© Telkom University



## INTERNATIONAL JOURNAL OF INNOVATION IN ENTERPRISE SYSTEM



Journal homepage: <u>https://ijies.sie.telkomuniversity.ac.id/index.php/IJIES/index</u> e-ISSN: 2580-3050

# **Cotton.Go's Electronic Service Quality Improvement Using Importance Performance Competitor Analysis Approach**

Tara Aldiera<sup>1\*</sup>, Sari Wulandari<sup>2</sup>, Ima Normalia Kusmayanti<sup>3</sup>

<sup>1,2,3</sup>, Telkom UniversityJl. Telekomunikasi No. 1, Bandung, 40258, Indonesia

\*aldieratara@gmail.com

ARTICLE INFO

#### ABSTRACT IN ENGLISH

Article history: Received 17 November 2020 Accepted 14 December 2020 Published 31 January 2021 The number of competitors that have sprung up in the field of fashion especially in men's clothing, has caused Cotton.Go need to evaluate its e-commerce services to compete with them. Therefore, this research was conducted to evaluate the attributes of Cotton.Go's e-commerce services by integrating the dimensions of Electronic Service Quality and Importance Performance Competitor Analysis (IPCA) method. According to research result, seven attributes of services in Cotton.Go's e-commerce is needed for further research, which are web design, reliability, efficiency, responsiveness, security, flexibility, and fulfillment. This research produced that all of the attributes need urgent action to improve by looking at the negative performance differences value with its competitor. All attributes that need to be improved indicated that the performances are considered to be lower compared to the competitor and need immediate action to improve.

Keywords: E-commerce; Cotton.Go; Electronic Service Quality; Importance Performance Competitor Analysis Method.

# 1. Introduction

The basic meaning of fashion is something that is worn by someone at a certain time unit. For some people, fashion has its own meaning. It reflects people's social life, economic status, and even cultural background [1]. As time goes by, electronic and media social is rapidly evolving as same as fashion itself, which cannot be denied that it has become part of human life [2]. Seeing the sophistication of existing technology, fashion industry is moving faster. Production with adequate and faster technology, distribution to customers that become more effective and efficient, customer preferences and trends which often change, as well as impulsive buying, have made pressure on the fashion industry even more real. The opportunities created by this phenomenon are getting bigger and create challenges, and competition between fashion entrepreneurs is getting fiercer [3]. To be able to survive in the digital era like today, business owners are required to be able to develop their marketing very well on an electronic basis. E-commerce has become an important channel for many fashion businesses because it has a power to allow transactions anytime and anywhere. However, E-commerce has limited service for their customers. Unlike offline stores, e-commerce does not have staff who can directly guide the process of purchasing an item. Through this, business owners need to create efficient and easy to use features for their target market to enhance a good customer experience [4]. Fashion business owners need to compete to give the best presentation of the products by providing a catchy e-commerce sites, also present rich and attractive content to gains customer's interest [1].

Based on data conducted from Indonesia Central Bureau of Statistics in 2018 [5], fashion proves to become the top three sub-sectors that contributed to increasing gross domestic product in Bandung with 15,01%. Along with the fact, it indicates that the competition of fashion in this era is tight seeing the potential market of fashion subsector is large and promising. This large market opportunity needs to be maintained because the existing market is actually can still be optimized.

For fashion world in Indonesia, especially in Bandung that being called as a fashion city, Cotton.Go has become widely known. Cotton.Go is a clothing brand that has a daily life wear theme. Cotton.Go entered the fashion market in 2015 and since then, they have continued to develop their business consistently. The business starts to market its products by utilizing social media and personal business e-commerce. The visitors and products on e-commerce sales can be seen in Figure 1.

