

The Need of Physical Improvement of Online Marketing: The Case of Agribusiness e-Commerce in Indonesia

Ujang Maman
Agribusiness Post Graduate Program
Faculty of Science and Technology,
Universitas Islam Negeri Syarif
Hidayatullah Jakarta, Indonesia
ujang.maman@uinjkt.ac.id

Abuddin Nata
Islamic Education Program, Faculty of
Tarbiyah and Teacher Training
Universitas Islam Negeri Syarif
Hidayatullah Jakarta, Indonesia
abuddin@uinjkt.ac.id

Rusdiono Mukri
Madrasah Ibtidaiyah Teacher Program,
Faculty of Tarbiyah and Teacher
Training, Sahid Islamic Entrepreneurial
University, Bogor, Indonesia
rusdiono.mukri@inais.ac.id

Nindyantoro
Resource and Environment Department
Economic and Management Faculty,
IPB University, Bogor, Indonesia
nindyantoro@apps.ipb.ac.id

Faisal Hendra
Faculty of Humanity
University of Al-azhar Indonesia,
Jakarta, Indonesia,
faisal_2104@uai.ac.id

Zirmansyah
Faculty of Psychology and Education
University of Al-azhar Indonesia,
Jakarta, Indonesia
Zirmansyah8@gmail.com

Abstract— By the development of agribusiness e-commerce, the physical contact between seller and buyer is decreasing or even disappearing. The question in this context is whether the tangibility dimension is still needed or – at least -- what are the attributes of tangibility dimension are required in e-commerce of agribusiness. Thus, this research aims to explore the required attributes, the attributes need to remediate, and the attributes which have been completely performed for the tangibility aspect in agribusiness e-commerce. Based on literature review and in-depth interview, this research finds six attributes of tangibility aspect required in agribusiness e-commerce. By the survey to the 100 customers of online marketing in Indonesia – which sample size is determined by Lemeshow formula and taken by accidental sampling – and data analysis adopts the Importance Performance Analysis, this research proves product freshness needs to remediate; while the packaging facilities and product hygiene are the achievement of company services needs to maintain as a good work. The extension education is valuable to maintain the performed attributes and to remediate unperformed tangibility attribute in e-commerce services.

Keywords—*Tangibility attributes, importance, performance, good work, and main planning*

I. INTRODUCTION

The satisfaction to the tangibility or physical aspects is very important in the product marketing. This aspect is very important because the service quality cannot be seen directly. Therefore, consumers or potential customers usually look at visible conditions, such as chairs, manuals, product appearance, clothing, and worker friendliness, so that they feel satisfaction with the service. According to Kotler and Keller [1], satisfaction is a person's feelings of happiness or disappointment, which are generated by comparing the perceived performance with the expectations of the customers. If the performance do not meet expectations, the consumers will be disappointed. On the other hand, if performance meet expectations, the consumers will feel satisfied. Even if performance exceeds the expectations, the consumers will feel highly satisfied or happy.

Customer expectations can also play an important role in determining product quality (goods and services), where based on employee expectations, the company tries to meet the customer's expectations [2]. However, customer

expectations are relative and vary. Therefore, to see objectively about customer satisfaction, it is necessary to compare perceptions of expectations with performance.

However, by development of e-commerce, especially in the field of agribusiness, the question is whether the satisfaction with physical things still needed? Or at least, what attributes in the tangibility dimension are needed in agribusiness e-commerce? Thus, this research paper aims to present the tangibility attributes that are still needed in agribusiness e-commerce, as well as what tangibility attributes need improvement in agribusiness e-commerce? For this purpose, this research was conducted by taking the case of online marketing and services performed by an agribusiness e-commerce company in Jakarta, Indonesia.

E-commerce is the process by which consumers buy and sell products electronically by using computers as a medium for business transactions. The media that can be used in e-commerce is the World Wide Web [3]. Online sales on e-commerce platforms are transactions made through media or intermediaries, in the form of online trading sites or social networks that provide goods or services.

Nowadays online shopping has become a habit for some people, and of course it has a significant impact on business practices and change the manner of shopping habit [5]. Because of the convenience it provides, many people believe that online shopping is a means to find needed items such as daily necessities, hobbies, etc. Online sales can also be interpreted as the desire of producers to provide their products to get what consumers want in online stores. This process can be done by offering the desired item through a vendor or reseller using the internet. Furthermore, the buyer must make a payment via bank transfer, m-banking, or COD (Cash on Delivery). With the Covid-19, and with the social distancing policy, online shopping is getting stronger and change the consumer behavior [6].

