

# The Influence Of E-Commerce Applications In The Micro Small Medium Entreprise With The Technology Acceptance Model (Tam) Approach

Marhadi, Kurniawaty Fitri, Arwinence Pramadewi, Ahmad Rifqi

**Abstract**—This study aims to determine the effect of the application of e-commerce on MSMEs in Bengkalis Regency with the approach of technology acceptance model (TAM). In this study there are four variables, namely perceived usefulness (X1), perceived usefulness (X3), social influence and intention to use technology e-commerce (Y1). The population of this study is SMEs that have used e-commerce in marketing their products, with a sample of 120 respondents selected using a purposive sampling method with the criteria of using e-commerce in marketing their products. Data collection in this study is by giving questionnaires to respondents. While in terms of data analysis this study uses the Structural Equation Modeling (SEM) method with the help of AMOS version 22. The results of this study showed that: 1) perceived usefulness has a positive and significant influence on intention to use technology e-commerce, 2) perceived ease of use has a positive and significant influence on intention to use technology e-commerce, and 3) social influence has positive but not significant influence on the intention to use technology e-commerce. This research suggests that marketers who use e-commerce in marketing their products increase the use of attractive images and easily understood words related to product specifics. In addition, the next researcher should be able to expand the scope of research not only to culinary MSMEs.

**Index Terms**— Technology acceptance model (TAM), e-commerce, social influence, MSME

## 1 INTRODUCTION

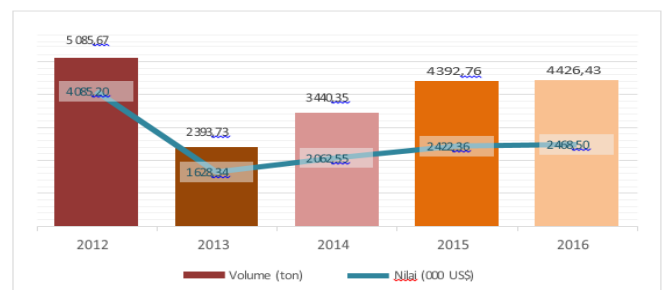
Indonesia's economy was based on the principles of psychology. This populist economic system has been in effect since the reformation in the year 1998. With this system the economic populist, that community actively as economists. In addition, the Government demanded the populist economy system as the guarantor of the rights of the community to act in creating a climate of growth and development of the corporate world. One manifestation of populist economic system, namely the emergence of Micro small and Medium Business (MSMEs). MSMEs is a form of real concern for the Government through the Ministry of cooperatives and small and Medium Businesses to provide opportunities for small businesses to develop.



**Figure 1.** Number of Culinary MSMEs in Bengkalis Regency 2017  
Source: Department of cooperatives, small and medium businesses in Bengkalis

Along with the opportunities that are still wide open to make the culinary business mushroomed. Culinary business into top three types of business micro enterprises small and medium enterprises are the most loved Bengkalis Regency society. From the data above, it can be seen that MSMEs engaged in the culinary in 2017 is very large with an overall total of 1,561 units.

- Marhadi (Corresponding Author) Lecturer, Faculty of Economic and Bussiness, University of Riau, Indonesia  
E-mail: marhadifeur@yahoo.com
- Kurniawaty Fitri, Lecturer, Faculty of Economic and Bussiness, University of Riau, Indonesia  
E-mail: kurniawaty.fitri@yahoo.com
- Arwinence Pramadewi, Lecturer, Faculty of Economic and Bussiness, University of Riau, Indonesia  
E-mail: Arwinence.p@gmail.com
- Ahmad Rifqi, Lecturer, Faculty of Economic and Bussiness, University of Riau, Indonesia  
E-mail: eki161069@yahoo.com



**Figure 2.** The volume and value of Imports year 2012-2016  
Source: Department of industry and trade of Bengkalis Regency

The magnitude of the volume and value of imports in the Regency of Bengkalis impact on MSMEs due to compete with foreign products so that perpetrators of Bengkalis Regency in MSMEs need to exploit advances in information technology or e-commerce. E-commerce is one form of information system Technology which offers many country advantage for the perpetrators of SMES when adopted or applied. One of the benefits offered by e-commerce for small-medium enterprises is expanding its product marketing channel or market share so that it can reach out to many parts of the world.

The more rapid development of technology should be a big capital for businessmen to market their products. Perpetrators of MSMEs already selayaknyalah advances the science and technology to replace traditional marketing pattern.

