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Research article

Use of online applications in maintaining MSMEs performance during the COVID-19 pandemic

Nurlinda Nurlinda ^{a,*}, Junus Sinuraya ^b, Asmalidar Asmalidar ^c, Rahayu Hassan ^d,
Supriyanto Supriyanto ^e

^{a,c} Department of Accounting, Politeknik Negeri Medan, Medan, Indonesia

^b Department of Computer Engineering, Politeknik Negeri Medan, Medan, Indonesia

^d Department of Commerce, Politeknik Port Dickson, Port Dickson, Malaysia

^e Department of Business Administration, Politeknik LP3i Medan, Medan, Indonesia

email: ^{a,*} nurlinda@polmed.ac.id, ^b junus.sinuraya@gmail.com, ^c asmalidar72@gmail.com, ^d rahayuhassan@gmail.com,

^e faiziqameira@gmail.com

* Correspondence

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ABSTRACT

This study aims to see whether there are differences in sales made by offline/conventional and online MSMEs to discover alternative media transactions to survive and increase sales during the COVID-19 period. This research is an exploratory study on MSMEs players who sell Rujak Sentir at Simpang Jodoh, Percut Sei Tuan, Deli Serdang District, Indonesia. The data source in this research is primary data by collecting data using a questionnaire on 50 samples of Rujak Sentir MSMEs merchants. Data were analyzed using statistical descriptive analysis of the Wilcoxon Signed Rank Test. The final analysis of data shows that the apply of online applications can be an alternative for MSMEs in maintaining and improving performance throughout the COVID-19 pandemic. The usage of this research practice is to give input to related parties regarding other options that can be utilized by enterprises throughout the Coronavirus widespread so that in the future, MSMEs are ready to face uncertainties that arise due to external factors. In addition to this, this research will be a recommendation regarding technical guidance that can be carried out by the local government in fostering MSMEs.

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1. Introduction

The global economy is currently in a state of decline due to the COVID-19 pandemic. The world stock market as an overview of the economy is experiencing a decline, such as the US, UK, Spain, Hong Kong, and China, and some have even experienced an extreme decline in market value such as the German, French, and German stock markets [1]. In America, many shareholders sell their shareholdings as a form of anticipation due to the sluggish financial market because of the impact of COVID-19 [2, 3]. The Coronavirus widespread has hit all parts of life, even the energy sector [4], including the small business sector such as MSMEs (Micro, Small, and Medium Enterprises). MSMEs also experienced a strong impact due to the influence of the disruption of the global production system and supply chain, destroying transportation and distribution mechanisms between suppliers, products, and customer facilities [5].

The Indonesian economy has also been affected by the impact due to the COVID-19 widespread, including the MSMEs sector. In general, according to the Minister of Manpower at the Regional Consultative Council of the Republic of Indonesia (DPR RI) Commission IX work meeting on July 8, 2020, the MSMEs sector faced problems due to Coronavirus widespread such as decreased sales [6],

capital [7], distribution was hampered, difficulty in raw materials, decreased production and layoffs of workers (<https://www.medcom.id/ekonomi/bisnis>). Lack of knowledge about digital marketing and the use of information technology is one of the reasons why many MSMEs have closed or lost as a result of decreased turnover because they have no alternative sales media other than offline or conventional sales. The plague of the Coronavirus is one of the disasters of economic uncertainty. Today, the business including MSMEs are engaged in competitive and uncertain conditions and are influenced by macroeconomics [8], plus a lousy business environment causes a higher risk of loss than large businesses. General problems faced by MSMEs are financial and non-financial problems [7] related to non-financial problems, one of which is the environmental impact as an external factor that affects performance. One of the external factors is the uncertainty of economic conditions [8]. In addition to economic conditions, other external factors that interrupt the development of MSMEs are the implementation of laws and regulations relating to MSMEs, including inadequate 'taxation' issues, 'mismatches' between facilities provided by the government, and the needs of MSMEs, as well as the lack of 'linkage' between MSMEs itself or between MSMEs and larger industries [9] plus government policies related to social distancing and lockdown and quarantine, in the end, add to the long list that causes a decrease in income [10].

In more detail, the decrease in revenue was caused by a) The government's push is to stay at home and also reduce outside activities, including shopping for goods at shops; b) The purchasing power of the people decreases, so that people prioritize meeting food needs rather than tertiary needs (such as buying *rujak*); c) Increase in raw material prices which causes a decrease in profit margins due to fixed selling prices; d) Increased production costs; and e) Rental costs increased [11].

