

2nd International Conference on Advanced Information Scientific Development (ICAISD) 2021

Innovating Scientific Learning for Deep Communication

Jakarta, Indonesia • 5–6 August 2021

Editors • Agus Junaidi, Haryani, Taufik Baidawi, Sarifah Agustiani,
Dwi Puji Hastuti, Sopiyan Dalis and Yoseph Tajul Arifin



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Preface: 2nd International Conference on Advanced Information Scientific Development (ICAISD) 2021

The 2nd International Conference on Advanced Information Scientific Development (ICAISD) 2021 was organized by Universitas Bina Sarana Informatika.

It was held in BSI Convention Center, Bekasi, West Java, Indonesia, event held by the Institute of Research and Community Service (LPPM) of Universitas Bina Sarana Informatika on August 5-6, 2021. ICAISD 2021 is an International Conference for sharing knowledge and research in Computer and Information Science and providing a platform for researchers and practitioners from both academia as well as industry to meet and share the cutting-edge development of Computer and Information Science research. The theme that we raised in this international conference is: "**Innovating Scientific Learning for Deep Communication**".

The background of the theme selection is related to the rapid development of science and technology in the 21st Century that has contributed to change or renew various fields of life, including Applied Science and Artificial Intelligence. This issue is published in line with the Second International Conference on Advanced Information Scientific Development (ICAISD) 2021. The articles cover a broad spectrum of topics in Computer Science, Computer Engineering and Computer Systems, Software Engineering, Mobile Multimedia and Information Technology, Information Systems and Information Management. The committee received 162 papers via easychair.org as well, with details of 126 papers received. Of the 126 papers, 64 papers in Applied Science, and 62 papers in Artificial Intelligence. These articles provide an overview of critical research issues reflecting on past achievements and future challenges. Those papers were selected from 126 abstracts, and we send these papers to IOP Publisher (Journal of Physics Conference Series) to be published there as an Open Access Proceeding Scopus. This statistic shows the high competition to get published on this proceeding. This issue and seminar become special as more delegates come and join from various country as well as universities. We host 42 delegates both from abroad and local. From abroad the delegation comes from Malaysia, Bangladesh, Turkey, Germany, Japan, Taiwan and Philippines.

The 2nd ICAISD was held together with APTIKOM, APTIKOM DKI Jakarta, University of North Sumatra, University of Nusa Mandiri, BRI Institute, STMIK Pelita Nusantara and AMIK-STIKOM Tunas Bangsa. This is also the second year of our partnership with APTIKOM Indonesia, Poznan University of Technology Poland, Delft Technical University the Netherlands, and Jyothi Engineering College-Jyothi Hills India.

This form of activity takes the form of scientific seminars or international conferences that are held virtually or webinars consisting of plenary lectures and oral presentations. The target participants are practitioners in the field of Information Technology and Management from academics (lecturers, researchers, and students) as well as practitioners and industry as a mean of socializing progress and development in the field of Information Technology and Management to increase their understanding and use for stakeholders on national and international scale. In addition, through this conference, the participants can develop research networks and

collaboration with research partners in the field of information technology and management in Indonesia and researchers from abroad.

In connection with this theme, we present four speakers as the main speakers, namely Prof. Ir. Zainal Arifin Hasibuan, MLS, Ph.D (General Chair of APTIKOM Indonesia), Prof. Dr. Gerhard Willem Weber (Poznan University of Technology, Poland), Prof. Dr. Dorien De Tombe (Delft Technical University, the Netherlands), Prof. Dr. Sunny Joseph Kalayathankal (Jyothi Engineering College-Jyothi Hills India, and Prof. Dr. Herman Mawengkang (Universitas Sumatera Utara).

We also thank all reviewers and editors, for their commitment, effort and dedication in carrying out the task of reviewing all abstracts and full papers. Without their help and dedication, this process would not have been possible in such a short time. I really appreciate all the committee members (Advisors, Program Committee Chairs, Executive Chair, Chair of Committee, and Organizing Committee Chair) for their joint efforts and invaluable contributions to the success of the conference.

Wassalamu'alaikum Warrahmatullah Wabarrakatuh.

Jakarta, August 5, 2021

Best Regards,

Conference Chair of ICAISD-2021



Taufik Baidawi, M.Kom



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KEYNOTE SPEAKER

Profile Prof. Zainal A. Hasibuan, Ph. D

The Conference speaker was born in Pekanbaru 24 December 1959, he earned his PHD in information storage and Retrieval system at Indiana University. His research interest in Information Retrieval, E-Business, E-Learning, E-government. Information System has have been published at various conferences both international and national, he is also a reviewer of multiple journals, and until now he serves as the chairman of the Association of Computer Science (APTIKOM)

Profile Prof. Dr. Herman Mawengkang

The Conference speaker was a professor of mathematics. He earned his doctoral degree at the University of New South Wales, School of Mechanical and Industrial Engineering in 1989. His research in mathematics has been widely published nationally and internationally if it is a reviewer from various journals and a speaker at multiple conferences, he is also a lecturer doctoral Mathematics science program at the University of North Sumatera.

