

Development of E-Commerce Website at MSME Food VII Koto Talago Village, Lima Puluh kota District

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Abstract— This research is driven by the development of science and technology, which requires businesses to innovate in developing their business. Advances in technology bring changes to the patterns of human life, especially changes in consumer behavior in obtaining goods and services. This research aims to develop an e-commerce website at the VII Koto Talago food MSME and to measure the validity, practicality and effectiveness of the development results. This research is a research and development (R&D), using the Four D's design covering the stages of Define, design, develop and dissemination. Data collection instruments are Likert-scale questionnaires, validity assessors to experts, practicality to website managers and consumers. Evaluation is seen from the achievement of the level of promotion and sales. Validity data analysis using the Aiken V formula, practicality analysis with percentage formulas and effectiveness data analysis using the formula of independent sample t test for hypothesis testing. The results of the study are 1) the development has been carried out with the four D's development model that produces an e-commerce website for food MSMEs, 2) the results of the analysis of the validity of the e-commerce website with the assessment of all aspects reaching a score of 0.87 with a valid category. The results of practicality counts with consumer responses with an average of 87% are categorized as practical, while for website managers the value is on average 91% with very practical categories. The results of the effectiveness analysis for an increase in the number of promotions reached 56%, for sales after using the website higher than before using the website. Based on the results of research it is suggested that entrepreneurs can use e-commerce websites because websites are valid, practical and effective in increasing the number of promotions and sales.

Keywords— E-commerce Website, MSME, Research and Development.

I. INTRODUCTION

Utilization of science especially information technology in the field of entrepreneurship is developing very rapidly, through very significant changes in the form of digitalization, capital mobility and information liberalization (Laudon & Traver, 2013). Since 2016 there has been a wave of innovation in life namely the era of the internet of things, where the internet can be used by business people independently, currently trading in cyberspace is becoming more intense which makes newcomers oppose the old corporations (Kasali, 2017).

Entrepreneurs who think ahead, are open, creative, risk takers who are able to read opportunities, master the development of information and communication technology will successfully seize opportunities in the free market era. As stated in the WEF Global IT report (2015), there are three

components that a novice entrepreneur has in starting a business: 1) knowledge gained from education that motivates the spirit of innovation, development of interest, research to identify gaps and needs market, 2) Input in the form of company capital, skilled employees, and mastery of Information and Communication Technologies or information and communication technology to start a business, 3) Assistance in the form of guidance and collaboration to provide business security throughout all stages of starting a business. Therefore, the ability to master communication technology is important in starting a business. One example is Micro, Small and Medium Enterprises (MSME). Micro, Small and Medium Enterprises (MSME) are economic activities that can produce goods or services that will be traded commercially.

MSME has enormous potential to advance development and as a driving force for the Indonesian economy. MSMEs are the largest contributor to Gross Domestic Product (GDP) of up to 60.34 percent (Iskandar, 2018). In accordance with the programs that have been conceived and planned by the government, it is an opportunity for SMEs to develop their businesses. According to data from the Central Statistics Agency (2018), the number of registered MSMEs reaches 60 million, spread throughout Indonesia. Based on these data, MSMEs that have just taken advantage of online flafom to market their products are 3.79 million MSME players, or equivalent to 8% of the total number. The Government through the Ministry of Cooperatives and UMKM RI has chosen the Lima Puluh Kota District as the only District in West Sumatra to get the Integrated Business Service Center (PLUT) program. PLTUT is a form of integration of potential and productive resources for the development of MSME cooperatives and businesses in Lima Puluh Kota District.

Lima Puluh Kota District MSMEs reached 48,923 business units in 2015. The number of micro businesses reached 271 units, small businesses 4,973 units, while medium businesses reached 43,679 (Department of Cooperatives and SMEs, West Sumatra 2015). In general, MSMEs in the Lima Puluh Kota District carry out the marketing of goods and services in a simple manner known as offline. Only a small portion of MSMEs in the Lima Puluh Kota District can utilize internet technology to market goods and services resulting from business production, one example is food MSMEs in the VII Koto Talago area of Guguak District. Food MSMEs in the VII

Koto Talago area have started to utilize digital media in marketing their products through e-commerce websites.