The use of e-commerce in this business transaction cause reactions in people or the wearer, that is, the form of acceptance or rejection. The success of the application of e-commerce depends on acceptance by the user as a user of e-commerce. Often occur in ignorance of users will benefit and ease in using e-commerce for that in this study the researchers using the technology acceptance model, known as TAM (Technology Acceptance Model) to explain and predicting the acceptance of the technology by the user. Model TAM can explain the acceptance of information technology with the specific dimensions that may affect the acceptance of the technology by the user. Model TAM is used to find out the factors of attitude, intention and behavior of users by using two main input variables i.e. expediency (usefulness) and ease (easy of use).

Based on the above thoughts, principal author interested in doing research to find out the extent of the offender's behaviour in the Regency of Bengkalis Small Medium Enterprises to the development of technology in the world their efforts. To that end, the authors propose a title research "the influence of the application of E-Commerce in Bengkalis Regency SMEC Approach method of Technology Acceptance Model (TAM)".

As for the formulation of the problem are as follows:

1. What influence perceived usefulness against the intention to use technology to e-commerce?
2. What is the influence of perceived ease of use against the intention to use technology to e-commerce?
3. What is the influence of social influence against the intention to use technology to e-commerce?

The purpose of this study is as follows:

1. Find out the influence of perceived usefulness against the intention to use e-commerce technology
2. Know how the perceived ease of use against the intention to use e-commerce technology
3. Find out the influence of social influence against the intention to use e-commerce technology.

## 2 Literature Review and Hypotheses

### 2.1 E-commerce

According to Kotler (2007), e-commerce is an overview of the company's efforts to inform, communicate, promote, and sell products and services via the internet. According to m.

Suyanto in Mujiyana, Ingge (2013) "Single common E-Commerce people do is based on the nature of this transaction.

There are five types of e-commerce, namely:

#### 1. Business-to-Business (B2B)

Almost all e-commerce is currently the B2B type. It is because of this type of transaction are including IOS and electronic market transaction between organizations.

#### 2. Business to Consumer (B2C)

In General, retail transactions involving eligible individuals and companies that provide e-commerce application, in this case, online shopping.

#### 3. Consumer to Consumer (C2C)

In this category, consumers to sell products or services directly to other consumers. There are some that sell products or services using ad and after that the sales made on the website.

#### 4. Consumer-to-Business (C2B)

This category includes individuals who sell products or services to the organization.

#### 5. Non E-commerce business

Types of e-commerce include also non-business institutions such as academic institutions, non-profit organizations, religious organizations and Government agencies who use e-commerce to depress their spending.

#### 6. Intra business (organization)

E-commerce category included all internal activities, usually done in the form of the internet that involves the exchange of goods and services or information.

### 2.2 Small Medium Enterprises

SMEC is an abbreviation of Micro small and medium enterprises. Small Medium Enterprises arranged by Law Number 20 year 2008 about Micro small and medium enterprises. The following is an illustration of the contents of the Law Number 20 years in 2008. Aufar (2014:8)

Understanding SMEC can be viewed from various aspects, both in terms of the wealth owned by the businessmen, the amount of labor that is owned or in terms of sales/turnover perpetrators of MSMEs.

Based on its development, SMEs in Indonesia can be distinguished in the 4 criteria, including the following:

1. Livelihood Activities, i.e. SMES that utilized as the opportunity of working for a living, which is more commonly known as the informal sector. For example is the street vendors.
2. Micro Enterprise, namely SMES which have the nature of craftsmen but do not have the nature of entrepreneurship.
3. Small Dynamic Enterprise, namely SME that has possess the soul of entrepreneurship and capable of receiving subcontracting work and export
4. Fast Moving Enterprise, namely SMES who have entrepreneurial soul and will be transformed into a great effort (UB).

As described in the sense stated in the Presidential Decree No. SMEC RI No. 19 Year 1998 as people's economic activities on small scale needs to be protected and prevented from competition.

In the last decade started lively business popping Small Medium Enterprises ranging from home-based scale up to a larger scale. Here there are 8 types of businesses including Small Medium Enterprises:

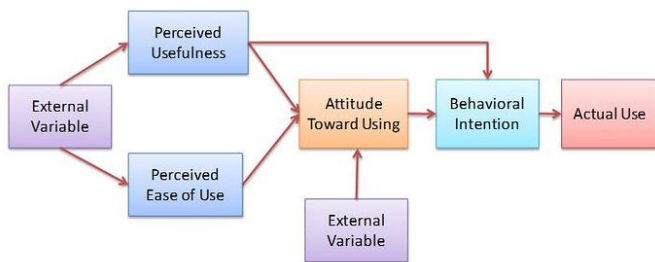
- 1 Culinary Efforts.
2. Business field of Fashion
3. Business Education
4. the efforts of the automotive Field
5. Business Agribusiness
6. Business internet Technology
7. Handmade
8. Electronic Business & Gadgeton.