Another factor that causes conventional sales to be ineffective is that the shift in consumer behavior from offline/conventional shopping to online shopping is a challenge for MSME entrepreneurs. Changes in perceptions of ease of transactions have turned out to be the main element affecting consumer attitudes in changing shopping behavior [11]. One solution that companies can take advantage of is the use of information technology developments, especially the application of online technology through online businesses by utilizing the GoFood or GrabFood applications. The use of these applications promises convenience, time, energy, and cost efficiency to be the main positive values, especially for MSMEs. The results of the study found that the existence of GoFood is considered to make business operations easier [12, 13]. Customers only need to be at home, but the products that consumers want can be purchased and delivered to consumers' places such as home or workplace without having to go to the outlets. This is undoubtedly a way for MSMEs to retain their reduced customers due to the COVID-19 pandemic.

Companies today will be able to survive when they have long-term plans and invest in information technology (IT) systems. The IT system is designed to support business strategies to achieve business targets towards key business areas. Companies that own information technology systems can experience growth even in bad economic conditions. If not, the business will become "followers" and then slowly will lose ground and also market share [14]. MSMEs must be introduced to information technology as early as possible, considering that understanding of digital marketing is lacking, including the lack of use of online businesses, both in utilizing social media and e-commerce. This causes MSMEs to be unable to develop, even though social media use provides social change, including opportunities for local entrepreneurs to increase sales [13, 14, 15], so that they can generate more job opportunities and become an alternative to economic improvement in local communities [16]. Likewise, the use of integrated Electronic Commerce and Business will bring about a resurgence in the marketing function, especially for MSMEs players to present opportunities to acquire new customers and explore consumer interest in new things or product ideas offered by the company [17] and have a significant impact on every strategic business lines [14, 15, 18]. In theory, the application of online technology will have an impact on increasing business competition and sales and marketing of various products or services. Online technology will have an impact on business operations and marketing to customers through three marketing channels. The first is "communication channels" whose main function is to inform buyers and prospective buyers about product/service availability and seller attribute that allow buyers and potential buyers to communicate with sellers. "Transaction channel" which bridges the economic exchange between buyers and sellers. The last is the "distribution channel" that supports

physical exchange activities [19]. It shows in general that online technology, especially e-commerce, plays an important role in helping to increase sales turnover [20], the efficiency of the entire workforce as well as operational and marketing costs [21] including for MSMEs.

MSMEs in Indonesia are concentrated in the sectors of trade, food, food processing, textiles and garments, wood and wood products, as well as mineral and metal production and culinary. A few years later, culinary was included as one of the creative industry sub-sectors in Indonesia, so that Indonesia embraced 16 creative industry sub-sectors [22]. Related the Tourism and Creative Economy Board states that 18 creative economy groups consisting of, 1) Applications; 2) Game developer; 3) Architecture; 4) Interior design; 5) Visual communication design; 6) Desain of Product; 7) group of Fashion; 8) group of Film; 9) group of Animations and videos; 10) group of Photography; 11) group of Crafts; 12) group of Culinary; 13) group of Music; 14) group of Publishing; 15) group of Advertising; 16) group of Performing arts; 17) group of Fine arts; 18) group of Television and radio [23]. Of these creative economy subsectors, during the pandemic, the culinary subsector had a significant impact. If examined more deeply, the business sub-sector that was most severely affected by COVID-19 consisted of accommodation and food and beverage businesses at 92.47%. Other services amounted to 90.90%, transportation, and warehousing by 90.34% [24]. This significant decrease is a domino effect of decreasing community income [25]. One of the decreasing incomes of the community is the impact of the many businesses that choose to close down. The impact of the enforcement of the COVID-19 pandemic control regulations, One of them is social restrictions, both small and large scale, the government's recommendation to reduce outside activities indirectly impacting the company. The magnitude of the impact of the COVID-19 pandemic on the culinary subsector is a phenomenon that must be resolved immediately, considering the impact on the economy is quite significant because many MSMEs are culinary entrepreneurs.

Deli Serdang District, North Sumatra Province, Indonesia has one of the most popular culinary business centers, namely *rujak* culinary delights managed by MSMEs which are also affected by the pandemic. MSMEs that are concentrated in Simpang Jodoh are MSMEs engaged in the culinary field of *rujak*. *Rujak* can also be called Indonesian fruit salad, where the fruit slices are flushed with a spicy savory sauce. *Rujak* is very popular in Indonesia, and each region has a fruit salad with its own characteristics, including in Deli Serdang District, North Sumatra Province, to be precise Rujak Sentir Simpang Jodoh. Percut Sei Tuan is one of the sub-districts in the Deli Serdang Regency where most of the *rujak* entrepreneurs are located. Based on the observations we have made on MSMEs entrepreneurs, this location is dominated by *rujak* entrepreneurs. The MSMEs that stand out and have become an icon and quite phenomenal is the *rujak* culinary. The taste of this salad is very popular. The high demand for culinary consumers, in the end, stimulates the economic sector in the Percut Sei Tuan District area. However, based on a verbal interview, the entrepreneur complained about the decline in turnover from customers who came directly (direct-selling) since the COVID-19 pandemic broke out. This motivated the MSMEs players to choose an alternative by utilizing the GoFood/GrabFood application service in addition to the reasons for shifting consumer behavior who did not want to be bothered with direct transactions suggested continuing to do social distancing. Other factors that cause MSMEs to adopt online applications cannot be separated from the desire to expand the business area by reaching consumers who are far from outlet locations [15], so that it does not allow these consumers to come directly.