Profile Prof.Dr. Sunny Joseph Kalayathankal, Ph.D

Prof, Dr. Sunny Joseph Kalayathankal received the MSc. degree from Kerala University , Kerala, India in 1986, BEd from Calicut University, Kerala in 1987, MPhil Kerala University in 1993 and Ph.D (Mathematics) degree in 2010 from Kerala University, MCA from Indira Gandhi National Open University, New Delhi, India in 2002, M.Tech IT from Karnataka State Open University in 2013 and Ph.D. in Computer Science under Bharathiar University, Coimbatore, India in 2018. He is currently working as a Principal (Professor & Dean of Research) Jyothi Engineering College Affiliated to APJ Abdul Kalam Technological University, Thrissur, Kerala India and has 34 years and 8 months of teaching and 16 years of research experience. He has published more than 84 papers in the areas of Fuzzy modelling and decision making, Graph theory and Applied Mathematics. He has served as Keynote and invited speaker in various National and International conferences. He is the reviewer of Iranian Journal of Fuzzy System, International Journal of Fuzzy system and Journal of Mathematical Modeling and Computer Simulation.

Profile Prof. Dr. rer. Nat Gerhard Wilhelm Weber

The conference speaker was a man born in Westphalia Germany on October 20, 1960, he was a professor of the faculty of management and technology Poznan University of Technology, Poland, he researched in the areas of Financial Mathematics, mathematical programming, Mathematical and Computational Statistics, dynamical systems, discrete tomography, neuroscience, special aspects of discrete mathematics, he is an expert in the field of mathematics and masters several programming languages such as Basic, Fortran and Pascal, he has also published many titles in the field of mathematics as well as being a reviewer in several international journals, he is also active as a speaker at various international conferences.

Profile Prof. Dr Dorien DeTombe

Prof. Dr Dorien DeTombe is the founder and chair of the field Methodology for Societal Complexity. She developed the Compram Methodology for political decision making on complex societal issues like sustainable development, terrorism, credit crisis, climate change and water affairs. The Compram Methodology is advised by the OECD to handle Global Safety. She studied social science and computer science. Her doctorate is in Methodology for Societal Complexity. She spends her main career at Utrecht University and Delft University of Technology in The Netherlands, and is since 2015 connected with Sichuan University, Chengdu, P.R. China. She is a facilitator of many workshops on complexity. She published many books, more than 150 articles. She gives lectures and workshops as Visiting Professor and Conferences all over the world. She organizes yearly conferences and is editor of many journals. She is in the board of many research groups and established a world-wide research network on International Society on Methodology of Societal Complexity.

RESEARCH ARTICLE | MAY 09 2023

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Irmawati Carolina ✉; Adi Supriyatna; Suharjanti; ... et. al



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Analysis of Consumer Satisfaction Levels with Online Shopping Intentions using Validity and Reliability

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Abstract. This study aims to determine the level of consumer satisfaction with online shopping during the corona virus pandemic (COVID-19). The level of consumer satisfaction with online shopping is limited to aspects of consumer behavior, including crowd, anxiety, traffic jams, limited time and limited parking space. Retrieval of data in this study using a questionnaire, while the data analysis used is Pearson Product Moment and Cronbach Alpha Correlation Test. The validity test shows that the validity of the questionnaire satisfaction from the online shopping process test can be declared valid, calculating r all indicators / variables to the total score is greater than table r (0.167) with a significance level of 5%. While testing the reliability with a significance level of 5%, it shows that the satisfaction of the consumer sample questionnaire has a high level of reliability with an Apha value of 0.264.