**2.3 Technology Acceptance Model (TAM)**

Technology Acceptance Model (TAM) was first developed by Davis (1986) and then used and developed by some researchers as Adam et al. (1992) Szajna (1994), Igarria et al. (1995) and Venkatesh. And developed again by Davis (2000).

Modification of model TAM performed by Venkatesh (2002) by adding a variable trust with title: Trust enhanced Technology Acceptance Model, which examines the relationships between variables of TAM and trust. Modification of other Trust TAM and Risk in Technology Acceptance Model (TRITAM) that uses a shared belief and risk variables variable TAM (Lui and Jamieson, 2003).

Technology Acceptance model (TAM) developed by Davis (1989) is a model of successful and highly acceptable to predict acceptance of a new technology is applied. For the moment, TAM is one of the most important theoretical contribution towards the acceptance and use of an information system. Many studies have examined the reworked, expanded, and using TAM.



**Figure 3.** Diagram Technology Acceptance Model

Davis (1989) conducted a study with the connect between the perception of Usability with the perception of ease of Use as in the table below:

**TABLE 1.** Relationship Between Perception of usefulness with the perception of the ease of use.

Kegunaan (usefulness)	Kemudahan (ease of use)
Work faster performance	Easy to learn
Increased productivity	Can be controlled
Effective	Clear and easy to understand
Simplify task	Flexible
usefulness	Easily mastered/skilled
	Ease of use

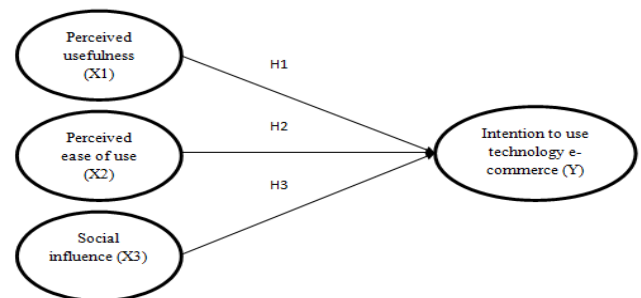
So did Davis (1989), there were five formation of attitudes that affect a person's behavior in the use of information technology:

1. the Perceived Ease of Use, Convinced that information technology will be easy to use.
2. Perceived Usefulness, Convinced that the information technologies used will provide benefits.
3. Attitude Toward Using, Convinced the attitude of the user to use information technology.
4. Behavioral Intention of Use, improving the user's behavior to continue to use information technology.
5. Actual System Usage, stating that the user has been using information technology fully based benefits that come by.

**2.4 Social Influence**

According to Adiwibowo et al. (2012), social influence shows the extent to which an individual's perception of something that is believed to others for the use of the new system. According to Wang and Chou (2014), social influence refers to how other people influence the decision of the person's behavior. Social influence is related to external pressures (from those important in someone's life, like family, friends, and supervisors in the workplace). Social influence is the extent to which social networks affect the behavior of the community through messages and signals from others who facilitated the formation of the perceived value of the community of the system technology. In addition, social influence affects individuals through both the message about social expectations and behavior observed from other people.

Wang and Chou (2014) stated that social influence formed by two dimensions, namely subjective norms and visibility.



**Figure 4.** Framework Research

Source: processed data Irma Salamah, Lindawati, aryanti, asriyadi (2017)

## Hypothesis

- H1: Allegedly Perceived usefulness of positive and significant effect against the intention to use e-commerce technology in Small Medium Enterprises in the Province.
- H2: Allegedly Perceived ease of use positive and significant effect against the intention to use e-commerce technology in Small Medium Enterprises in Bengkalis
- H3: Alleged Social influence positive and significant effect against the intention to use e-commerce technology in Small Medium Enterprises in Bengkalis

## 3 METHODOLOGY

According to Sugiyono (2013) are a generalization of area's population consists of: an object or subject that has certain qualities and characteristics set by the researchers to learn and then drawn the conclusion. The population in this research is the owner of Small Medium Enterprises in the Province.

According to Sugiyono (2013) are part of a number of samples and characteristics shared by the population. The sample in this study was the Small Medium Enterprises who have used e-commerce in the marketing activities of its products. The samples will be taken in this study in accordance with the prevailing technique so totally representative.