Our previous study found that technology has a significant impact on MSMEs using GoFood applications in Medan City. This research was conducted at 31 culinary SMEs in Medan City. We conducted further research on 222 culinary MSMEs in the city of Medan and found that technology, directly and indirectly, has a significant impact on the adoption of e-commerce. The adoption of e-commerce technology affects the MSMEs performance [26]. The study found the businesses that take advantage of online technology can raise their business performance [18] the use of GoFood applications increases sales [13, 23, 25]. The use of online technology will ultimately open up opportunities and facilities for MSMEs in improving their business achievement. A study explains that the opportunities for advancing digital technology will have an affect on the ease of managing a business and increasing sales profits [27]. The use of online sales has even increased sales by 80% compared to manual sales which were only 20%. Even though there was a significant increase there were obstacles in utilizing

online sales, one of which was that in the initial sale there was consumer distrust of the products offered online. Lack of references to products creates consumer distrust of vendors selling online.

Based on this background, this study will explore whether there are differences in conventional sales and online sales and whether the use of the GoFood/GrabFood online application can be an alternative to maintain *Rujak* MSME Sales in the conditions of the COVID-19 pandemic in Percut Sei Tuan Sub-district. The objective of this research is to find the impact of the pandemic on MSMEs, especially micro-enterprises, considering that more than 90% of the microbusiness sector is a business sector that drives the people's economy [28]. In addition to these objectives, this study also wants to prove that during the COVID-19 pandemic, MSMEs that use online technology can maintain performance. The application of online technology, one of which is the utilization of online applications, including the Go-Food/Grab-Food application, is considered realistic to be used in times of uncertainty like today. The approach taken through an online application is considered to be able to bring several benefits to MSMEs, especially in increasing sales [13, 23, 25], increase customer interest and attention [29], increase references in innovation [30], improve how to communicate and interact with customers [31], increase sales of products and services [32], and build better relationships between suppliers and customers [33], make it easier to manage a business [14], affect communication channels, transaction channels, and distribution channels [34].

2. Related Work

2.1. Micro, Small and Medium Enterprises (MSMEs)

MSMEs can be defined as a trading business managed by individuals or business entities whose business fields refer to productive economic enterprises. MSMEs criteria are stipulated by law number 20 of 2008 [28]. Based on the number of assets and turnover (Table 1), MSMEs can be categorized into three types as regulated in Law Number 20 of 2008 concerning MSMEs as follows:

Table 1. Criteria for MSMEs and large enterprises based on assets and turnover [28]

Business Size	Criteria	
	Asset	Turnover
Micro Business	Maximum IDR 50,000,000	Maximum IDR 300,000,000
Small Business	>IDR 50,000,000 – IDR 500,000,000	>IDR 300,000,000 – IDR 2,500,000,000
Medium Business	>IDR 500,000,000 – IDR 10,000,000,000	>IDR 2,500,000,000 – IDR 50,000,000,000
Large Business	>IDR 10,000,000,000	>IDR 50,000,000,000

The characteristics of Micro Enterprises include the following [35]:

- 1) Types of commodities are not always fixed, so they can change at any time.
- 2) The place of business is not always fixed, so that at any time the place of business can move to another place.
- 3) The financial administration system is still simple.
- 4) There is no separation of the assets of MSMEs with personal finances.
- 5) Entrepreneurs do not have the ability or strong business experience and do not have a high entrepreneurial spirit.
- 6) The level of entrepreneurship education is at a low level.
- 7) In general, they do not have access to banks, but have access to non-bank financial institutions.
- 8) Generally, these businesses do not have a business license or other legality requirements including a Taxpayer Identification Number (called an NPWP).
- 9) Micro-scale businesses are spread in trading businesses such as street vendors and traders in community markets.