INTRODUCTION

Along with the development of technology, where developments in the fields of technology and information occur, such as the internet as a medium for information searching that satisfies human requirements in reaching their goals. Online shopping is considered to be the best solution for shopping activities in the midst of the COVID-19 pandemic[1]. With ease and convenience, consumers will choose to transact in E-commerce to meet various goods they need. The development of E-Commerce is growing very rapidly along with the increasing development of Internet technology [2]. The emergence of e-commerce has driven the rapid growth of online commerce, beyond national borders[3]. Consumers like online purchasing because it is more convenient than traditional shopping. As consumers allocate less time to shopping and more to other activities, their attention turns to online shopping[4]. Convenience in online shopping is the main prerequisite for achieving improvements in providing online shopping services in a sustainable manner[4]. Currently shopping through online is familiar and not a difficult thing to do, with the emergence of various marketplace markets in Indonesia, it is even easier to shop online. Online shopping activity is one kind of business that lately much in demand by some people because of its rapid growth as well as easy to use as a promotional and marketing media, especially the current situation of consumers being at the center of a pandemic virus outbreak conditions covid-19. By spending online, the buyers do not bother to go to the store to obtain desired goods. Buyers can view and select merchandise sold through smartphones. Buyers and sellers do not need to be face to face to make transactions. Buyers just order the desired item, then make a payment by bank transfer or credit card[4]. Since the emergence of COVID-19, especially since social distancing was implemented, people tend to buy basic necessities and anything they need online. This condition will have an impact on consumer satisfaction in online shopping. The current global economic situation is faced with serious problems, the cause of which is the corona virus (COVID-19). The main purpose of this study is to analyze the level of consumer satisfaction with the intention to use online shopping services.

LITERATURE REVIEW

The literature review described in this study is used as a guide and reference to clarify and support this research. In connection with the theoretical framework that is relevant to the problem studied in this study, it will be described as follows.

Customer Satisfaction

Customer satisfaction is one of the factors that can have an impact on customer attitudes, and this will continue to influence buying behavior repeatedly[5]. Perceptions and attitudes have a significant effect on online purchasing decisions, either directly or through motivation during the pandemic[6]. Customer Satisfaction exerts influence on the foundation of any successful business including beauty and cosmetics in a highly competitive market[7][8]. During the Covid-19 pandemic, information quality, convenience, price, and product quality all have a large impact on internet purchasing[9].

Validity

Validity is a test that determines how well the measuring equipment we're using can accurately measure what we desire. Validity test is used to measure whether or not a questionnaire is valid. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire[10]. The validity test is measured using Pearson Correlation. The criteria for assessing the validity test are:

1. if $r_{\text{count}} > r_{\text{table}}$ then the questionnaire item is valid.
2. if $r_{\text{count}} < r_{\text{table}}$ then the questionnaire item is not valid.

Reliability

Reliability is a tool to measure a questionnaire which is an indicator of a construct or variable[11]. A questionnaire is said to be reliable if someone's answer to the statement is consistent over time. The reliability of a measurement states the extent to which the measurement is without error (without refraction). In this study, the measurement of reliability was proven by testing consistency and stability. Cronbach's alpha is a reliability coefficient that shows how well the items in a collection are positively correlated with each other.

Questionnaire

A questionnaire is a pre-formulated list of written statements in which respondents will record their answers, usually in clearly defined alternatives [11]. In this study, using a Likert Scale, which allows researchers to distinguish consumers in terms of their level of satisfaction with Online Sales, where each respondent includes a number that indicates more or less disagreement, neutrality, or more or less agreement. This study uses quantitative variables, therefore to measure these variables a Likert scale is used. The statements contained in the questionnaire are made using a scale of 1 - 5 to represent the respondent's opinion. The values for the Scale are 5 - Strongly Agree, 4 - Agree, 3 - Hesitating, 2 - Disagree, 1 - Strongly Disagree.

METHOD

The research method in principle is the procedure or method taken in research. This research uses a qualitative descriptive analysis approach to process the primary data obtained.

Stages of Research

The research used is a qualitative descriptive analysis approach to process the primary data obtained.



FIGURE 1. Research Stages

By determining hypotheses and search for literature related to the research. In determining the number of samples used, the size of the feasibility of the sample used in the study is between 30 to 500. Based on this, at the data collection stage, distributing questionnaires using 100 respondents is included in the criteria for research. Then the data obtained from the results of the questionnaire is processed and tested for validity and reliability, if it is still not appropriate then it must collect data again, until the criteria are met, enter the stage of analyzing the level of customer satisfaction during the pandemic. Until the last stage, namely the conclusion stage by drawing conclusions from the results of the study and providing the best suggestions for further research on this topic.

Samples

Purposive sampling, which focuses on consumers buying online during the COVID-19 epidemic, was used in this study. Purposive sampling is sampling where the respondents are consumers who have certain criteria. The research data were obtained using a questionnaire that was filled out online by consumers. The Likert Scale Survey method was used in this study, namely by distributing questionnaires to 100 consumers. The data obtained from the questionnaire is presented in the form of tables and diagrams to determine the tendency of consumer satisfaction levels to consumer interactions and online shopping habits during a pandemic.

Data Collection Methods

There are two sorts of data collected, namely:

1. Primary data, Consumers are given surveys to fill out online via Google Forms, and this data is used to compile primary data. A Likert scale questionnaire with a value between 1 and 5 was employed, provided the results were as specified in Table 1.