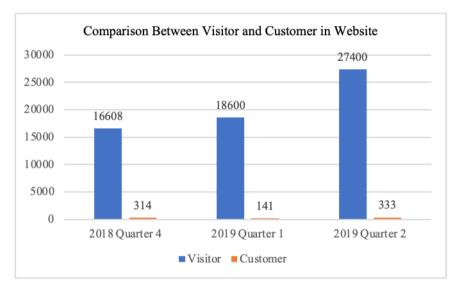


Fig. 1 - Customer and Visitor of Cotton.Go's E-commerce

Through calculations of each quarterly, as stated in Figure 1, the level of purchases of products by consumers in ecommerce is far from the level of its visitors. Number of Cotton.Go sales in the fourth quarterly of 2018 is 314, and the number of e-commerce visitors is 16,608 sales amounts in the first quarter of 2019 is 141 and the number of ecommerce visitors is 18.600. Total sales of Cotton.Go's e-commerce in the second quarter of 2019 is 333 while the number of e-commerce visitors is 27.400. It leads Cotton.Go to only has 1.29% of conversion rate while the standard rate of e-commerce is 6.25% [6]. The increasing of product sales is not proportional to the increasing of ecommerce's visitors, indicate e-commerce owned by Cotton.Go has not been effective in selling the products because customer's interest does not increase. Whereas sales system like e-commerce should be greater considering that online sales break down geographically and are not limited by distance. Based on that, it needs to be analyzed why Cotton.Go's e-commerce is not doing a great job. Also, it needs to be analyzed what attributes on its ecommerce that are comparatively weak compared to competitors so that Cotton.Go can develop and improve in those areas. So, it is necessary to conduct research to find out the level of service quality attributes of the Cotton.Go's e-commerce compared to competitors to increase their sales.

## 2. Literature Study

## 2.1 Electronic Service Quality

The definition of service quality is which the service fulfills its specifications [7]. According to the Six Sigma Methodology, quality is the degree or measurement to which a set of characteristics fulfils requirements that can influence customer satisfaction [8]. The rapid growth of Internet makes service quality be the main choice in online transactions. With electronic service quality, it provides opportunities for companies to meet the needs of customers and maintain good relation between customers and companies that are profitable so as to increase loyalty from customers [9]. In other words, it is a method for measuring customer satisfaction from an internet-based service provider includes the expenditure, and shipment of products. The selection of electronic service quality attributes is determined based on the coherence of research's object with existing dimensions based on previous research references. The selected dimensions are presented in Table 1.

| Dimension      | Description  |
|----------------|--|
| Reliability    | Reliability is vital to make customers trust that the company will perform as what they promise to do.<br>With regard to the technical functionality of the site, specifically the site that available and<br>functioning as it should. Includes accuracy of service, product stock availability, and delivery the<br>product in accordance with the promised time [10]. |
| Fulfillment    | Attributes on fulfillment consist the availability of detail information, transaction is runs smoothly, and accurate delivery service [10].  |
| Security       | In the form of a guarantee that data of customers will not be given to any other party and customer's credit card information is guaranteed to be safety [9].  |
| Web Design     | E-commerce design must be well organized, menu navigation is easy-to-use, and have an attractive e-<br>commerce appearance [11].   |
| Efficiency     | The ability of customers to access e-commerce, looking for products they want, information relating to the product, and explore the site with minimal effort [9].  |
| Responsiveness | Availability of customer service by telephone, online chat, or representatives in online support facilities. Ability to provide appropriate information to customers when problems arise [9].  |
| Flexibility    | Ease in the transaction process including having various ways of payment and variations banks payment as well as the return of goods feature if there is a defect of the product.  |

#### Table 1 – Electronic Service Quality's Dimensions

# 2.1 Analytical Hierarchy Process

Analytical Hierarchy Process or AHP, is a method for alternative ranking decisions and choosing the best from several criteria. AHP is a problem-solving design that turns qualitative into quantitative calculation to reach its aim of research. It helps to determining the priority of several criteria by conducting a pairwise comparison analysis of each criterion [12]. The analysis will also assume what dimension that be most influences in e-commerce. In addition, this analysis can also produce selected competitors for the focal company. The level of scoring can be seen in Table 2.