2.2. Performance

Performance is the level to get the expectations [36] associated with its function. Business performance indicators are divided into two parts consisting of (a) financial performance; (b) operational performance. Financial performance includes profit and sales growth [37], while Nonfinancial performance consists of the customer; internal business process and, learning also growth [38]. The success of the company in achieving the goals that have been set can be measured through performance. So that if MSMEs adopt IT for their business needs, it will improve the performance of these MSMEs

[39]. One measurement of increased performance is the increased sales. An Increase in sales can be used as an indicator of the achievement of company performance.

Performance is respectively to achieve organizational goals legally, not violate the law, and follow morals and ethics [40]. Successful performance is when organizational effectiveness can be realized [40]. In general, the performance consists of financial performance and operational performance [41]. Business performance indicators consist of (Table 2) "(1) sales growth; (2) customer growth; (3) profit growth; (4) working capital growth" [42]. Financial performance measures the efficiency of financial profit, while non-financial performance refers to the achievement of operational performance which includes "(1) customer satisfaction; (2) sales growth; (3) employee growth; (4) market share" [43].

2.3. Online Application Effectiveness

The definition of effectiveness cannot be separated from how successful it is achieved from the predetermined targets. Effectiveness can be related to the achievement in quantity, quality, and terms of time. The measure of effectiveness can be interpreted by a comparison between the target and the achievement, where the better the achievement of the target, the higher the effectiveness [44]. Effectiveness shows the extent to which the entity has succeeded in achieving its target objectives [45]. Sales effectiveness is the ability to close rate; sales skills; sales content; forecast accuracy and opportunity pursuit ratio [46]. Thus it can be said that the effectiveness of sales is a comparison between the sales target and the obtained realization.

Online applications will have an impact on business operations and marketing to customers through three marketing channels, namely, "communication channels", whose main function is to inform buyers and prospective buyers about product/service availability and seller attribute that allow buyers and potential buyers to communicate with sellers, a "transaction channel", whose main purpose is to bridge economic exchanges between buyers and sellers, a "distribution channel", which serves to facilitate physical exchange [15]. By using an online application, then customers will immediately be able to access company goals. Also, when a company applies technology to its business, potential customers can access all the information the company provides in real-time. therefore, it can be concluded that the company's activities will be more effective and achieve the targeted goals by using online applications.

How effective the online application process is in increasing sales shows the level of effectiveness of using online applications. The use of online applications is an act of using the web in marketing products and services to customers. Through the use of web media, marketing activities in the form of transactions, payments, advertisements, and promotions can be carried out. This convenience is obtained by users by accessing information anywhere through devices "connected to the internet". Effective online application consists of indicators (Table 2): (1) "online communication channel" [34, 35]; (2) "online supplier distribution channel" [34, 35]; (3) "online transaction channel" [34, 35]; (4) "online sales funnel" [45, 47]; and (5) "online promotion channel" [48].

The Research states that e-commerce applications are beneficial for companies in increasing sales turnover and competitiveness [32], increasing the number of customers, expanding business using a promotion, opportunities for opening new businesses, ease of relationship with customer relationships, and satisfaction. The research found that the use of online applications increases sales [13, 14, 15]. The other research shows that "The adoption" of open source e-commerce information technology is increasingly high in MSMEs [49], which has an impact on the achievement of MSME performance. The research also found that "the application of e-commerce" has a positive and significant effect on performance achievement [48, 49, 50]. The results of other studies suggest that the use of GoFood applications increases sales [51]. MSMEs that use the GoFood online application show that there are "differences" in revenue before and after using the online application [52].

Several studies have found that the approach taken through online applications brings several benefits for MSMEs, especially in increasing sales, increasing customer interest and attention, increasing references in innovation [53]. The use of online applications helps small entrepreneurs in improving the way they communicate and interact with customers, increase sales of products and services through effective marketing, and build better relationships between suppliers and customers. The result of the research indicates that "the opportunities" for sophisticated digital technology affect the ease of

managing a business to “increase” sales profits. Based on the explanation above, this study hypothesizes that there is a difference in performance between MSMEs that use online technology and conventional MSMEs.

3. Method

Research location for MSME culinary salad in Percut Sei Tuan Sub-district, Deli Serdang District. The population is all MSMEs culinary salad in Percut Sei Tuan sub-district.

3.1. Data source

The data source is primary data, and the data collection uses a questionnaire. Questionnaires are distributed directly to MSMEs entrepreneurs. The questionnaire is a statement given a Likert score of 5 for strongly agreeing answers, a score of 4 for agreeing with answers, 3 for neutral answers, 2 for disagreeing answers, and 1 for strongly disagreeing answers. This research uses an interval scale.