2. Articles, journals, and literature studies were employed as secondary data in this study.

RESULT AND DISCUSSIONS

Data Processing

According to the sample size calculation, the number of participants that participated in this study was 100. The following is a survey of consumer impressions about online product sales.

TABLE I. Questionnaire indicators

No	Indicator
1	When compared to brick-and-mortar retailers, consumers prefer to shop online.
2	Shop online on time and on schedule
3	Products that are presented online as needed
4	Shopping online adds to understanding theory and skills
5	Online shopping is safer and more private
6	Online shopping can save money and time
7	The seller gives the opportunity to ask
8	Information provided is timely and up to date on the online shop
9	Online shopping is more flexible wherever and whenever
10	Online shopping makes it easier to interact with sellers

The questionnaire results consumers' perception of interaction in online shopping are presented in the table below:

TABLE II. Analysis of consumer perceptions of online shopping

Score	Criteria	Frequency									
		Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10
5	Strongly Agree	31	38	32	53	26	16	32	34	46	38
4	Agree	67	59	62	47	74	79	64	61	46	51
3	Hesitating	2	3	5	0	0	5	4	5	8	11
2	Disagree	0	0	1	0	0	0	0	0	0	0
1	Strongly Disagree	0	0	0	0	0	0	0	0	0	0

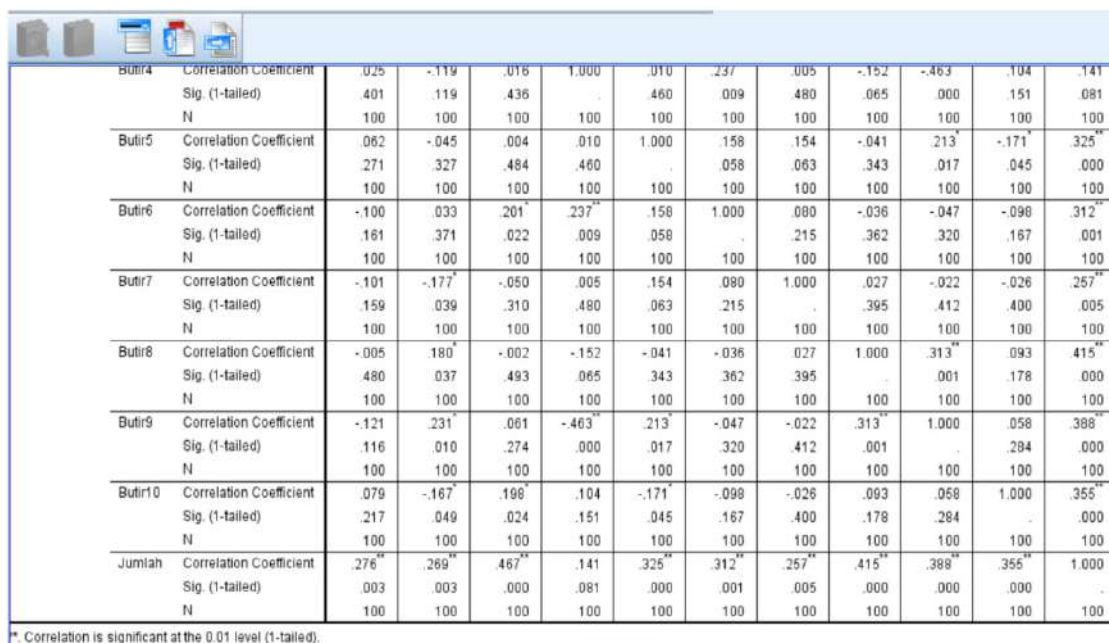
The results in the form of the table above are then analyzed to determine the percentage of customer satisfaction with each statement item, which is reflected in the diagram below:



FIGURE 2. Graph of Consumer Perceptions in Online Shopping

Testing Methods

The questionnaire validity test in this study is a validation test used to measure the accuracy of the questionnaire in determining the level of customer satisfaction in online shopping. Validation in this study is item validation, namely by correlating the item score with the total score.