The strengthening of e-commerce activities is in line with the increase in internet usage. A survey conducted by APJII (*Asosiasi Penyedia Jasa Internet Indonesia*/Association of Indonesian Internet Service Providers) shows that the internet users in Indonesia are

directly proportional to population growth, and with a positive trend. Based on the APJII survey, from 2019 to January 2020 there were 171.17 million Indonesians connected to the internet, while until the second quarter of 2020 internet users in Indonesia reached 196.7 million or 73.7% of Indonesia's population. This number increased from the previous year of around 25.5% According to APJII, the development of internet use is driven by a faster and more equitable internet infrastructure; as well as the Covid-19 outbreak which requires social restrictions. Therefore, the urgency of this research is very visible, practically to provide input to online marketing activists, especially in the field of agribusiness, namely for those who sell agricultural products, such as vegetables and fruits online [15; 4].

II. FRAMEWORK ANALYSIS AND REASONING

Consumer expectations of an item or service have been formed before the consumer buys the goods or services. During the buying process, consumers expect that the goods or services they receive are in accordance with their expectations, desires, and beliefs. Goods or services in accordance with customer expectations will cause consumers to feel satisfied, and allow consumers to make repeat purchases. Therefore, consumer expectations of certain attributes in the tangibility dimension are the focus of this research [7].

In addition to focusing on expectations, this research also identifies performance. This performance can be interpreted as a consumer's experience of the actual condition of goods or services when they are used, without being influenced by their expectations. When the actual performance of goods or services they expect is realized, consumers will feel satisfied. The achievement of a person's performance or the service of a company because of the efforts and actions taken by individuals or companies. Performance in the form of work results achieved by workers [8]. Performance can also result from education, training, leadership, organizational culture, work experience and professionalism [9]. The experience in work is related to the employee's tenure, the longer a person works in a field of work, the more experienced that person will be, and if a person has had performance experience in a particular field of work, then he has skills in the field of work he is doing. Professionalism is a combination of education and work experience gained by a worker.

However, there is often a gap between expectations and performance. Therefore, this study tries to compare expectations with the performance achieved. The expectations for certain attributes are often very high, but on the contrary the performance achieved on these attributes is low, and this condition frequently happen in many fields of study, such as in adoption of innovation, and of course in product services [11]. By itself, the results of this research will be a very important input for companies to make these service attributes as the main program to make various necessary improvements. However, there could also be a balance between expectations and performance, in the sense that there are high expectations as well as high performance on certain attributes according to customers' perceptions.

This, of course, is an achievement needs to be maintained. The corporate planning in this case is how to maintain these achievements as a good works [11].

In addition to these two conditions, it is possible that customer expectations for these attributes are low, and customers also have a perception that the performance achieved by the company is also low. So, the attributes that fall into this category can be placed as a second priority in a plan. In line with that, there is also the possibility that customer expectations for these attributes are low, but the performance is very high. So, in this context the company can conduct an evaluation to reduce the focus of activities on the attributes that fall into this fourth group. Mapping these attributes is the focus of this study, especially the attributes on the tangibility dimension. This mapping becomes very important in the context of e-commerce activities in agribusiness. The reliability attributes for e-commerce companies are certainly very different from conventional companies.

III. MATERIAL AND METHODS

In accordance with the aim of the research, and by adopting the model of Importance and Performance Analysis (IPA) model [11], this research is mainly takes two stages. In the first stage, it explores the tangibility attributes needed in e-agribusiness e-commerce services based on in-depth interview and literature study. Therefore, this research in this stage could be categorized as qualitative study. For the next stage, this research measures the degree importance and performance in four level of Likert scale. In the second stage, in line with the aim of this research, this study could be categorized into a survey type. Adopting the Lemeshow formula [10], the sample size of this research is 100 customers of an agribusiness e-commerce in Jakarta, Indonesia – and adopt accidental sampling due to the absence of the sample frame.