Table 2. The Indicators of Variables [34, 42, 43, 45, 47]

Variable	Dimensions	Indicator
Performance	1. Financial Performance 2. Operational Performance	1. Sales growth; 2. Customer growth; 3. Profit growth; 4. Working capital growth; 5. Customer satisfaction.
Online Application Effectiveness	Easy Access to information	1. Online communication channel; 2. Online promotion channel; 3. Online supplier distribution channel; 4. Online selling channel; 5. Online transaction channel.

3.2. Population and sample

We have made observations at the center of the Rujak Sentir in MSMEs Simpang Jodoh. These preliminary observations found “a population” of 50 MSMEs. The sampling “technique” used was a saturated sample, in which the entire population who were members of the study sample were 50 MSME *rujak* culinary.

3.3. Research model

The data analysis technique used statistical descriptive analysis with different tests using the “Wilcoxon signed rank test”. The difference examination is carried out to see whether there is a difference in performance between MSMEs that use online technology and conventional MSMEs. Data processing aids using SPSS. The research model is as Eq. 1 [54],

$$Z = \frac{T - \left[\frac{1}{4N(N+1)} \right]}{\sqrt{\frac{1}{24N(N+1)(2N+1)}}} \tag{1}$$

where Z is Z score calculated by the Wilcoxon Signed Rank Test, T is the number of rankings from the negative difference value, and N is Number of samples.

The assumptions used for the hypothesis which says “there is a difference in the number of conventional and online sales”. The hypothesis is accepted if it meets the basic criteria in the “Wilcoxon test”, where the hypothesis is accepted if the value is “Asymp Sig (2-tailed)” is less than 0.05, otherwise the hypothesis is rejected.

The value calculated in the “Wilcoxon Signed Rank Test” formula is the “mean rank and sum of ranks” seen from the “negative ranks”; “positive ranks”; and “ties group”. These three groups mean that:

- 1) Negative ranks show the sample with “the value of” “the second group” is lower than “the value of” the first group.
- 2) Positive ranks show the sample with “the value of” “the second group” is higher than “the value of” the first group.
- 3) Ties showed the same value in both groups.

The Difference Test with the "Wilcoxon Signed Rank Test" will be continued if it meets the assumptions:

- 1) Dependent variable using an ordinal scale; intervals and ratios and not normally distributed.
- 2) The independent variable consists of 2 categories that are paired (the subject as the data source is one individual/the same observation).
- 3) The shape and distribution of data between the two groups are symmetrical.

4. Results and Discussion

4.1. Result

4.1.1. Description of research data

A total of 50 questionnaires were distributed by direct interviews with the *rujak* traders Sentir Simpang Jodoh. Of the 50 questionnaires distributed, only 34 were filled in considering that during the COVID-19 period, many traders chose to close and some respondents refused to fill out the questionnaire. From the results of the processed questionnaire, it is obtained that the sales data recapitulation of the *Rujak Sentir Simpang Jodoh* traders is shown in Table 3 and Table 4.

4.1.2. Sales data description

The sales data description consists of the average sales conventionally and the average sales if the *rujak* MSMEs players use the application (Table 3 and Table 4).

Table 3. Average sales offline

Average of offline Sales/day (packs)	N	%
25-50	22	64.7
51-75	10	29.4
> 76	2	5.9
Total	34	100,0

Table 3 shows offline sales. The results of sales on 22 sellers showed the lowest average sales per day was 25-50 packs per day or 64.7%, while for 10 sellers, sales were 51-75 packs per day or 29.4%, as well as at 2 the seller had the highest sales above 75 packs per day or by 5.9%. Table 4 shows the number of sales received by sellers using the online application.

Table 4. Average sales online

Average Online Sales/day (packs)	N	%
25-50	20	58.8
51-75	12	35.3
> 75	2	5.9
Total	34	100.0

Table 5. Increased sales using online technology

Average increase in turnover with online sales	N	%
< 100%	2	5.9
101-115%	23	67.6
116%-130%	7	20.6
> 130%	2	5.9
Total	34	100.0

When sales are using online technology in the form of applications on smartphones, there is an increase in sales. Sellers who use the GoFood and GrabFood applications receive sales information, such as, 1) for 20 sellers, the average sales transaction per day is 25-50 packs or 58.8%; 2) for 12 sellers, the average sales transaction was 51-75 packs or 35.2% as well; 3) for 2 sellers, there were sales transactions > 75 packs per day or by 5.9%. The amount of increase in turnover that occurs after the seller uses the GoFood and GrabFood applications, assuming the agreed profit sharing percentage is 15%, is shown in Table 5.