		Butir4	Butir5	Butir6	Butir7	Butir8	Butir9	Butir10	Jumlah
Butir4	Correlation Coefficient	.025	-.119	.016	1.000	.010	.237	.005	-.152
	Sig. (1-tailed)	.401	.119	.436		.460	.009	.480	.065
	N	100	100	100	100	100	100	100	100
Butir5	Correlation Coefficient	.062	-.045	.004	.010	1.000	.158	.154	-.041
	Sig. (1-tailed)	.271	.327	.484	.460		.058	.063	.343
	N	100	100	100	100	100	100	100	100
Butir6	Correlation Coefficient	-.100	.033	.201	.237	.158	1.000	.080	-.036
	Sig. (1-tailed)	.161	.371	.022	.009	.058		.215	.362
	N	100	100	100	100	100	100	100	100
Butir7	Correlation Coefficient	-.101	-.177	-.050	.005	.154	.080	1.000	.027
	Sig. (1-tailed)	.159	.039	.310	.480	.063	.215		.395
	N	100	100	100	100	100	100	100	100
Butir8	Correlation Coefficient	-.005	.180	-.002	-.152	-.041	-.036	.027	1.000
	Sig. (1-tailed)	.480	.037	.493	.065	.343	.362	.395	
	N	100	100	100	100	100	100	100	100
Butir9	Correlation Coefficient	-.121	.231	.061	-.463	.213	-.047	-.022	.313
	Sig. (1-tailed)	.116	.010	.274	.000	.017	.320	.412	
	N	100	100	100	100	100	100	100	100
Butir10	Correlation Coefficient	.079	-.167	.198	.104	-.171	-.098	-.026	.093
	Sig. (1-tailed)	.217	.049	.024	.151	.045	.167	.400	
	N	100	100	100	100	100	100	100	100
Jumlah	Correlation Coefficient	.276	.269	.467	.141	.325	.312	.257	.415
	Sig. (1-tailed)	.003	.003	.000	.081	.000	.001	.005	
	N	100	100	100	100	100	100	100	100

*. Correlation is significant at the 0.01 level (1-tailed).

FIGURE 3. Validity test Correlation Test Pearson Product Moment

The data above shows that the correlation value between each item and the total score. From these data it can be seen that the correlation between the ten items is one that is invalid, namely the fourth item, while r table = 0.167. So it can be concluded that the nine indicators of customer satisfaction are valid with a significance of 5%. So that the questionnaire is feasible and valid when used to measure the level of satisfaction of online shopping. Of the nine items tested, all of them have r count greater than r table = 0.167, meaning that all of them are valid constructs for the variable BO.

RESULT

In this study, the statistical hypothesis is used

H0 : $P \leq 0$; Allegedly variation for all items together have a negative relationship with the teaching and learning process variable variations.

H1 : $P > 0$; Allegedly variation for all items together have a positive relationship with a variety of teaching and learning process variable.

Reliability tests conducted to determine the degree of reliability or confidence in the results of a measurement. Reliable measurement is a measurement that possess the reliability is high. In theory, the reliability coefficient is between 0 and 1, but in reality there has never been a measurement that reaches a coefficient of 1.

Case Processing Summary		N	%
Cases	Valid	100	100.0
	Excluded ^a	0	.0
	Total	100	100.0

FIGURE 4. Reliability test using Alpha Cronbach's Test

Cronbach's Alpha	N of Items
.264	9

FIGURE 5. Reliability Statistics

At the level of 5% can be shown that the variation of all of the items together have a positive relationship with the variation of the learning process variable, meaning that the nine items that were examined are reliable, the implication is the ninth item studied konstrukstur reliable for variable learning process.

CONCLUSION

The conclusion obtained from this study is based on the results of the calculation of the Validity Test of the Online Shopping satisfaction level questionnaire, there is 1 item or an invalid indicator. Of the ten indicators of the questionnaire, there is one that is not valid, namely the fourth item (online shopping increases understanding of theory and skills). The results of calculations using the Likert scale on the level of consumer satisfaction in online shopping produce $r\text{-count} = 0.264$ (Cronbach's Alpha).

The suggestion given for further research is that the scope of the research should be further developed by adding a few more variables concerning aspects that affect online shopping outside the variables that have been studied. Can increase consumer confidence in online shopping by improving the quality of information by providing accurate, relevant, and timely information.

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LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

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2	Linieritas	Isi paper linier sesuai dengan bidang ilmu penulis

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Kecukupan dan kemutakhiran data/informasi dan metodologi	Kecukupan dan kemutakhiran informasi sudah uptodate. Paper disajikan dengan metode terkini
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Penilai I



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Judul Artikel : Analysis of consumer satisfaction levels with online shopping intentions using validity and reliability
 Jumlah Penulis : 5
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 a. Judul Prosiding : AIP Conference Proceeding
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Kategori Publikasi Prosiding (beri ✓ pada kategori yang tepat) :
☒ Prosiding Internasional
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☐ Prosiding Terindex Scopus

I. Hasil Penilaian Validasi :

No	Aspek	Uraian/Komentar Penilaian
1	Indikasi Plagiasi	Cek (similarity) rendah
2	Linieritas	linear dengan bidang ilmu manajemen