Sampling techniques in the study using the technique of sampling non-probability sampling. As for the type of the used sample withdrawal technique that is purposive sampling. According to Trianto (2015) purposive sampling techniques namely the selection of the sample was based on certain criteria. The criteria used are: Small Medium Enterprises who have used e-commerce in its product marketing activities

Determination of the number of samples is done using the formula Hair. Hair et al. (2006) States that the determination of the amount of sample holding a very important role in the estimation and interpretation of results especially when using analysis of Structural Equation Modelling (SEM). Minimum sample size is as much as 5 observations for each estimated parameter and the maximum is 10 observations to each of the estimated parameters. In this study, a number of indicators of research as many as 12 indicators, and the calculations are:

$$\begin{aligned} \text{The number of samples} &= \text{number of indicators} \times 5 \text{ s/d } 10 \\ &= 12 \times 10 \\ &= 120 \end{aligned}$$

Thus the sample used in this study 120 samples. The number of these samples is in compliance with the number of samples in the study are using the technique of Structural Equation Modelling (SEM) where the ideal number of samples is sample 100-200 for Maximum Likelihood Estimation.

Method of Data collection is done in this research are as follows:

### 1. Questionnaire

Questionnaires are a number of formal inquiries in writing intended to obtain information from the respondent (Simamora, 2004). The questionnaire used in this research in the form of open-ended questions where using Likert Scale. Likert scale giving opportunities to

the respondents to express their feelings in the form of approval or agreement of a question.

### 2. Study of Library

Data collection through the library studies aiming to dig up as much information as possible about the object as well as the related elements in the study.

## 3.1 Operational Definitions Of Variables

### 1. Perceived Usefulness

Perceived Usefulness is a phase in which a person believes that a user of a particular system will be able to add to the achievements of the person's work. Davis (1986). As for the charge indicators will enhance the effectiveness of, namely, improving the efficiency of time, help in finding customers and sell goods. Venkatesh and Davis (2000).

### 2. Perceived Ease Of Use

Perceived ease of use as a level where someone believes that the use of a particular system can reduce one's efforts in doing something. Davis (1986). As for the charge indicators will that is easy to understand, easy to use, easy to be skilled. Venkatesh and Davis (2000:201)

### 3. Social Influence

Social influence in the define sejauhmana as an individual mempresepsikan the importance of trusted others who influenced them to use the new system. Adiwibowo et al. (2012). As for the charge indicators will i.e. behavioral belief, normative belief, behaviour of other consumers, the influence of the environment. Tanakinjal et al. (2012).

### 4. Intention To Use

Intention to use is a form of individual desires to use or reuse a product or service because of the alignment of the motif of the use of the attributes or characteristics of an existing product or service. Suki (2011).

As for the charge indicators will IE, Compatibility, ease of use. Arief Hermawan (2008) in Suseno (2009) (Sugiyono, 2013:67).

## 4 THE RESULTS OF THE RESEARCH AND THE DISCUSSION

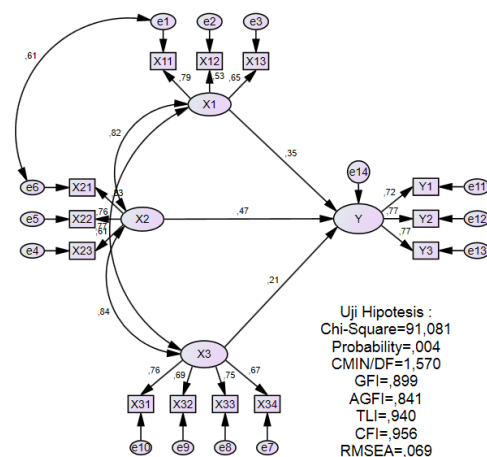


Figure 5. Full Test Model Of End-Stage

Source: Processed Data, 2019



- Hypothesis 1

H1: perceived usefulness of positive and significant effect against the Intention to use technology to e-commerce.

**Conclusion** : direct influence Perceived Usefulness against the Intention to use e-commerce has a coefficient of 0381 with Critical Ratio 2.030 and p-value of 0042 < alpha (0.05) (table 5.12), so it can be said that there are influences that significantly between Perceived Usefulness against the Intention to use e-commerce. This has a positive influence which means the better the Perceived Usefulness, it will result in the better the Intention also to use e-commerce.

- Hypothesis 2

H2: perceived ease of use positive and significant effect against the Intention to use technology to e-commerce.