The data shows that there is a decrease in turnover for 2 sellers or by 5.9%, while 23 sellers or, 67.6% have an increase in turnover of 101%-115%, and 7 sellers or 20,6% have an increase in turnover of 116%-130 % and 2 sales or 5.9% experienced a turnover increase of 130%. In detail, using the assumption

of a profit-sharing percentage of 15%, the turnover received by MSME actors is described in Table 6. Table 6 shows a difference in turnover when MSMEs do transactions offline/conventional and sell online. The range of increases is in the 2% to 38.8% (Table 6, “column of % increase”).

Table 6 compares the difference in the selling price for a packet of *rujak* for Rujak Sentir MSMEs. Offline sales indicate a selling price of IDR 15,000, but when using the application, the selling price becomes IDR 18,000 (Table 6).

Table 6. Description of comparison between offline sales and online sales

No	Average Sales/ Day (in unit)		Average Sales/ Day (IDR)				Increase (%)
	Offline	Online	Offline	Online	Total		
	(Packet)	(Packet)	15,000	18,000	15% for the vendor	Online	
1	42	42	630,000	756,000	113,400	642,600	102
2	45	49	675,000	882,000	132,300	749,700	111.1
3	29	39	435,000	702,000	105,300	596,700	137.2
4	50	51	750,000	918,000	137,700	780,300	104
5	51	51	765,000	918,000	137,700	780,300	102
6	37	37	555,000	666,000	99,900	566,100	102
7	50	53	750,000	936,000	140,400	795,600	106.1
8	36	40	540,000	720,000	108,000	612,000	113.3
9	41	42	615,000	756,000	113,400	642,600	104.5
10	26	26	390,000	468,000	70,200	397,800	102
11	120	123	1,800,000	2,214,000	332,100	1,881,900	104.6
12	36	36	540,000	648,000	97,200	550,800	102
13	100	102	1,500,000	1,836,000	275,400	1,560,800	104
14	25	31	375,000	558,000	83,700	474,300	126.5
15	57	57	855,000	1,026,000	275,400	872,100	102
16	45	48	675,000	864,000	83,700	734,400	108.8
17	57	57	855,000	1,026,000	153,900	872,100	102
18	57	57	855,000	1,026,000	129,600	872,100	102
19	57	57	855,000	1,026,000	153,900	872,100	102
20	57	57	855,000	1,026,000	153,900	872,100	102
21	50	52	750,000	936,000	153,900	795,600	106.1
22	36	37	540,000	666,000	153,900	566,100	104.8
23	26	32	390,000	576,000	140,400	489,600	125.5
24	36	42	540,000	576,000	99,900	642,600	119
25	36	32	540,000	576,000	86,400	489,600	90.7
26	57	57	855,000	1,026,000	113,400	872,100	102
27	36	42	540,000	756,000	86,400	642,600	119
28	36	45	540,000	810,000	153,900	688,500	127.5
29	58	58	870,000	1,044,000	113,400	887,400	102
30	36	45	540,000	810,000	121,500	688,500	127.5
31	36	49	540,000	882,000	132,300	749,700	138.8
32	36	42	540,000	756,000	113,400	642,600	119
33	57	50	855,000	900,000	135,000	765,000	89.5
34	57	57	855,000	1,026,000	153,900	873,100	102

Referring to the results of our interviews with MSMEs, we found that the percentage of profit sharing was in the range of 15%-20%. Referring to the information above, Table 6 uses the assumption that the percentage used is 15%. The percentage amount depends on the agreement between the merchant and the application vendor. The results of the interviews also explained that the percentages ranged from 15 % to 30 %.

4.1.3. Quality of research data

Statistical tests were carried out to see if there was a difference in the level of sales from offline selling and online selling. Descriptively, there is a difference, but to further strengthen the different tests using the Wilcoxon signed-rank test will be carried out. Data normality testing is an initial stage of testing to determine whether the data is normally distributed or not so that the proper data analysis tools can be determined. The data normality test used Shapiro-Wilk, considering the data were less than 50 samples (small sample). The test results show that the research data is not normally distributed. The next step is to perform the transform to determine whether the data is not normally distributed. After the data transform process was carried out, the results of the data were not normally distributed, where at

Shapiro-Wilk the p-value of Sig was smaller than the significance (Sig) 0.05, so it can be said that the data was not normally distributed (Table 7). Referring to this result, a different test was performed using the Wilcoxon signed-rank test.