II. Hasil Penilaian Peer Review:

Komponen Yang Dinilai	Nilai Maksimal Prosiding (isi kolom yang sesuai)			Nilai Akhir Yang Diperoleh
	Prosiding Internasional	Prosiding Nasional	Prosiding Terindex	
Kelengkapan dan kesesuaian unsur isi prosiding (10%)	1,5			1,2
Ruang lingkup dan kedalaman pembahasan (30%)	4,5			4,1
Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	4,5			3,9
Kelengkapan unsur dan kualitas Penerbit (30%)	4,5			4,0
Total = (100%)	15			13,2
Kontribusi pengusul: (contoh: nilai akhir peer X Penulis kedua : dibagi 2 penulis = 13 X 40% = 5,2 : 2,6 (nilai akhir yang diperoleh pengusul)				13,2 X 0,1 = 1,32
Komentar/ Ulasan Peer Review :				
Kelengkapan kesesuaian unsur	memenuhi kriteria prosiding Internasional, karya ilmiah ditulis dengan baik, sesuai struktur artikel / paper standar yang baik, ada benang merah antara topik - latar belakang - tujuan - metodologi - hasil dan pembahasan - simpulan - pustaka acuan			

Ruang lingkup dan kedalaman pembahasan	memungkapkan kekurangan dari penelitian sebelumnya, serta menjelaskan hasil penelitian sebagai kontribusi keilmuan
Kecukupan dan kemutakhiran data/informasi dan metodologi	Semua unsur terpenuhi, daftar pustaka up to date (5-10 tahun terakhir), jumlah pustaka jurnal dan seminar lebih banyak dari buku cukup terpenuhi dengan baik serta tidak mengulang apa yang sudah ditulis sebelumnya, artikel yang ditulis hanya sampai simulasi tanpa ada eksperimen atau observasi yang mendalam, belum tuntas.
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Analysis of Consumer Satisfaction Levels on Online Shopping Intention in the Era of the Covid-19 Pandemic

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Abstract. This study aims to determine the level of consumer satisfaction with online shopping during the corona virus pandemic (COVID-19). The level of consumer satisfaction with online shopping is limited to aspects of consumer behavior, including crowd, anxiety, traffic jams, limited time and limited parking space. Retrieval of data in this study using a questionnaire, while the data analysis used is Pearson Product Moment and Cronbach Alpha Correlation Test. The validity test shows that the validity of the questionnaire satisfaction from the online shopping process test can be declared valid, calculating r all indicators / variables to the total score is greater than table r (0.167) with a significance level of 5%. While testing the reliability with a significance level of 5%, it shows that the satisfaction of the consumer sample questionnaire has a high level of reliability with an Alpha value of 0.264.

1. Introduction

Along with the development of technology, where changes occur in the field of technology and information, namely the internet not only as a means of communication but also as a medium for information seeking that meets human needs in achieving their needs. Online shopping is considered to be the best solution for shopping activities in the midst of the COVID-19 pandemic[1]. With ease and convenience, consumers will choose to transact in E-commerce to meet various goods they need. The development of E-Commerce is growing very rapidly along with the increasing development of Internet technology [2]. The emergence of e-commerce has driven the rapid growth of online commerce, beyond national borders[3]. Online shopping is an alternative for consumers because it is more convenient than offline shopping. As consumers allocate less time to shopping and more to other activities, their attention turns to online shopping[4]. Convenience in online shopping is the main prerequisite for achieving improvements in providing online shopping services in a sustainable manner[4]. Currently shopping through online is familiar and not a difficult thing to do, with the emergence of various marketplace markets in Indonesia, it is even easier to shop online. Online shopping activity is one kind of business that lately much in demand by some people because of its rapid growth as well as easy to use as a promotional and marketing media, especially the current situation of consumers being at the center of a pandemic virus outbreak conditions covid-19. By spending online, the buyers do not bother to go to the store to obtain desired goods. Buyers can view and select

merchandise sold through smartphones. Buyers and sellers do not need to be face to face to make transactions. Buyers just order the desired item, then make a payment by bank transfer or credit card[4]. Since the emergence of COVID-19, especially since social distancing was implemented, people tend to buy basic necessities and anything they need online. This condition will have an impact on consumer satisfaction in online shopping. The current global economic situation is faced with serious problems, the cause of which is the corona virus (COVID-19). The main purpose of this study is to analyze the level of consumer satisfaction with the intention to use online shopping services.

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2. Literature Review

2.1. Customer Satisfaction

Customer satisfaction is one of the factors that can have an impact on customer attitudes, and this will continue to influence buying behavior repeatedly[5]. Perceptions and attitudes have a significant effect on online purchasing decisions, either directly or through motivation during the pandemic[6]. Customer Satisfaction exerts influence on the foundation of any successful business including beauty and cosmetics in a highly competitive market[7][8]. Information quality, convenience, price and product quality simultaneously have a significant effect on online purchases during the Covid-19 pandemic[9].