Prior to data collecting, this research conduct validity and reliability test as a requirement of a survey which needs valid and reliable instruments. The question to measure the importance and performance level gets high validity. For the reliability test, in the light of Cronbach alpha criteria, the instruments get also a high reliability, which the score is 0.74, calculated from 30 respondents in an instrument trial.

Data analysis, following the IPA flow and logic, is conducted in five steps. First, classifying importance and performance level into high, moderate, and low by applying following formula:

$$Interval = \frac{\text{The higher Score} - \text{The lower Score}}{\text{Amount of Alternative Category}}$$

The second, determining the average score of importance and performance level of each attribute of tangibility aspect. *The third*, determining the suitability and gap between expectation and performance level of tangibility attributes by applying the formula of:

$$Tki = \frac{\bar{x}_i}{\bar{y}_i} \times 100\%$$

In which:

Tki = Level of suitability

\bar{X}_i = Performance score

\bar{Y}_i = Importance score

The *Fourth*, presenting the matrix of expectation and performance level, and grouping it into four columns by adopting the formula of:

$$\bar{\bar{X}} = \frac{\sum_{i=1}^N \bar{x}_i}{k}$$

$$\bar{\bar{Y}} = \frac{\sum_{i=1}^N \bar{y}_i}{k}$$

Where:

$\bar{\bar{X}}$ = Average of the average of performance score

$\bar{\bar{Y}}$ = Average of the average of importance score

K = The number of attributes

The *fifth*, providing each attribute of tangibility dimension in Cartesian diagram, which presenting level of priority in quadrant matrix on the basis of this formula;

$$\bar{X} = \frac{\sum X_i}{n} \quad \bar{Y} = \frac{\sum Y_i}{n} \quad [4]$$

Where:

\bar{X} = Average of performance score

\bar{Y} = Average of importance score

n = Amount of respondent

In the light of this formula, all the attributes of tangibility dimension are divided into four quadrants in a Cartesian diagram. The A quadrant provides high expectation and low performance, which indicates the high priority of the attributes for the customer satisfaction in online marketing. The B quadrant presents the high expectation and the high performance which indicates that the company has the good achievement in implementing these attributes. The C quadrant provides the low importance and low performance, indicates the attributes which take this column as a second priority of the planning; and the D quadrant presents high performance but low importance, indicates that the attributes are not important to plan.

IV. RESULT AND DISCUSSION

A. The Attribute of Tangibility in Agribusiness e-Commerce

Based on in-depth interviews with the company in line with various theories, the e-commerce in agribusiness needs six attributes related to satisfaction of physical evidence of products. First, completeness of adequate packaging and shipping facilities. Packaging is used to protect the product from being damaged, injured and to maintain the quality and appearance of the product. The packaging is usually done with crate boxes or bubble wrap to maintain product quality. Food products will be packaged in such a way as to make it easier for consumers to identify and carry them. In general, food packaging is a material used to contain and/or wrap food, both in direct and indirect contact with food.

Second, the product hygiene is valuable. The products that reach consumers must be clean. Hygiene and sanitation are important in determining the quality of food, where the

existence of *Escherichia coli* is one of the indicators of food contamination that can cause food borne diseases. The E.coli in food and beverages is an indicator of contamination due to poor handling of food and beverages, and the products should be prevented from this e-coli [12].

Third, the level of maturity. The level of ripeness of fruit and vegetables varies. The same type of fruit or vegetable, but different varieties will experience differences. So that the harvest is not too late or even too soon, the company needs to know the level of fruit maturity. There are certain ways that can be used as a benchmark that a fruit or vegetable is ripe, such as skin color, shape, size of fruit or vegetables and other characteristics. For example, the content of starch, acid, oil and total dissolved solids can be used as a marker of fruit ripeness. The level of fruit hardness can be tested using a pressure tester or fruit hardness tester. This is useful so that consumers get the right level of fruit and vegetable maturity, which is not too raw and not too ripe

Fourth, the use of PPE for employees or couriers. According to the news released by Smartlegal [13], food and beverage trading activities in Covid-19 social distancing continues to operate as stipulated in Article 10 which requires food handlers to use gloves, head masks and work clothes in accordance with occupational safety and health guidelines. However, it is important to note that these regulations have limitations such as the use of masks during production and delivery to consumers in order to prevent the spread of Covid-19. However, it is important to note that these regulations have limitations such as maintaining a minimum distance of 1 meter between humans/individuals during production and delivery to the hands of consumers to prevent the spread of Covid-19

Fifth, using the concept of Green Business which is environmentally friendly. The American Marketing Association (AMA) defines green marketing as marketing products that have been assumed to be safe for the environment. Therefore, green marketing integrates a wide range of activities, including product modification, changes to the production process, changes to packaging, and changes to advertising. The green marketing is the consistency of all activities that design services and facilities to satisfy human needs and wants, without causing an impact on the natural environment [14]. An example of this concept is minimizing the use of plastic and straws.