Table 7. Tests of normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
variance	.214	34	.000	.907	34	.007

a. Lilliefors Significance Correction



Fig. 1. Example of price using the Go-Food application

Table 8. Uji Wilcoxon signed-rank test

	N	Mean	Std. Deviation	Minimum	Maximum
Conventional	34	47.3824	19.20072	25.00	120.00
Online	34	49.8235	18.39379	26.00	123.00

Table 9. Ranks test

	N	Mean Rank	Sum of Ranks
Online - Conventional	Negative Ranks	2 ^a	13.50
	Positive Ranks	19 ^b	10.74
	Ties	13 ^c	
Total	34		

4.1.4. Wilcoxon signed-rank test

Table 9 shows the calculations of data processing using the "Wilcoxon signed rank test". Table 8 shows that the conventional mean value of sales is 47.3824 while online sales are 49.8235. The test results indicate that statistically, online sales are higher than conventional sales (direct sales). Table 9 shows

the calculation where there are 2 sellers have online sales values lower than conventional sales with an average decrease of 13.50 and 19 sellers who have online sales values higher than conventional with an average increase in sales of 10.74, while the remaining 13 sellers showed the same sales value both conventional and online.

The results of the calculation of the Wilcoxon signed-rank Test show a Z value of -3.084 with a p-value (Asymp.sig 2-tailed) of 0.002 <0.05. It means that there is a significant difference in the value of sales between conventional and online sales transactions, so it can be concluded that the use of GoFood and GrabFood applications can increase sales.

The results showed that there was a significant difference in income between MSME users of online applications and MSMEs who were still offline/conventional as indicated by the results of the calculation of the Wilcoxon signed-rank test which showed a Z value of -3.084 with a p-value (Asymp.sig 2-tailed) of 0.002 <0.05.

4.2. Discussion

Today is full of uncertainty, where the outbreak of the COVID-19 pandemic must be handled appropriately by MSMEs through the use of online information technology. One of them is working with online transportation and food application vendors such as GoFood/GrabFood. The results of both manual calculations (Table 7) and statistics (Table 10) show significant differences in turnover income when MSMEs use online applications. According to this fact, it can be concluded that there is a difference in turnover when MSMEs make use of the online transaction. In other words, online transactions can increase the turnover of sales. According to the results of previous research, this study supports the results that the use of online applications is beneficial for companies in increasing sales turnover [20]; increase sales [13, 14, 15]; increase sales profits [27]; increasing competitiveness [18]; increasing the number of customers [15]; increase sales of product [32]; expanding business reach [46, 52], means of promotion [55], new business opportunities [56], ease of relationships with relationships and customer satisfaction [31]. Our previous research on MSMEs in Medan City shows that online technology has a significant effect on MSMEs using the GoFood application [57]. The results of other studies suggest that the use of GoFood applications increases sales [22].

Table 10. Test Statistics ^a

	Online - Conventional
Z	-3.084 ^b
Asymp. Sig. (2-tailed)	.002

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

If it is related to performance theory, the use of online applications is one of the tools to maintain performance and even improve performance. In times of uncertainty, such as the current COVID-19 pandemic, Currently, MSMEs are in an uncertain condition, so that MSMEs are required to be innovative in maintaining their performance or choose not to make changes and let business continuity be determined by the market. If the choice of letting this business be chosen by MSMEs, the chance for MSMEs to survive is very low and the possibility of their business going bankrupt is very high. One of the ways to solve this problem is with technology. MSMEs that use technology provide alternatives for survival. The application of technology shows that MSMEs are not only silent and waiting for customers to come to their shops/outlets, but through this technology, MSMEs continue to transact without having to go out to pick up customers directly, but simply make transactions online.

The spread of the coronavirus must be understood and anticipated by MSMEs. This is necessary because when MSMEs choose to apply technology to connect MSMEs with their customers, then MSMEs must be able to provide transaction satisfaction. The disadvantage when conducting online transactions is less customer loyalty. Therefore, MSMEs must be able to create sales programs that can provide consumer loyalty to the products offered, such as providing competitive prices with premium quality or attractive promotions. This action will have an impact on the emergence of emotional closeness between MSMEs and customers even though the transactions are carried out through online technology. Satisfied customers will definitely make repeat purchases and the goal of applying technology is achieved, namely "technology to bring consumers closer". The ability of technology to bring customers closer to make company goals realistic. Distance is no longer an obstacle when MSMEs

apply technology. The application of technology in the end also opens up new opportunities for MSMEs. Although direct/conventional sales still have potential, in the future when MSMEs are faced with uncertain conditions, only MSMEs that are able to adapt to technology have a great opportunity to maintain their performance.

Referring to the results of this study which show data that online applications can increase income, it can be concluded that MSMEs can survive and improve performance during the COVID-19 pandemic. One of them is by using an online application. This online application can help increase sales, become a promotional medium, expand market segments, provide online catalog media and become a media of information for customers. Thus the application of online technology is proven to help MSMEs in managing their businesses [12, 13]. Online applications can also reduce marketing costs [21]. This certainly makes MSMEs able to control their marketing costs. The thus online application as a promotional medium is achieved.