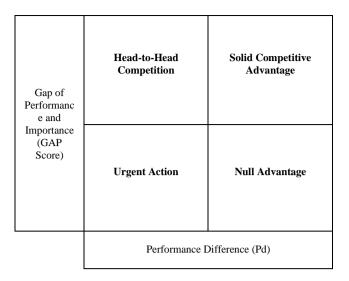
| Level of Interest | Definition  |
|-------------------|---|
| 1                 | Both of elements are equally good                     |
| 3                 | One element is slightly better than another           |
| 5                 | An element is better than another element             |
| 7                 | An element is significantly better that other element |
| 9                 | An element is definitely better than another element  |
| 2,4,6,8           | The values between the two value are close            |

Table 2 – Analytical Hierarchy Process's Level Scoring

## 2.2. Importance Performance Competitor Analysis

Importance Performance Competitor Analysis (IPCA) is a business research technique as a market tool for testing and suggesting management strategies [13]. Companies can compare its importance with the performance they have done and also calculating performance of competitor. If the level of importance is higher than the company's performance, it means that the customer has not yet reached satisfaction, and vice versa [14]. To complete it, IPCA have to compare performance of company that being research and competitors' performance. In determining the classification of its attribute, IPCA method using a cartesian diagram. If competitor's performance is higher than the focal company's, it denotes a negative difference. Whereas the score is lower, it indicates that the competitor has better performance than focal company in certain area.

In determining the attribute that need to be improve, the IPCA method uses a cartesian diagram. This cartesian diagram is used to map the quality attributes of the analysed services, shown in Figure 2.



#### Fig. 2 – Cartesian Matrix

The explanation of each quadrant are as follows [13]:

- 1 Quadrant I: Quadrant one named solid competitive advantage. Attribute in solid competitive advantage have higher performance scores than importance and its competitor. Focal company could maintain keep its performance level.
- 2 Quadrant II: Head-to-Head quadrant indicates that even though the score of performance in company being research is beyond its importance, some attributes have similar performance scores from competitor.
- 3 Quadrant III: Quadrant urgent action indicates attributes have poor performance score compare to the competitor. Moreover, focal company have lower performance score than its importance. It can be assumed that the attributes in this quadrant need a significant change.
- 4 Quadrant IV: Attributes in null advantage quadrant have a lofty performance than competitors. Anyhow, the attribute's importance scores are not met its performance.

# 2.4 Integration of Electronic service quality and Importance Performance Competitor Analysis Method

The integration of electronic service quality and IPCA method is that in distributing the electronic service quality survey, it will use a dimension that already determined before. The function is to be more exact and focus in specific area for further research which will produce a strong and weak e-commerce attribute dimensions. The advantages that could be obtained is, it can produce more comprehensive improvement design to make a strong solution for the object being research because each attribute is classified based on the performance comparing to competitor.

## 2.5 State of The Art

Table 3 is a recapitulation of previous relevant research, which are regarding the evaluation of service quality, service quality attributes and customer satisfaction. Nunkoo, Teeroovengadum, Ringle, & Sunnassee [15] filled a research gap regarding the identification of service quality attributes on hotel. In addition, Prentice & Kadan [16] in their research filled the research gap regarding the analysis about the influence of airport service quality on the intention of customers to return to the airport and repeat their destinations, while Rita, Oliveira & Farisa [11] in their research contributed to provide an understanding of how quality of electronic services affects customer satisfaction. Other relevant studies were carried out by Albayrak [13], Albayrak, Cabera, Gonzalez Ridriguezb, & Aksu [17] and B. DiPetro, A.Levitt, Taylor, & Nierop [18]. Albayrak, Cabera, Gonzalez Ridriguezb, & Aksu [17] in their research provide an understanding of how the IPCA method is used to evaluate Costa Brava services as a tourist destination while B. DiPetro, A.Levitt, Taylor, & Nierop [18] in their research used the IPCA method. to evaluate restaurant service on the first-time customers and customers who have repeatedly come.