This has become a major supporter in developing digital market-ing or online marketing using e-commerce websites. Where MSMEs have good human capital, so that MSMEs will be able to undergo digital transformation in accordance with the development of the industrial revolution 4.0. Marketing that used to be offline turned online, and opened new markets for producers and can reach consumers more widely and quickly. Marketing is known as mar-keting which utilizes platforms on the internet. Online marketing functions to carry out activities to reach consumers, often called digital marketing. Digital marketing is usually known as online marketing, Web Marketing, or Ele-Marketing (e-commerce) marketing. E-commerce is the marketing of goods or services that utilize the internet as a marketing medium (Agus, 2016).

E-business does not only utilize internet and computer technology media but also utilizes electronic media such as: landlines, cellular phones, telegrams, facsimile, television, radio, electronic data interchange (EDI) and ATMs. E-commerce is a dynamic set of technology, applications and business processes that connect companies, consumers and certain communities through electronic transactions (Harisno, 2009). Marketing through digital media is an innovation in the business world. Marketing is a unique product strategy, promotion, and pricing that is designed to produce exchanges that are mutually beneficial.

II. REVIEW OF LITERATURE

A. E- Commerce (Digital Marketing)

Marketing is known as marketing that utilizes platforms on the internet. Online marketing has the function of reaching out to consumers, often called digital marketing. Digital marketing is usually known as online marketing, Web Marketing, or Electronic Marketing (e-commerce). Agus (2012: 206) states that "E-commerce is the marketing of goods or services that use the internet as a marketing medium".

Serfiani (2013: 1) revealed "the understanding and scope of e business is broader compared to e commerce". E business not only utilizes internet and computer technology media but also utilizes electronic media such as: landlines, cell phones, telegrams, facsimile, television, radio, electronic data interchange (EDI) and ATMs. Harisno (2009) mentions that E Commerce is a dynamic set of technology, applications and business processes that connect certain companies, consumers and communities through electronic transactions.

Based on the above opinion it can be concluded that e commerce is part of e business. E commerce is one of the implementation of online business, studying about online business cannot be separated from online transactions such as electronic commerce, in e commerce there are promotional activities, sales, purchases and services of products and services offered through the internet network.

B. Website Quality E-commerce

WWW (World Wide Web) or known as WEB is a service that can be enjoyed by computer users who are connected to the internet network. Websites are also called sites, links, sites

are information pages that contain text, animations, images that can be accessed by internet users around the world (Taufiq, 2007). Online marketing using a website is an activity of marketing communication using internet media. Marketing websites initially used HTML (Hyper Text Markup Language) pages that could be accessed by internet service users. Then the website developed into an online brochure. marketing using a website can be done through an interactive online computer system that connects and can create electronic buyer and seller interactions, Farrell (2008) in Wulandari (2017: 35).

Website Quality is one of the methods or techniques for measuring website quality based on the end user's perception. Website quality can be seen from the attributes of a website that contributes to its usefulness to consumers (Gregg and Walczak, 2010). im and Niehm (2009) revealed that previous researchers divided the website quality dimensions into five, namely: 1) information, 2) Security, 3) Convenience, 4) Comfort, 5) Quality of service.

C. MSMEs Food

Chapter I article 1 of the Law No. 20 of 2008 concerning Micro, Small and Medium Enterprises (MSMEs) mentions the definition of Micro, Small and Medium Enterprises (MSMEs) as follows:

- 1) Micro Business is productive business owned by individuals or individual business entities that meet the criteria for Micro Business as stipulated in the Act.
- 2) Small Business is a productive economic business that stands alone, carried out by individuals or business entities that are not subsidiaries that are owned, controlled, or become a part either directly or indirectly of Medium Enterprises or Large Enterprises that meet the Small Business criteria as intended in the law.
- 3) Medium-sized Business is a productive economic business that is independently operated by an individual or business entity that is not a subsidiary or branch of a company that is owned, controlled or becomes a part either directly or indirectly with a Small or Large Business with a net worth or yield annual sales as stipulated in the Act.