The application of technology in the end, can help MSMEs survive in conditions full of uncertainty. One example of bringing technology to the MSME business is through partnerships with the GoFood and GrabFood applications. MSMEs that partner with GoFood and GrabFood are among those that are able to survive the spread of the coronavirus. Improved performance using online applications is considered to bring several benefits, especially in increasing sales, increasing customer interest, and attention to MSMEs Rujak Sentir. This increase can occur considering the use of online applications can even reach faraway consumers, meaning that there is an expansion of the market share, which causes an increase in customers. Another thing is that the use of online applications is also a means of promotion for MSMEs players themselves, thus opening up unlimited consumer opportunities. Increased competitiveness also occurs where the MSMEs players will strive to maintain the quality of the taste of *rujak* so that they don't lose customers. However, behind the benefits that are obtained, the high price is a complaint of traders because consumers will not want to buy in small parties considering the selling price paid by consumers when using the application is IDR 18,000 plus an additional fee (the amount of delivery fee depends on the distance) even though the normal price is IDR 15,000. The increase in sales turnover occurred due to the increase in customers, not due to an increase in profit margins, considering that the selling price returned to the seller tends to be the same or even smaller. The results of other interviews found that MSMEs actors sometimes have to accept a turnover lower than the selling price of IDR 15,000 due to vendor administration fees. This shows that there is an increase in costs when MSME players use online applications. This needs to be addressed wisely by various parties such as the Office of Cooperatives and SMEs, considering the potential of MSMEs Rujak Sentir Pasar 7 Tembung to be the hallmark of local culinary.

5. Conclusion

This research aims to prove that during a pandemic, MSMEs that utilize and transact using online applications in their business can improve performance. The results of this research show that there is a significant difference in income between MSMEs using online applications and MSMEs who are still offline/conventional. This difference is shown by the results of "the Wilcoxon signed rank test" calculation, which shows a "Z value" of -3.084 with a "p-value" (Asymp. sig 2 - tailed) of $0.002 < 0.05$. It can be concluded that the use of online applications can increase MSME performance and can be an alternative media for transactions to maintain and improve business continuity during the COVID-19 period. Another advantage is it can increase sales, be a promotional media, and expanding market share to increase customers. However, although the performance of MSMEs was able to survive and even increase when MSMEs made use of online applications during the spread of COVID-19, MSMEs also faced increased costs due to the imposition of administrative fees by vendors. Also, the increase in selling prices when using online applications makes buyers reluctant to buy in small parties because the products are considered expensive.

The use of this research in the future is expected to provide an overview to related parties such as the Regional Government, the Department of Cooperatives and MSMEs of the Deli Serdang District, and other parties to foster business at MSMEs considering the use of the online application can be an alternative for MSMEs during the COVID-19 period so that In the future, MSMEs are ready to face uncertainties that arise due to external factors. The results of this study indicate that although Rujak

Sentir MSMEs are in uncertain conditions such as the COVID-19 pandemic, when MSMEs synergize conventional marketing strategies with online marketing, MSMEs will be able to survive, even be able to improve their business performance. The slogan of bringing long-distance customers and marketing long-distance products at low cost is suitable to describe business conditions when MSMEs want to take advantage of online applications.

Besides, this research will be a recommendation related to technical guidance that can be used by local government in fostering MSMEs. Technical guidance that related agencies can carry out is coaching the MSMEs in utilizing online technology, especially to use online applications on their smartphone to improve business performance, to increase sales and also to be a medium for promoting MSMEs.

The use of online technology is not only limited to partnerships with online application vendors GoFood/GrabFood, but also can take advantage of social media such as Instagram, WhatsApp, and Facebook. When MSMEs dare to change their mindset and get out of the comfort zone of conventional marketing and take the initiative and innovate and then learn to conquer online technology, they will have a chance to survive the economic impact caused by the spread of COVID-19.

The use of online applications and online media in the future is considered to be a solution for Rujak Sentir MSMEs to improve performance, and it is suspected that it can also improve the performance of other MSMEs such as dodol (a kind of taffy) culinary MSMEs in Serdang Bedagai and Langkat districts, Songket craft MSMEs in Batubara districts, Ulos cloth craft MSMEs in Simalungun districts and other MSMEs in North Sumatra Province can be better known and these MSMEs products can be marketed to customers through the use of online technology.

Author Contributions

Nurlinda: Conceptualization, methodology, validation, and writing-original draft; Junus Sinuraya: Formal analysis and data curation; Asmalidar: Project Administration and funding acquisition; Rahayu Hasan: Writing-original draft, writing-review & editing; and Supriyanto: Validation and formal analysis.

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Declaration of Competing Interest

We declare that we have no conflict of interest.

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