**Conclusion** : direct influence Perceived ease of use against the Intention to use e-commerce has a coefficient of 0781 with Critical Ratio 2.126 and p-value of 0033 < alpha (0.05) (table 5.12), so it can be said that there are influences that significantly between the Perceived ease of use against the Intention to use e-commerce. This has a positive influence which means the better the Perceived ease of use, it will result in the better the Intention also to use e-commerce.

- Hypothesis 3

H3: Social Influence positive and significant effect against the Intention to use technology to e-commerce.

**Conclusion** : direct influence of Social Influence against the Intention to use e-commerce has a coefficient of 0240 with Critical Ratio 1.070 and the p-value of 0284 > alpha (0.05) (table 5.12), so it can be said that there is no influence significantly between Social Influence against the Intention to use e-commerce. This has a positive influence which means the better the Social Influence, it will result in the better the Intention also to use e-commerce..

products of Small Medium Enterprises in Bengkalis Regency culinary can improve its work performa.

2. Based on the results of the study, indicate that the perceived ease of use has a positive and significant influence against the intention to use e-commerce technology in Small Medium Enterprises in the Province. This can occur caused by the third indicator that is easy to understand, easy to use and easy to be skilled. These results indicate that the use of e-commerce in market MSMEs business owners very helpful culinary in the Province due to the use of e-commerce is very easy and make business owners become more skilled.
3. Based on the results of research, shows that social influence has a positive influence but not significantly to intention to use e-commerce technology in Small Medium Enterprises in the Province. This can occur caused by the four indicators i.e. behavioral belief, normative belief, behaviour of other consumer and environmental influences. These results indicate that overall the influence of social influence in the operation of e-commerce in Small Medium Enterprises in Bengkalis Regency culinary there is a positive influence from the outside environment or the working environment.

## 5.2 Advice

Having regard to the standard loading factor value of each indicator in the fit of the resulting model in this study, it can be known to be an indicator of anything that has the standard loading factor is relatively low compared to other indicators. Indicators that his standard loading factor is relatively low here's what made the focus of attention to serve as input for marketers who are using e-commerce to conduct marketing activities in his efforts on Small Medium Enterprises in the district Bengkalis. Here is some advice for marketers who are using e-commerce in its marketing activities, the Government and researchers Furthermore, among others:

1. Parties to Small Medium Enterprises in culinary Bengkalis which already use e-commerce in the conduct of the game need to be sought in order to make the management of its business more toward maximum again so as to future business can survive and compete well inside and outside the country as well as generate a bigger profit so that the Small Medium Enterprises remains a driving force of the economy of the country.
2. Suggestions for further research is so that researchers can add a level of thoroughness in doing research because research is also still far from perfection. In addition researchers also can increase the number of variables and other kinds of Small Medium Enterprises that may be examined in further research.
3. Suggestions for the Government is to make the future more create a policy so that the SMEC culinary actively follow training held in order to improve the ability and creativity in running his business.

## 5 SUMMARY AND ADVICE

### 5.1 Conclusion

Based on the analysis and discussion of the results of hypothesis testing that has been done, then it can be drawn the conclusion that the core of the results of this research are:

1. Based on the results of the study, indicate that the perceived usefulness of positive and significant effect against the intention to use e-commerce technology in Small Medium Enterprises in Bengkalis Regency, culinary. This can occur caused by the third indicator of perceived usefulness that is increase effectiveness, improve the efficiency of your time and help in finding customers and sell goods. The better perceived usefulness is done, it will be the better use of intensity also e-commerce technology to market their products. These results indicate that perceived usefulness or benefit from the use of technology to market the