Based on the above definition it can be concluded that MSME is a form of productive economic business carried out by individuals or individual business entities that meet the criteria of Micro, Small and Medium Enterprises. Lima Pulu Kota Regency is one of the regions that has MSME products that process regional specialties. Regional specialties have their own advantages, which are processed from fresh and natural ingredients, low fat content, do not use additives (colorings, sweeteners, and food preservatives), safe for consumption, affordable prices and in accordance with tastes and habits, (Komariah, 2010).

In general, in Lima Pulu Kota, they process special food by utilizing the agricultural products of the community, especially in Nagari VII Koto Talago, such as farming cassava, corn, sweet potato, taro, banana and so on. Nagari VII Koto Talago is one of the villages that is actively involved in fostering the community in forming business groups (MSMEs). One example of a business given by the village

government helps people who have a business to get a business license or have a PIRT certificate. In accordance with Health Act article 111 Number 36 of 2009 confirms that:

- 1) Food and drinks used for the community must be based on standards and meet health requirements.
- 2) Food and drink can only be circulated after obtaining a marketing authorization in accordance with the provisions of the Statutory Regulations.

Based on these regulations it is stressed that food and drinks may be circulated after obtaining a marketing authorization in accordance with applicable regulations. To grow and develop the home industry, the nagari VII government of Koto Talago in collaboration with relevant agencies undertook various efforts to foster MSMEs, both technical, production, management, promotion and sales.

Information Group (KIM), conducts activities with MSME entrepreneurs. The activity is in the form of training and introduction to internet media as an online marketing medium, with the aim of this activity being able to increase the intelligence, knowledge and welfare of the community. Besides that VII Koto Talago village is a village fostered by Padang State University in the activities of applying information technology to improve MSME products.

Technological development is carried out by quality human resources. Quality human resources in the field of technology are produced by the Institute of Technology and Vocational Education (CAR). Faculty of Engineering, Padang State University is a vocational institution that has one of the Missions and Objectives of the Faculty of Engineering in the world of education is to develop, apply knowledge in the field of CAR, vocational, engineering through service to the community in order to improve community welfare. Departing from the PTK Mission and Objectives, it is very much needed research and development, especially for the Lima Puluh Kota MSMEs in marketing using digital marketing technology. With the hope of improving the welfare of the community in Lima Puluh Kota District especially in VII Koto Talago village.

III. DEVELOPMENT METHOD

This research is a research and development (R&D) development. Development research methods are analysis of the need to produce certain products, as well as practicality tests on these products. This study aims to develop an e-commerce website at the MSME Nagari VII Koto Talago District, Lima Puluh Kota, and measure or determine the level of digital marketing practicality using an e-commerce website in developing an MSME business. The development model used in this study is a modification of the development model of the 4-D learning model (Four D Model) which consists of 4 main stages namely, Define, Design, Develop and Disseminate (Dissemination), (Trianto, 2012).

Data collection instruments are Likert-scale questionnaires, validity assessors to experts, practicality to website managers and consumers. Evaluation is seen from the achievement of the level of promotion and sales. Validity data analysis using the Aiken V formula, practicality analysis with percentage formulas and effectiveness data analysis using the

formula of independent sample t test for hypothesis testing.

IV. DEVELOPMENT AND DISCUSSION RESULTS

A. Data Analysis

1. Data analysis test validity of E-commerce website

The results of the assessment of each aspect given by the validator were analyzed using the Aiken's V. statistical formula. The results obtained were validation values for the products produced. The results of the validation recapitulation are summarized from the aspects of the assessed media digital marketing (e-commerce website) as shown in the table I.