Based on the results of the study of the previous relevant research in Table 3, it can be concluded that the integration of electronic service quality with Important Performance Competitor Analysis methods in fashion business is very limited while it has a rapid development. Therefore, this research was conducted to fill the research gap regarding the use of the IPCA method in evaluating the quality of SME Fashion e-commerce services.c

Using existing studies can help this research by fitted the past attributes with the object being studied. These references can add more insight from the expert side. Looking at previous study, this research can complete the gap of research on customer satisfaction, especially e-servqual concentration with IPCA method. This is shown from the absence of research that discusses service quality on fashion e-commerce with related methods. With this research, it will become a reference for readers and future researchers to find solutions and solve problems with similar cases.

| Na        | <b>T:441</b> -  | Tittle Veer Object Au |                            |   | uthan Oniginality / Value   |  |  |
|-----------|---|-----------------------|----------------------------|---|---|--|--|
| <u>No</u> | Tittle<br>Service Ouality and   | Year<br>2019          | Object<br>Hotel            | Author  | Originality / Value   |  |  |
| -         | Customer Satisfaction:<br>The Moderating Effects of<br>Hotel Star Rating  |                       |                            | Robin Nunkoo,<br>Viraiyan<br>Teeroovengadum<br>, Christian M.<br>Ringle, Vivek<br>Sunnassee [15]. | The study gives insight that the service<br>quality attributes of accommodation<br>with different ratings affect customer<br>satisfaction significantly.  |  |  |
| 2         | The Role of Airport<br>Service Quality in Airport<br>and Destination Choice   | 2019                  | Airport                    | Catherine<br>Prentice, Mariam<br>Kadan [16].  | Analyzes that quality of airport services<br>clearly affects the intention of<br>customers to return to the airport and<br>repeat their destination. This shows that<br>service quality affects the level of<br>customer satisfaction.                                    |  |  |
| 3         | The Impact Of E-Service<br>Quality and Customer<br>Satisfaction on Customer<br>Behavior in Online<br>Shopping                             | 2019                  | Online Fashion<br>Business | Paulo Rita, Tiago<br>Oliveira, Almira<br>Farisa [11].   | The results showed that the quality of<br>electronic services as a whole affects<br>customer satisfaction. With the<br>dimensions studied, there are attribute<br>specifications that are more influential<br>than others.  |  |  |
| 4         | Importance Performance<br>Competitor Analysis<br>(IPCA): A study of<br>hospitality companies  | 2015                  | Resort                     | Tahir Albayrak<br>[13].   | This research was conducted by Tahir<br>Albayrak to extend the version of the<br>Importance Performance Analysis.<br>Where in this study, competitors are<br>used as variables to compare the<br>attribute of performance.  |  |  |
| 5         | Analysis of Destination<br>Competitiveness by IPA<br>And IPCA Methods: The<br>Case of Costa Brava,<br>Spain Against Antalya,<br>Turkey    | 2018                  | Tourist<br>Destination     | Albayrak,<br>Cabera, Gonzalez<br>Ridriguezb, &<br>Aksu [17].                                      | This study examines Costa Brava as<br>tourist destination. IPA results show<br>that it has several strong and stable<br>attributes. However, IPCA method<br>discloses that most of these attributes<br>are considered weak from competitors<br>and lacks distinctiveness. |  |  |
| 6         | First-Time and Repeat<br>Tourists' Perceptions of<br>Authentic Aruban<br>Restaurants: An<br>Importance-Performance<br>Competitor Analysis | 2019                  | Restaurant                 | B.DiPetro,<br>A.Levitt, Taylor,<br>& Nierop [18].   | This study determined key distances in<br>food service using the IPCA method.<br>The results of the study show that there<br>are differences in satisfaction between<br>first-time customers and customers who<br>have repeatedly come.                                   |  |  |

#### Table 3 – State of The Art

# 3. Research Method

# 3.1 Data Collection

This stage is a stage to identify problem of company, choose appropriate research method, collecting existing data of company (data sells product from 2016 - 2019), and determine list of alternatives for further research. To begin the research, interview for Cotton.Go and its customer was done to get e-commerce feedback from customers. The questions directed are open so that customers are freer in expressing answers or opinions. Later, each alternative will be compared in its performance based on electronic service quality attribute that already determined. To complete the information, designing questionnaire is needed which will then be processed and spread in to two steps namely analytical hierarchy process and importance performance competitor analysis. The questionnaire is not only aimed at

focal companies but also for the chosen competitor. With this questionnaire, importance and performance level from customer's experience can be conduct.

