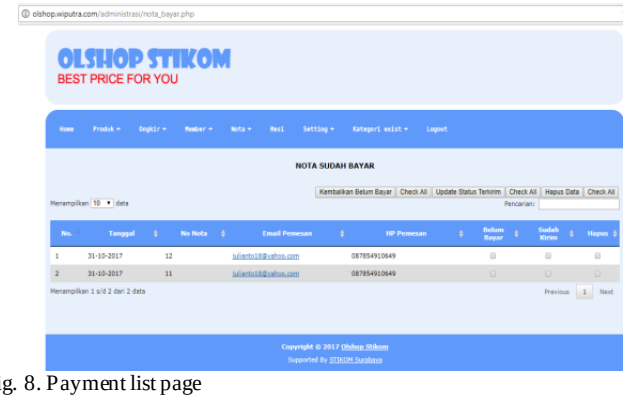

Fig. 8. Payment list page

The delivered order page is used to view a list of order that have been sent. In addition, the seller may also re-alter the sales status to be undeliverable if the seller makes a mistake. For more details, this page can be seen in Fig. 9.

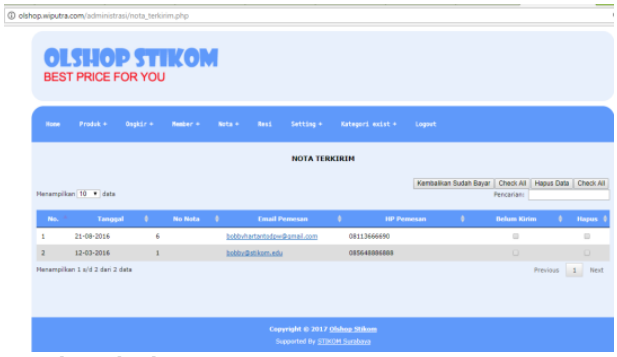

Fig. 9. Delivered order page

The delivery receipt page can be used by the seller to provide delivery receipt number to the customer whose order has just been processed to the freight forwarding service. For more details, the delivery receipt page can be seen in Fig. 10.

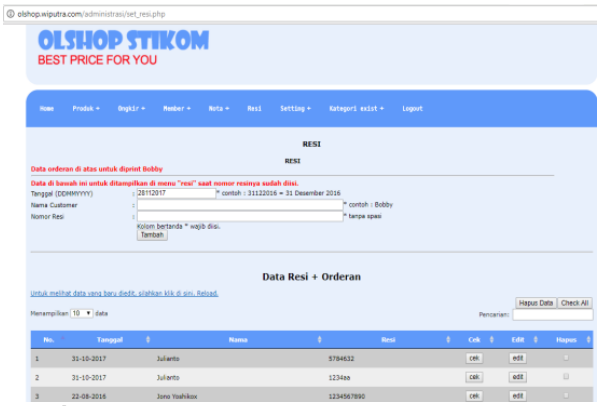

Fig. 10. Delivery receipt page

D.2. Buyer's Pages (Customers)

In general, a website for customers allows customers to view a list of products, order products of interest, confirm payment, and check the delivery process by entering the delivery receipt number.

In this system, new customers can order on the website after registration and logged in. If not logged in, then the customers can only see the list of products and add to the shopping cart. If the customers logged in, then the customers can proceed to the next stage. The page for add the product to the shopping cart can be seen in Fig. 11.

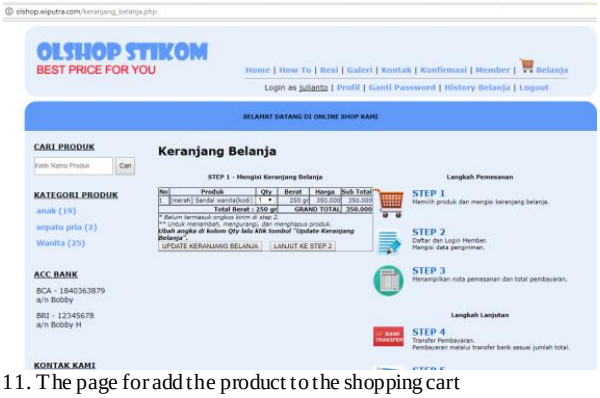

Fig. 11. The page for add the product to the shopping cart

After the selected product is entered into the shopping cart, the second stage is to fill the delivery form. On this page, customers can fill the shipping address completely and correctly. Then the customers can choose the type of expedition and give additional information if needed. For more details, this delivery data submission page can be seen in Fig. 12.