TABLE I. Validation results of media e-commerce website

No	Aspect	Rating	Rating	Rating	Rating	Rating	Category
		V. 1	V. 2	V. 3	V. 4	V. 5	
1	Display Information	0.9	0.76	0.73	0.83	0.9	Valid
2	Programming Security	0.95	0.85	0.9	0.9	1	Valid
3	Convenience and comfort	0.92	0.88	0.71	0.83	0.88	Valid
4	Quality of service includes	0.83	1	0.92	0.83	1	Valid
5	Product	0.86	0.93	0.86	0.76	0.9	Valid
6	Price	0.75	0.85	0.85	0.8	0.85	Valid
7	Place	0.88	0.88	0.75	0.86	0.94	Valid
8	Promotion	0.91	0.94	0.75	0.94	0.94	Valid
9	Website Language	0.79	0.82	0.79	0.86	0.82	Valid
Average		0.87	0.88	0.81	0.85	0.91	Valid

Based on table I it can be concluded that the results of the analysis or assessment of aspects by all experts are declared valid from the 9 component aspects being assessed. Based on the average rating of five expert validators can be seen in table II.

TABLE II. Average Rating of Experts Experts' Ratings

No	Validator	Rating	Category
1	V1	0.87	Valid
2	V2	0.88	Valid
3	V3	0.81	Valid
4	V4	0.85	Valid
5	V5	0.91	Valid
Average Validator Value		0.864	Valid

Based on table II, it can be concluded that the average validator ratings for the development of digital marketing media (e-commerce websites) on on food UMKM Nagari VII Koto Talago, Guguak District, Lima Puluh Kota District, Valid declared with a value of 0.86. To illustrate more clearly the expert data can be seen in Histogram I.



Histogram I Results of Validity of e-commerce websites

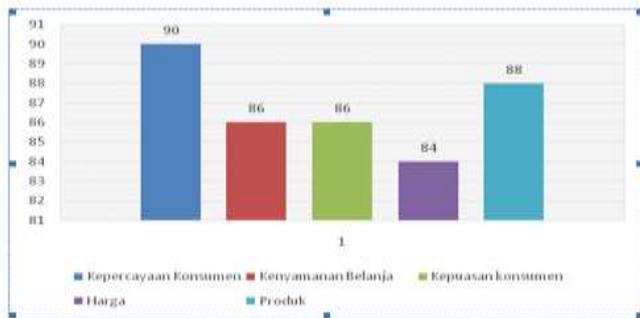
2. Data analysis Practicality of E-commerce website

The practicality of e-commerce website can be seen from the level of practicality of website usage which consists of 2 website managers and 30 consumer responses. The practicality of consumer response can be seen in table III.

TABLE III. Average Consumer Response

No.	Aspect of Rating	Skor (%)	Interpretasi
1	Consumer Confidence	90	Very Practical
2	Shopping Convenience	86	Practical
3	Consumer satisfaction	86	Practical
4	Price	84	Practical
5	Products	88	Practical
	Average	87	Practical

From table III it can be concluded that the average response of 30 consumers was stated practically for all five aspects with a percentage of 87%. For clearer consumer response can be seen in Histogram II.



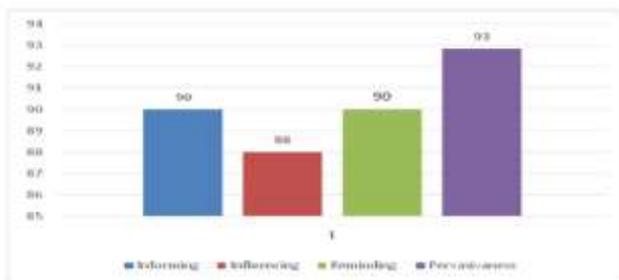
Histogram II Consumer response

Practicality Admin manager response can be seen in table IV.