Sixth, product freshness. Products that reach consumers must look fresh/not wilted. Fresh products mean products that have just been harvested or have not been harvested for a long time so that the physical form still looks good. The Quality Control team must be more careful in sorting the products to be sent to the consumers. In accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 1096/MENKES/PER/VI/2011), one of which is meat, milk, eggs, fish/shrimp, fruit and vegetable products must be in good condition, fresh and not damaged or changed in shape, color and appearance, taste, and preferably from a supervised official place. This means that the product is suitable for human consumption.

B. The Importance Level of Attribute

The average of the importance level of attributes of agribusiness e-commerce in customer perception could be categorized into high. The level of expectation spreads between 3.4 to 3.87. The average is the total score of measurement in Likert scale divided by the total respondent . By adopting the interval formula, the minimum limit for the high category is 3.1; while the all of six attributes get the score above 3. Referring to the data presented in Table 1, the hygiene of product gets the highest importance level. The product’s freshness takes the second level of expectation . The level of importance of other attributes in customer perception sequentially from the high to the low is packaging facilities, personal protective equipment, the green business concept, and the product maturity level.

TABLE 1. ATTRIBUTES OF TANGIBILITY DIMENSION IN AGRIBUSINESS E-COMMERCE

No.	Physical Attributes	Aver of Expect	Ave of Perform	Gap Value
1	Packaging Facilities	3.57	3.31	0.26
2	Product hygiene	3.87	3.23	0.64
3	Product maturity level	3.22	2.99	0.23
4	Complete Personal Protective Equipment	3.47	3.26	0.21
5	The green business concept	3.4	3.39	0.01
6	Product freshness	3.85	3.19	0.66

Source: Primary data (Processed)

C. The Performance level of Attributes

In the light of interval formula, the performance of implementation of the attributes commonly could also be categorized into high, although the gap between the importance and performance could not completely avoided. The attributes which get the highest performance level is the implementation of green business concept. The other attributes that could be categorized into high sequentially from the high to low is packaging facilities, personal protective equipment, product hygiene, and product freshness. However, referring to data presented in Table 1., this research finds an attribute which could be grouped into medium performance, which includes the product maturity level. As the high level of performance, the gap score between the expectation and performance is relatively small which spread between 0.66 to 0.01 (Table 1).

D. The Priority of Improvement

The answer of what attribute that needs priority to improve in the agribusiness e-commerce is very essential in line with the aim of this research. To determine this prioritized attribute, this research paper applies the Cartesian matrix which forms the Cartesian diagram. This Cartesian diagram divides properly the attributes into four quadrants by its suitability between importance and performance level.

The process is started by identifying the average of the average of importance and performance level. The average of the average of performance score is placed in a horizontal line (X); while the average of the average of performance level is placed in a vertical line (Y). The intersection between the two averages score form automatically four quadrants. The first quadrant takes the top left; the second

quadrant is in the position of top right; the third quadrant is the low left; and the next quadrant is in the low right.

The first quadrant contains the attributes that get high importance level but unfortunately has the low performance level. This research paper finds an attribute that could be placed into the first quadrant. The attribute is a product freshness. The customer considers this attribute is very important to determine the buying decision and to take a high loyalty to the offered products. But unfortunately, the customers regard the company does not have yet the proper ability to fulfill the expectation of the customer in this attribute. The consequence is of course the e-commerce business should make the complete planning to remediate this attribute to meet the expectation of the customer as a high effort to increase the level of loyalty of the customers.