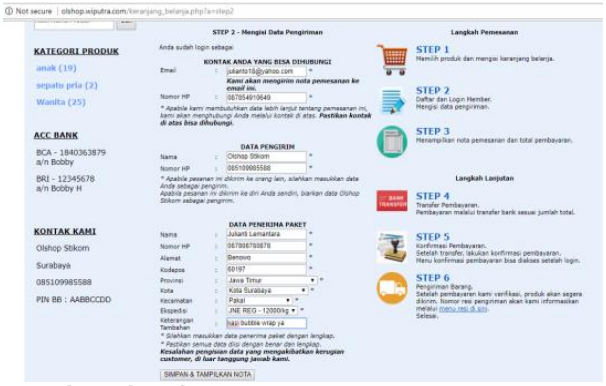

Fig. 12. Delivery data submission page

The third stage of the ordering process is the system showing order data, delivery data, total payments, and how to make payments. More details, the order invoice page can be seen in Fig. 13.

The fourth stage is to transfer payments to bank accounts that have been displayed on the order invoice page and the fifth stage is to confirm payment. To confirm the payment, the consumer can select the confirmation menu and fill the form as shown in Fig. 14.

Fig. 13. The order invoice page

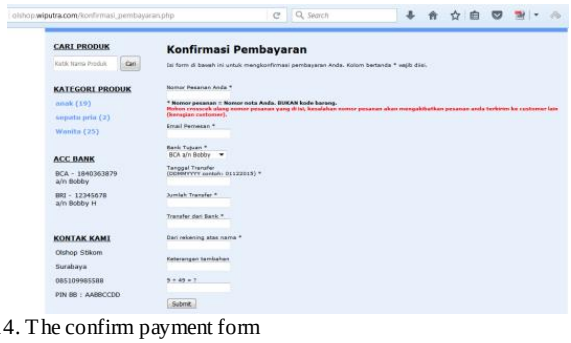

Fig. 14. The confirm payment form

After confirmation, the seller can see the confirmation list as shown in Fig. 6 and the seller can confirm the consumer payment on the new invoice page as shown in Fig. 7. Furthermore, the seller can provide the order delivery receipt

number as described earlier in Fig. 10. On the final stage, consumers can see the progress of the order delivery process as in Fig. 15. So, that's the sequence of online sales process on the website that has been made.

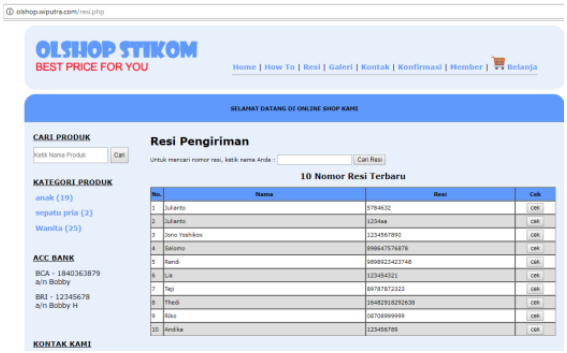

Fig. 15. The progress of the order delivery process

E. The Results of Testing and Training

Training was followed by six sandals craftsmen. The result of this stage is the sandals craftsmen can test and operate functions of an online sales information system smoothly.

F. The Results of System Evaluation

Overall, an online sales information system is considered good by sandals craftsmen. The evaluation results of an information system that has been trained to sandals craftsmen can be seen in Table 1.

TABLE 1. THE RESULTS OF SYSTEM EVALUATION

Responden	X1	X2	X3	X4	X5	Keseluruhan
1	3	4	3	3	4	3.4
2	3	3	3	4	4	3.4
3	2	3	3	4	4	3.2
4	2	3	3	4	4	3.2
5	4	4	4	4	4	4
6	4	4	4	3	3	3.6
Rata2	3	3.5	3.333333333	3.666666667	3.833333333	3.466666667
Keterangan	Baik	Cenderung sangat baik	Baik	Cenderung sangat baik	Cenderung sangat baik	Baik

IV. CONCLUSION

Based on previous explanations, the conclusions of this research are:

1. Sandals Craftsmen can sell the products through an online sales information system that has been created.
2. Based on the system evaluation using the questionnaire distribution and processing, an online sales information system can be well received by the sandals craftsmen in Berbek Village, Sidoarjo.

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3. Abdulloh Mas'ud, as the Chairman of RT1 RW2 Berbek Village.
4. All parties that can not be mentioned one by one, which has been helpful in this research.

Finally, the authors hope that God Almighty rewards the appropriate to all parties who have helped in this research. In addition, hopefully the results of this research can be useful for all interested parties.

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