TABLE IV. Average Consumer Response

No.	Aspect of Rating	Skor (%)	Interpretasi
1	Informing	90	Very Practical
2	Influencing	88	Practical
3	Reminding	90	Very Practical
4	Pervasivness	93	Very Practical
	Average	91	Very Practical

From table IV it can be concluded that the average response of 2 website managers was stated to be very practical for the four aspects of assessment with a percentage of 91%. For clearer manager website can be seen in Histogram III.



Histogram III. Manager website response

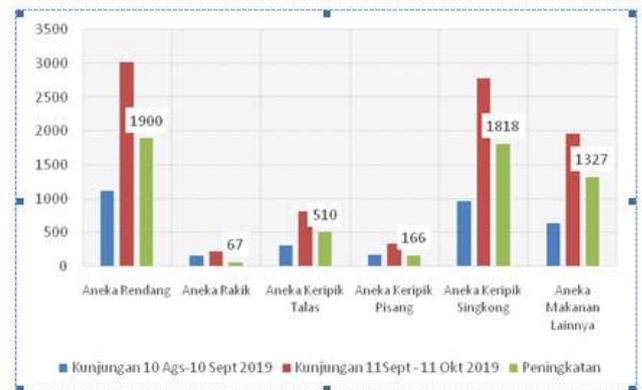
3. Data analysis Effectiveness of E-commerce website

Website effectiveness, in terms of promotion seen from an increase in the number of visitors after using the website and an increase in revenue from sales. promotion effectiveness can be seen in table V.

TABLE V. The range of promotion of superior products

No.	Produk	Sept 2019	Okt 2019	Selisih	% Kenaik-an
1.	Aneka Rendang	1119	3019	1900	63
2.	Aneka Rakik	162	229	67	29
3.	Aneka Keripik Talas	312	822	510	62
4.	Aneka Keripik Pisang	174	340	166	49
5.	Aneka Keripik Singkong	968	2786	1818	65
6.	Aneka Makanan Lainnya	639	1966	1327	67
	Rata-rata	562	1527	965	56

Based on table V, the average percentage increase in consumer visits from September to October 2019 was 56%. This means that e-commerce websites are effective in increasing the number of visits in the reach of promotions by more than 50%. For more clearly the effectiveness of promotion can be seen in histogram IV.



Histogram IV Effectiveness of Promotion

The effectiveness of increasing sales can be seen in table VI.

TABLE VI. The Range of Sales of MSMEs

No.	Name MSMEs	increase			
		Sept 2019		Okt 2019	
		Amount	%	Amount	%
1	Kokoci	350.000	1	1.150.000	3
2	Cikal	200.000	4	700.000	16
3	Sua Saudara	200.000	2	800.000	9
4	99	300.000	2	950.000	8
5	Citra Minang	200.000	3	650.000	9
6	2 Saudara	150.000	2	700.000	7
7	Yanti	150.000	2	600.000	8
	Average	221.429	2	792.857	9

Based on table VI above, it can be explained that In September MSME experienced an average increase in turnover of Rp. 221,429, - (2%), and in October the turnover increased by Rp. 792,857, - (9%). This means that in the two months of the UMKM research period successfully

demonstrated an increase in the average turnover of each month. This means that by using the e-commerce website VII Talago Food can increase the amount of business turnover. Furthermore, the results of hypothesis testing can be seen in table VII.

TABLE VI. The hypothesis testing results

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 sebelum-sesudah	4.857	1.678	.634	6.407	-3.307	7.667	6	.000

Based on data analysis that has been done in testing the effectiveness of e-commerce websites, increasing the number of sales (turnover) of UMKM Food Nagari VII Koto Talago, it can be stated that the score $t_{count} > t_{table}$ ($7,667 > 2,446$) thus concludes that the hypothesis reads "there is a difference the number of marketing (turnover) of UMKM Foods in Nagari VII Koto Talago after using the e-commerce website", was accepted at a significance level of 95%.

