

# The effect of implementing E-cooperative on process speed, ease of operation, and cost efficiency

**D K Purwokoaji\*, C Rahmat and M Astiningrum**

Information Technology, State Polytechnic of Malang, Malang, Indonesia

\*deddy\_kusbianto@polinema.ac.id

**Abstract.** The Industrial Revolution 4.0 in Indonesia is inevitable, and to deal with Society 5.0 which emphasizes excellent service equal to five stars, it is necessary to immediately implement information systems and information technology to the Indonesian people in general, so that government policies based on TOP-BOTTOM can be accelerated by incorporating a BOTTOM approach - UP The general method of this research is the study of literature, the design and analysis of systems and the implementation of empirical research in functional testing and user testing. The population was selected from cooperative members who had conducted online transactions totaling 268 people, and those who filled out and returned questionnaire entries totaling 172 people, the data was then processed using a structured equation model using the LISREL application. The result is that e-cooperative adoption affects process speed, ease of operation, and cost efficiency, both in partial and multiple correlations.

## 1. Introduction

Cooperatives are business entities that carry out activities such as other business entities, namely Private-Owned Enterprises (BUMS) and State-Owned Enterprises (BUMN). The cooperative conducts transactions and manages transaction data to become necessary financial information both internally and for external parties.

The characteristics of cooperatives which are considered as business associations with family principles have the potential to play a role in the economic development of the Regency. In its development the cooperative business experienced a significant increase in growth.

### 1.1. Situation analysis

According to BPS data for 2006-2014 the number of cooperatives in Indonesia experienced a significant increase of 48.82%. In 2006 there were 98,944 cooperatives and in 2014 there were 147,249 cooperatives from a total of 34 provinces in Indonesia.

The cooperative business management application called E-Cooperative is an integrated online cooperative business management system application so that it is thought to have an impact on process speed, ease of operation and cost efficiency. The Cooperative Business Management Application can manage two types of cooperative business units namely general trading and savings loans.

### 1.2. Problems formulation

- Has the application of E-cooperatives affect on process speed improvement.
- Has the application of E-cooperatives affect on the improvement of ease of operation



- Has the application of E-cooperatives effect on increasing cost efficiency.

### 1.3. Goals

- Demonstrate the effect of E-cooperative implementation towards increased process speed.
- Demonstrate the effect of E-cooperative implementation towards increased ease of operation.
- Demonstrate the effect of E-cooperative implementation towards increased cost efficiency.

### 1.4. Benefits

- The influence of implementation of E-cooperative to increase process speed, can be used as a reference in improving service excellence
- The influence of E-cooperative implementation of ease of operation improvement, can be used to attract the members to make more transactions.

The influence of implementation of E-cooperative towards increased cost efficiency, can be used as a reference to improve the business results of activities undertaken by cooperatives.

## 2. Review of the library

E-Cooperative is the description of the word Electronic cooperative that holds the meaning that cooperatives use Electronic facilities that utilize the computer network through the Internet as supporting its operation. The meaning of E can be attributed to E-Commerce, E-Learning, E-Government.

As E-Commerce's opinion is quoted from the Journal of Information Systems of Universitas Indonesia that E-Commerce is a process of buying, selling or exchanging goods/services and information through a computer network [1].

According to its definition E-Commerce is a concept that explains the process of buying, selling and exchanging products, service and information through the computer network namely Internet Turban. [1],

The option to form the people's economic movements that can be managed together and the benefits can be enjoyed with childbirth options to form a society named cooperatives.

The reason the benefits received is greater than the benefits they can from non-cooperative organization businesses that inspire communities to shape the economic movements of this people.

Another fact that gives birth to the choice to form this movement is because it is difficult to get financial assistance from commercial financial institutions in terms of fulfilment of credit collateral/collateral requirements.

According to LAW RI No. 25 year 1992 stated that: cooperatives are formed with the aim of advancing the welfare of members in particular and society in general and to build a national economic order in order to realize a society that is developed, fair and prosperous based on Pancasila and the Constitution 1945 [2].

SHU was obtained from the activity of the loan transaction by the member and in response the member gave a certain amount of funds for all cooperative members. Accumulated services from members will be counted and re-distributed to all members based on the annual member meeting Agreement (RAT). Will the SHU be used to increase the capital of cooperatives or will be distributed to members as reward. The point of the SHU will come back again to the members.

## 3. Previous research

Research conducted by Atikah, under the title of System of lending in the Indonesian Officers ' Cooperative (KPRI) Dwija Karya Tulakan Subdistrict in 2014 concluded that cooperatives in Indonesia growth is static Expansion Means quantitative growth is not accompanied by qualitative progress this is because the cooperative is not managed with good management, so it takes a computerized system to smoothen in managing and drafting a cooperative management report [3].

Research conducted by Safelia and Putra, under the title IBM on cooperatives in the city of Jambi in order to improve the quality of the cooperative financial report with the utilization of accounting

information system technology resulted in a mistake that has not Organized in bookkeeping because the bookkeeping is still done in a manual way so it is necessary to use accounting information system technology that can facilitate the generation of reports [4].