2.2. Validity

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Validity is a test that shows the extent to which the measuring instrument we use is able to measure what we want. Validity test is used to measure whether or not a questionnaire is valid. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire[10]. The validity test is measured using Pearson Correlation. The criteria for assessing the validity test are:

1. if r count $> r$ table then the questionnaire item is valid.
2. if r count $\leq r$ table then the questionnaire item is not valid.

2.3. Reliability

Reliability is a tool to measure a questionnaire which is an indicator of a construct or variable[11]. A questionnaire is said to be reliable if someone's answer to the statement is consistent over time. The reliability of a measurement states the extent to which the measurement is without error (without refraction). In this study, the measurement of reliability was proven by testing consistency and stability. Cronbach's alpha is a reliability coefficient that shows how well the items in a collection are positively correlated with each other.

2.4. Questionnaire

A questionnaire is a pre-formulated list of written statements in which respondents will record their answers, usually in clearly defined alternatives [11]. In this study, using a Likert Scale, which allows researchers to distinguish consumers in terms of their level of satisfaction with Online Sales, where each respondent includes a number that indicates more or less disagreement, neutrality, or more or less agreement. This study uses quantitative variables, therefore to measure these variables a Likert scale is used. The statements contained in the questionnaire are made using a scale of 1 - 5 to represent the respondent's opinion. The values for the Scale are 5 - Strongly Agree, 4 - Agree, 3 - Hesitating, 2 - Disagree, 1 - Strongly Disagree.

3. Method

3.1. Stages of Research

The research used is a qualitative descriptive analysis approach to processing the primary data obtained.

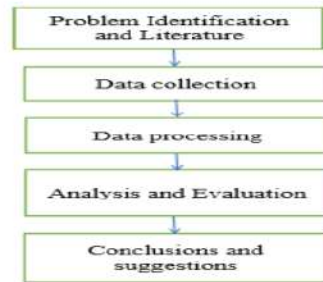


Figure 1. Research Stages

3.2. Samples

The sampling technique used in this study is purposive sampling, which is sampling where the respondents are consumers who have certain characteristics and focus on consumers who shop online during the COVID-19 pandemic. The research data were obtained using a questionnaire that was filled out online by consumers. The Likert Scale Survey method was used in this study, namely by distributing questionnaires to 100 consumers. The data obtained from the questionnaire is presented in the form of tables and diagrams to determine the tendency of consumer satisfaction levels to consumer interactions and online shopping habits during a pandemic.

3.3. Data Collection Methods

Data collected consist of two types, namely:

1. Primary Data, Primary data collected is data obtained from questionnaires that are distributed online via google form to consumers. The type of questionnaire used is a Likert scale questionnaire with a value between 1-5, provided the values are as listed in Table 1.
2. Secondary Data, Secondary data used in this study are articles, journals and literature studies.

4. Result and Discussions

4.1. Data Processing

Respondents taken in this study were 100 people according to the determination of the sample size. The following is a questionnaire on consumer perceptions of online sales of goods.

Table 1. Questionnaire indicators

No	Indicator
1	Consumers tend to buy products in online shops compared to offline stores
2	Shop online on time and on schedule
3	Products that are presented online as needed
4	Shopping online adds to understanding theory and skills
5	Online shopping is safer and more private
6	Online shopping can save money and time
7	The seller gives the opportunity to ask
8	Information provided is timely and up to date on the online shop
9	Online shopping is more flexible wherever and whenever
10	Online shopping makes it easier to interact with sellers

The questionnaire results consumers' perception of interaction in online shopping are presented in the table below:

Table 2. HSRP Packet Loss Redundancy Failover (Standby To StandBy)

Score	Criteria	Frequency									
		Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10
5	Strongly Agree	31	38	32	53	26	16	32	34	46	38
4	Agree	67	59	62	47	74	79	64	61	46	51
3	Hesitating	2	3	5	0	0	5	4	5	8	11
2	Disagree	0	0	1	0	0	0	0	0	0	0
1	Strongly Disagree	0	0	0	0	0	0	0	0	0	0

The results in the form of the table above are then analyzed to determine the percentage of customer satisfaction with each statement item, which is reflected in the diagram below:



Figure 2. Graph of Consumer Perceptions in Online Shopping

4.2. Testing Methods

The questionnaire validity test in this study is a validation test used to measure the accuracy of the questionnaire in determining the level of customer satisfaction in online shopping. Validation in this study is item validation, namely by correlating the item score with the total score.