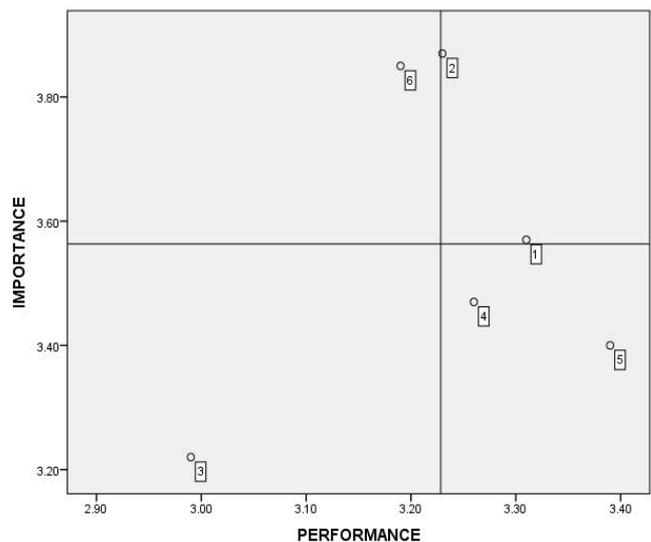


Figure1. Cartesian Diagram for Mapping the Tangibility Attributes

The attributes that take place the second quadrant is the product hygiene and packaging facilities. The customers regard these two attributes as the important items in determining a buying decision and in letting them have a high loyalty to the product as well to the company who offers these commercial goods, specifically in an agribusiness e-commerce product. In line with the expectation of this attributes, the company has a high ability to meet the expectation of the customers. In other sentence, the company has a high performance in implementation of these two attributes. For the company, as a consequence, does not have a choice except to maintain this performance. In the sentence of Importance performance analysis, these attributes are the achievement in which the company has to maintain or to hold this good works.

The product maturity level, due to the low level of importance in the customer perception, in which the consumers do not regard highly the importance of this attribute, the company could place this item of services as a second priority. The low importance degree in customers assumption of this service item, could probably because the customer is use to receiving the product from the company as is perfect maturity. Therefore, this item could be assumed as

the achievement of the company, in which the company has done a good work. Thus, the company should maintain this item, in which the product maturity that commonly used to be received by the customer needs to be maintained.

Regarding the attributes -- that could be categorized into the fourth quadrant -- it is very interesting. In this quadrant, this research paper finds two attributes, which includes: complete personal protective equipment (PPE) and the concept of green business. The customers assume the two items are not important, while the company envisages the high urgency of these two items. As a company that complies with regulations, it must facilitate employees -- especially the employees who deliver products to consumers -- with complete personal protective equipment. The company should also adopt the concept of green business to maintain the environment sustainability. Although the customers perceive the unimportant of these items, the company have to continue implementing the green business concept and facilitating the employees with PPE.

Table 2. Recommended Action to Remediate the Tangibility Attributes

No.	Tangibility attribute	Aver of Expect	Ave of Perform	Gap Value	Quad	Planning Target
1	Packaging Facilities	3.57	3.31	0.26	2	Need to maintain
2	Product hygiene	3.87	3.23	0.64	2	Need to maintain
3	Product maturity level	3.22	2.99	0.23	3	Need also to maintain although in Quad 3
4	Complete Personal Protective Equipment	3.47	3.26	0.21	4	Needs also to maintain although in Quad 4
5	The green business concept	3.4	3.39	0.01	4	Needs also to maintain although in Quad 4
6	Product freshness	3.85	3.19	0.66	1	Priority to remediate

In line with the above discussion, the product freshness is the priority for the company to remediate. In addition, the company has a good achievement in providing the packaging facilities and product hygiene, and of course the company should have to plan to maintain this achievement. About the other three attributes -- include product maturity level, personal protective equipment, and implementation of green business concept -- actually this also could be considered as the achievement of agribusiness e-commerce in which the company should hold it as the good works (Table 2).

V. CONCLUSION & RECOMMENDATION

In the agribusiness e-commerce, although equipped by internet facilities and minimize the physical contact, the tangibility dimension of services is still important. This research finds six attributes of this tangibility dimension, consist of packaging facilities, product hygiene, product maturity level, complete personal protective equipment, the green business concept, and product freshness. The company has had good work to provide five attributes; and merely one attribute needs to remediate, which is product

freshness. The informal education -- such as training and extension education -- is key point to maintain the performed as well as to remediate the unperformed attributes of tangibility dimension.