Research conducted by Subiantara, Suslistiowati and Nurcahyawati, under the title of design of the application to save employee cooperatives in PT. Mega Utama Indah is a summary that the application can be used to do the loan process. To the loan repayment process and can produce cooperative member reports, approved loans, and repayment of loan instalments. But for the business division process and the report for the Board is not yet available [5].

The training of accounting application system cooperatives-based loans MS. Excel 2007 ever followed under the supervision of DEKOPINDA Sukabumi City Year 2014 resulted in the conclusion that application implementation MS. Excel 2007 in managing Transactions and Drafting report of management accountability is still less effective because it has not utilized the information technology [6].

#### **4. Methods**

The general method of this research is the study of literature, system design and empirical research for data collection, as well as analysis and testing.

The study was conducted in accordance with the stages determined by the tools that have been used by the relevant partners.

In general, the E-Cooperative application flow consists of a savings and loan module and a retail module.

This application is an initial version (1.00) which contains 2 modules for 2 types of cooperatives (savings and loans and retail / marketing).

In Indonesia there are 6 (six) types of cooperatives, namely: savings and loans, consumers, producers, marketing, services and all-round business.

The White Box Testing and its revision will be carried out by Researchers and Experts who will be assisted by the Information Technology Department Student and Alumni Team, while the Black Box Testing will be used as an instrument for questionnaire forms filled out by the Cooperative Members as its Population, while the sampling will be determined by purposive criteria: Cooperative members who have been registered for more than one year, and have done online transactions, either as managers, sellers or buyers.

The data obtained is then processed using a statistical application to prove the percentage of goal achievement.

##### *4.1. Testing*

In addition to functional testing that will be carried out by the White Box method on each sub-function of the application, the Black Box user test will also be carried out using a questionnaire with the Linkert scale option.

The population selected from cooperative members who have made online transactions totalling 268 people, and those who fill and return questionnaire entries totalling 172 people, the data is then processed using a structured equation modelling (SEM) using the LISREL software application.

##### *4.2. Hypothesis*

- The application of E-cooperatives affect on process speed improvement.
- The application of E-cooperatives affect on the improvement of ease of operation.
- The application of E-cooperatives effect on increasing cost efficiency

#### **5. Results and discussion**

The application of E-cooperative affects the increase in speed of the process: The significant effect of the application of E-cooperative to increase the speed of the process is very high, i.e. 8.21 with an error rate of 0.01, it is natural and logical because it is strongly influenced by the performance of computer

hardware and software which has a better working speed compared to manual or semi-computer processes

The adoption of E-cooperative has an impact on increasing ease of operation: although fault tolerance has softened to 0.05, it turns out that the effect of E-cooperative application on increasing ease of operation is not as good as the effect on process speed, which is only 6.15, most likely due to moderation factors not taken into account in this analysis, including: skills in computer operation

## 6. Conclusion

The application of E-cooperatives has an effect on increasing cost efficiency: the effect of implementing E-cooperatives on increasing cost efficiency has the lowest significance level, which is only 4.97 with a fault tolerance of 0.05, this could be because cost efficiency contains several moderation variables that are not taken into account in the analysis, namely: skills in operating a computer, and experience in running a business.

## Acknowledgments

Special thanks to Mr. Erfan Rohadi as chairman of the P2M who provided the opportunity to register this article in an internationally reputable journal.

## References

- [1] Saragih H and Ramdhany R 2012 Pengaruh intensi pelanggan dalam berbelanja online kembali melalui media teknologi informasi forum jual beli (FJB) Kaskus *Jurnal Sistem Informasi* **8**(2) 100-112
- [2] Undang-Undang Republik Indonesia 1992 *Undang-Undang Republik Indonesia No.25 1992 tentang Perkoperasian* (Jakarta: Undang-Undang Republik Indonesia)
- [3] Atikah H R 2014 Sistem Informasi Simpan Pinjam Pada Koperasi Pegawai Republik Indonesia (KPRI) Dwija Karya Kecamatan Tulakan *Journal Speed-Sentra Penelitian Engineering dan Edukasi* **6**(1) 1-7
- [4] Safelia N, Putra W E and Setiawan D 2015 IbM pada koperasi di kota jambi dalam rangka meningkatkan kualitas laporan keuangan koperasi dengan pemanfaatan teknologi sistem informasi akuntansi *Jurnal Pengabdian Pada Masyarakat* **30**(3)
- [5] Subiantara D, Suslistiowati and Nurcahyawati V 2015 Rancang Bangun Aplikasi Simpan Pinjam Koperasi Pada PT. Mega Utama Indah **JSIKA** **4**(2)
- [6] Irawan D 2014 *Penguatan Kelembagaan Koperasi* (Bandung: Direktur Pusat Inkubator Bisnis (IKOPIN))