V. CONCLUSION

Based on the results of research for the development of digital marketing media (e-commerce websites) on food MSMEs in Nagari VII Koto Talago that have been carried out, the following conclusions are obtained: 1) Digital marketing media (e-commerce website) at food MSMEs in Nagari VII Koto Talago has been developed using the Four D's development model and produced an e-commerce website. The design of digital marketing media adjusts the evaluation aspects of a developed marketing media, carries out the design stages, and evaluates the results of a development that has been carried out in accordance with scientific research methods. 2) The results of the analysis of the validity of the average assessment of all aspects of digital marketing media (e-commerce websites) amounted to 0.870 with a valid category. The results of the analysis of the practicality of consumers in using the website has an average value of 87% with a practical category, while for website managers it reaches an average value of 91% with a very practical category. The results of the effectiveness analysis for the promotion are assessed through an increase in the amount of promotional reach after using the website. The average increase in website visits reached 56%. While the results of the effectiveness analysis for sales stated that the proposed hypothesis is hidden "There is a difference in the number of marketing (turnover) of MSME food in Nagari VII Koto Talago after using an e-commerce website", accepted at the significance level of 95%.

REFERENCES

[1] Agus, Hermawan. (2012). *Komunikasi Pemasaran*. Jakarta: Erlangga.
 [2] Alimiyah dan Panji. (2003). *Kamus Istilah Keuangan dan Perbankan*. Bandung: Yrama Widya.
 [3] Badan Pusat Statistik dan Bank Indonesia (2018). Online ([https:// www. Bps. go.id.statistictable/2018](https://www.bps.go.id/statistictable/2018)) di akses 17 Februari 2019

[4] Bernadi, J. (2013). *Aplikasi Sistem Informasi Penjualan Berbasis Web Pada Toko VelgYQ*. Comtech. 4 (2). Hlm 731-741.
 [5] Harisno, Tri Pujadi. (2009). *E-Business dan E-Commerce Sebagai Trend Taktik Baru Perusahaan*. CommIT. Vol 3 no 2 Oktober 2009, hlm 66-69.
 [6] Iskandar, Simongkir. (2018). *UMKM Sumbang 60 Persen Ke Pertumbuhan Ekonomi Nasional. Sosialisasi PPh Final UMKM*. Jakarta : Liputan 6 (online), [https://www. Liputan 6.com/bisnis/red](https://www.liputan6.com/bisnis/red) UMKM. Diakses 17 Februari 2019
 [7] Kasali, Rhenald. (2017). *Disruption*. Jakarta. PT. Gramedia Pustaka.
 [8] Kristiyanti. (2015). Website Sebagai Media Pemasaran Produk-produk Unggulan UMKM Di Kota Semarang. *Jurnal Aplikasi Manajemen (JAM)* Vol. 13 No 2 Halaman 186-196.
 [9] Laudon, K. C & Traver, C. G. (2013). *E-commerce 2014: Business, Technology Society*. Tenth edition. Prentice-hall,inc
 [10] Lim, K.H. et al. (2001). How Do I Trust You Online, and If So, Will Buy?: An Empirical Study on Designing Web Contest to Develop Online Trust. *Journal of Management Information System*.
 [11] Lung-Tan Lu Shing-Ko Liang. (2016). Road To Initial Public Offerings (IPO): A Case Of Internet Entrepreneur In Taiwan. *International Journal of Science Reasearch And Technology* Volume 2 Issue 3, PP 9-14, 25th Desember 2016. ISSN:2379-3686 9.
 [12] Serfiani, Cita Yustisia, dkk. 2013. *Buku Pintar Bisnis Online dan Transaksi Elektronik*. Jakarta: Gramedia Pustaka.
 [13] Trianto. (2012). *Model Pembelajaran Terpadu*. Jakarta: PT. Bumi Aksar.