ACKNOWLEDGMENT

The author teams highly appreciate to the Director of Center for Research and Publication Universitas Islam Negeri Syarif Hidayatullah Jakarta and other sides for proper support to finish this research

REFERENCE

- [1] P. Kotler & K.L. Keller. Marketing Management. Indonesian Edition, The 13th Ed., Erlangga, Jakarta, 2009, pp. 6-10.
- [2] D. Sunyoto. Teori Kuesioner dan Analisis Data untuk Pemasaran dan Perilaku Konsumen [Questionary Theory and Data Analysis for Marketing and Consumer Behavior]. Graha Ilmu, Yogyakarta, 2013, pp. 28-36
- [3] S.M. Maulana, H. Susilo, Riyadi, 2015, "Implementasi E-commerce Sebagai Media Penjualan Online." *Jurnal Administrasi Bisnis*, Vol. 29(1), pp. 1-9, 2013
- [4] D.H. Jayani, "Data Statis Proyeksi Pengguna Internet di Indonesia tahun 2017-2023". <https://databoks.katadata.co.id/datapublish/2019/09/09/berapa-pengguna-internet-di-indonesia> (Accessed August 09, 2020).
- [5] United Nation for Conference, Trade and Development (UNCTD), Covid-19 and e-Commerce, Impact on Business and Policy Responses, UNCTAD, 2020, pp. 13-17
- [6] F. Pollak, M. Konečný, P. Marković, "E-Commerce in the time of social distancing," 12th Annual Global Business Conference 2021-Doing Business in Post Pandemic World At Zahreb, Croatia, 2021, pp. 155-156.
- [7] S. Almsalam, "The Effects of Customer Expectation and Perceived Service Quality on Customer Satisfaction," *International Journal of Business and Management Invention* Vol. 3(8), pp. 79-84, 2014, www.ijbmi.org
- [8] P. K. Agarwal, "Determinants of E-transaction Adoption and their impact on level of customer satisfaction: A Study Conducted in Wolaita Sodo," *Ethiopia, Int. J. of Mgmt. Dev. and Info. Tech.* Vo. 14, pp. 31-39, 2016.
- [9] I.N. Diana, A.S. Supriyanto, V.M. Ekowati, A.H. Ertanto, "Factor Influencing Employee Performance: The Role of Organizational Culture," *Journal of Asian Finance, Economics and Business* Vol 8(2), pp. 545-553, 202, doi:10.13106/jafeb.2021.vol8.no2.0545;
- [10] S.K. Lwanga and S. Lemeshow, Sample size determination in health studies : a practical manual. World Health Organization, Geneva, 1991 <https://apps.who.int/iris/handle/10665/40062>
- [11] U. Maman, Y. Razak, Murodi, A. Saefuddin, F. Hendra, Zirmansyah, Nindyantoro, L. I. Ichdayati, Junaidi, "Formulating Agricultural Extension Planning Based on Farmer Achievement: The Case of Organic Rice Farming Risk Mitigation in Indonesia," *UNIVESAL Journal of Agricultural Research* Vol. 10(1), pp. 64-76, 2022, DOI: 10.13189/ujar.2022.100106
- [12] N.S.M. Nawawee, N.F.Abu Bakar, and S.S. Zulfakar, "Microbiological Safety of Street-Vended Beverages in Chow Kit, Kuala Lumpur," *International Journal of Environmental Research and Public Health*, Vol. 9 (16), pp.2-9, 2019, doi:10.3390/ijerph16224463
- [13] Smartlegal.id (16 April 2020). "Ini yang Harus diperhatikan Pengusaha Kuliner Saat Pemberlakuan PSBB [This is thing that should be paid attention by food businessman in period of social distancing]" Accessed September 22, 2020, from <https://smartlegal.id/galeri-hukum/pandemi-covid-19/2020/04/16/ini-yang-harus-diperhatikan-pengusaha-kuliner-saat-pemberlakuan-psbb/>
- [14] M. Kanna, Growing Green Business Investments in Asia and The Pacific: Trends and Opportunities, Asian Development Bank, 2020, pp. 9-16 <https://www.adb.org/sites/default/files/publication/664446/sdwp-072-green-business-investments-asia-pacific.pdf>
- [15] Asosiasi Penyedia Jasa Internet Indonesia, "Laporan Survei Internet APJII 2019 - 2020, accessed July 15, 2022