item4	Correlation Coefficient	.025	-.119	.516	1.000	.010	-.237	.205	-.152	-.463	.104	.181
	Sig. (1-tailed)	.401	.118	.436	-	.488	.009	.488	.065	.000	.151	.001
	N	100	100	100	100	100	100	100	100	100	100	100
Subst5	Correlation Coefficient	.062	-.045	.004	.010	1.000	.158	.154	-.041	.213	-.171	.325
	Sig. (1-tailed)	.271	.327	.484	.480	-	.058	.063	.343	.017	.041	.000
	N	100	100	100	100	100	100	100	100	100	100	100
Subst6	Correlation Coefficient	-.100	.033	-.201	.237	.158	1.000	.080	-.036	-.047	-.099	.312
	Sig. (1-tailed)	.161	.371	.022	.009	.058	-	.215	.362	.320	.167	.001
	N	100	100	100	100	100	100	100	100	100	100	100
Subst7	Correlation Coefficient	-.101	-.177	-.050	.005	.154	.080	1.000	.027	-.022	-.028	.257
	Sig. (1-tailed)	.159	.039	.310	.480	.063	.215	-	.365	.412	.480	.000
	N	100	100	100	100	100	100	100	100	100	100	100
Subst8	Correlation Coefficient	-.005	.180	-.002	-.152	-.041	-.036	.027	1.000	.313	.093	.415
	Sig. (1-tailed)	.480	.037	.493	.045	.343	.362	.395	-	.001	.178	.000
	N	100	100	100	100	100	100	100	100	100	100	100
Subst9	Correlation Coefficient	-.121	.231	.061	-.463	.213	-.047	-.022	.313	1.000	.056	.388
	Sig. (1-tailed)	.116	.010	.274	.000	.017	.326	.412	.001	-	.284	.000
	N	100	100	100	100	100	100	100	100	100	100	100
Subst10	Correlation Coefficient	.079	-.167	.188	.184	.171	-.098	-.328	.093	.058	1.000	.365
	Sig. (1-tailed)	.217	.049	.024	.151	.045	.167	.000	.178	.264	.000	-
	N	100	100	100	100	100	100	100	100	100	100	100
Jumlah	Correlation Coefficient	.276	.369	.467	.141	.325	.312	.257	.415	.388	.355	1.000
	Sig. (1-tailed)	.003	.003	.000	.001	.000	.001	.005	.000	.000	.000	-
	N	100	100	100	100	100	100	100	100	100	100	100

*. Correlation is significant at the 0.01 level (1-tailed).

Figure 3. Validity test Correlation Test Pearson Product Moment

The data above shows that the correlation value between each item and the total score. From these data it can be seen that the correlation between the ten items is one that is invalid, namely the fourth item, while $r_{table} = 0.167$. So it can be concluded that the nine indicators of customer satisfaction are valid with a significance of 5%. So that the questionnaire is feasible and valid when used to measure the level of satisfaction of online shopping. Of the nine items tested, all of them have rcount greater than $r_{table} = 0.167$, meaning that all of them are valid constructs for the variable BO.

5. Result

In this study, the statistical hypothesis is used
 $H_0 : P \leq 0$; Allegedly variation for all items together have a negative relationship with the teaching and learning process variable variations.
 $H_1 : P > 0$; Allegedly variation for all items together have a positive relationship with a variety of teaching and learning process variable.
Reliability tests conducted to determine the degree of reliability or confidence in the results of a measurement. Reliable measurement is a measurement that possess the reliability is high. In theory, the reliability coefficient is between 0 and 1, but in reality there has never been a measurement that reaches a coefficient of 1.

Case Processing Summary			
		N	%
Cases	Valid	100	100.0
	Excluded ^a	0	.0
	Total	100	100.0

Figure 4. Reliability test using Alpha Cronbach's Test

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a. Listwise deletion based on all variables in the procedure.

Cronbach's Alpha	N of Items
.264	9

Figure 5. Reliability Statistics

6. conclusion

The conclusion obtained from this study is based on the results of the calculation of the Validity Test of the Online Shopping satisfaction level questionnaire, there is 1 item or an invalid indicator. Of the ten indicators of the questionnaire, there is one that is not valid, namely the fourth item (online shopping increases understanding of theory and skills). The results of calculations using the Likert scale on the level of consumer satisfaction in online shopping produce $r_{count} = 0.264$ (Cronbach's Alpha).
The suggestion given for further research is that the scope of the research should be further

developed by adding a few more variables concerning aspects that affect online shopping outside the variables that have been studied. Can improve the quality of information such as providing accurate, relevant and timely information to increase consumer confidence in doing online shopping.

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**Menulis AIP Conference Proceedings Vol. 2714, Issue 1, 9 May 2023
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