## References

- [1.] Agustian,R dan Syafri,R. 2014. Pendekatan Technology Acceptance Model (TAM) Untuk Mengidentifikasi Pemanfaatan Internet Usaha Kecil dan Menengah Sumatera Selatan. Palembang, Universitas Bina Darma Palembang.
- [2.] Badan Pusat Statistik (BPS) , Dinas Perindustrian Dan Perdagangan Kabupaten Bengkalis , 2017.
- [3.] Darpito, Hasporo,S. 2015. Pengaruh Technology Acceptance Model Terhadap Pembelian Furniture dan Handycrat Produk UKM Melalui Online di Yogyakarta. Yogyakarta. UPN Veteran Yogyakarta.
- [4.] Ferdinand, A., 2002. Metode Penelitian Manajemen. Universitas Diponegoro. Semarang.
- [5.] Ghozali. 2008., Model Persamaan Struktural Konsep dan Aplikasi dengan Program AMOS versi 16.0.Universitas Diponegoro. Semarang.
- [6.] Hair et al. 2006., Multivariate Data Analysis, Sixth Edition. Pearson Education International. Prentice Hall.
- [7.] Hari,Yulis. Dkk. 2018. Interpretasi Penetrasi Teknologi Bagi UMKM dan Implikasinya dengan Pendekatan Technology Acceptance Model. Malang. UNMER
- [8.] Haryono, S dan Wardoyo,, P.2012. Structural Equation Modeling untuk Penelitian Manajemen Menggunakan AMOS 18.0. PT. Intermedia Personalia Utama. Bekasi.
- [9.] Haryono,Steven, Dkk. 2015. Pengaruh Shopping Orientation, Social Influence, dan System Terhadap Costumer Attitude Melalui Perceived ease of use(studi pada Apple Store).
- [10.] Herman, dinas koperasi usaha kecil dan menengah Kabupaten bengkalis, 27 juli 2018.
- [11.] Hillery,D. 2012. Penerapan Teknologi Informasi dan Komunikasi (TIK) pada UMKM dengan Menggunakan technology Acceptance Model (TAM). Depok. Universitas Guna Darma.
- [12.] Kotler.Philip & Keller,Kevin Lener.,2009.manajemen pemasaran, edisi ketiga belas jilid 2, Erlangga.
- [13.] Kotler.Philip & Keller. Kevin.Lener.,2009.manajemen pemasaran, edisi ketiga belas jilid 1, Erlangga.
- [14.] Lesmoni, D. 2015. Pengaruh Penggunaan e-commerce Bagi Pengembangan Usaha Kecil Menengah(UKM) dengan Pendekatan Technology Acceptance Model.Purwokerto. AMIK BSI Purwokerto.
- [15.] Rahayu, R., dan Day, J. 2015. Determinant factors of e-commerce adoption by SMEs indeveloping country: evidence from Indonesia. Procedia-Social and BehavioralSciences, 195, 142–150.
- [16.] Rahayu,Rita dan Day,Jhon. 2015. Determinant Factors Of E-Commerce Adoption By SMEs In Developing Country:Evidence From Indonesia.
- [17.] Rahmati. 2009, Pemanfaatan E-Commerce Dalam Bisnis Di Indonesia, <http://citozcome.blogspot.com/2009/05/pemanfaatan-e-commerce-dalambisnis-di.html>, Diakses tanggal 4 September 2018
- [18.] Salamah,Irma. 2017. Model Penerimaan Teknologi E-commerce UMKM Kain Tenun Songket Kota Palembang. Sumatera Selatan.Teknik Elektro Politeknik Negeri Sriwijaya Palembang.
- [19.] Santoso,Singgih., 2018. Konsep Dasar dan Aplikasi SEM dengan Amos 24.PT.Gramedia. Jakarta.
- [20.] Sarwono,W.Sarlito & Eko A.meinarno., 2012.psikologi social.Jakarta : Salemba Humanika
- [21.] Schiffman, L. dan L. L. Kanuk., 2008. Perilaku Konsumen. PT. Indeks. Jakarta.
- [22.] Setiawan,A dan Sulistiowati,Hari,L. 2017. Penerapan Modifikasi Technology Acceptance Model (TAM) Dalam E-Business.Gunung Jati. Universitas Swadaya.
- [23.] Simamora, B., 2004. Riset Pemasaran: Falsafah, Teori, dan Aplikasi. PT. Gramedia Pustaka Utama. Jakarta.
- [24.] Sugiyono,Prof.Dr., 2014.Metode Penelitian Bisnis, cetakan ke-18 : Alfabeta, Bandung .
- [25.] Sukamdiyo,igm., 1996.Manajemen Koperasi, Erlangga, Semarang.
- [26.] Tjiptono, F., 2008. Strategi Pemasaran (Edisi III). Penerbit ANDI. Yogyakarta.
- [27.] Umar, H., 2011. Metode Penelitian untuk Skripsi dan Tesis Bisnis. PT. JayaGrafindo Persada. Jakarta.
- [28.] Widiyanti,Ninik,Dra., 2012.manajemen koperasi, Rineka Cipta.
- [29.] Yulistia.2017. Analisis Pengaruh Efektifitas dan Manfaat E-commerce Terhadap Sikap dan Prilaku Pengguna Dengan Metode TAM. Palembang, STMIK MDP.