Table 4 Catter Ca Damardant Drafts

## **3.2 Data Processing Stage**

| Criteria   | Sub criteria                   | Percentage |
|------------|--------------------------------|------------|
| Gender     | Man                            | 66.7%      |
|            | Woman                          | 33.3%      |
| Occupation | Civil Servants/Private         | 15.8%      |
|            | Experts (Doctor, Lawyer, etc.) | 15.8%      |
|            | Entrepreneur                   | 10.5%      |
|            | Lecturer/Teacher               | 6.1%       |
|            | Student                        | 51.8%      |
| Age        | 18 - 23                        | 58.1%      |
| -          | 24 - 29                        | 33.33%     |
|            | 30 - 35                        | 8.6%       |

| Criteria   | Sub criteria                   | Percentage |
|------------|--------------------------------|------------|
| Gender     | Man                            | 69.1%      |
|            | Woman                          | 30.9%      |
| Occupation | Civil Servants/Private         | 10.5%      |
|            | Experts (Doctor, Lawyer, etc.) | 15.8%      |
|            | Entrepreneur                   | 15.8%      |
|            | Lecturer/Teacher               | 6.1%       |
|            | Student                        | 51.8%      |
| Age        | 18 – 23                        | 43.3%      |
| -          | 24 - 29                        | 46.7%      |
|            | 30 - 35                        | 10%        |

Analytical Hierarchy Process Method is used to calculate priority vector and give priority ranking to choose the competitor. Analytical hierarchy process's questionnaire is distributed by offline for 30 experts as targeted with age between 18 to 35 years old. The data is done by pairwise comparison and will be collected to choose competitor with the highest priority vector. The process produces consistency of each alternatives and will be accepted if its consistency ratio reaches 0,1 [18]. Table 4 and Table 5 shows respondent's profile that indicate Cotton.Go and its competitor has the same market criteria. These data is used for the next process which are choosing highest rank alternative company and choosing fitted attribute for the object. From these respondents, their perspective of company's e-commerce is conducted.

While in importance performance competitor analysis, the statements of each attributes in questionnaire will form an answer in likert scale from one to four that present "strongly agree" to "strongly disagree" or agreement and disagreement. The questionnaire was distributed by online to people that had experienced of using Cotton.Go's e-commerce and competitor's e-commerce. The results of the questionnaire will be stored directly in the questionnaire database and can be downloaded in a spreadsheet format. One respondent had to fill in two types of questionnaires given by researchers which are for focal company and competitor. The result from importance performance competitor analysis will later be calculated to find which Cotton.Go's attributes that need to be improve. The matrix to plot each attribute consist of GAP analysis and Performance Difference score. A negative GAP means Cotton.Go has higher importance (I) attribute level than its performance (P). This define that Cotton.Go has not been operate and market its products on e-commerce properly, proven by the performance level is weaker than the importance of these attributes. To the contrary, a positive GAP results mean Cotton.Go already perform beyond its importance level attributes.

#### Formula 1 GAP Calculation

$$\mathbf{GAP} = \mathbf{P} - \mathbf{I}.$$

(1)

The next component that required to form cartesian matrix is Performance Difference. It will compare Cotton.Go's performance with its chosen competitor. Positive difference proves Cotton.Go is well performed beyond the competitor. Otherwise, negative difference means that competitor has higher performance level of the attribute on e-commerce.

#### Formula 2 Performance Difference Calculation

#### **PD** = **Pfocal** – **Pcompetitor**.

(2)

The next process is leveling the attribute of e-commerce to see the GAP and Performance Difference of focal company and competitor's attribute. From that, it can be classified into cartesian diagram to see attributes that need to be improved compared to the competitor. Attributes that considered to have lower performance than competitor will then be further analyzed and reviewed recommendations for what needs to be done to improve its level of performance.

# 4. Result and Discussion

#### 4.1 Analytical Hierarchy Process Questionnaire Design

AHP process was carried out with an aim of determining Cotton.Go partner. The AHP assessment process carried out in this study is based on an e-servqual attribute. The AHP structure in this study is present in Figure 3.

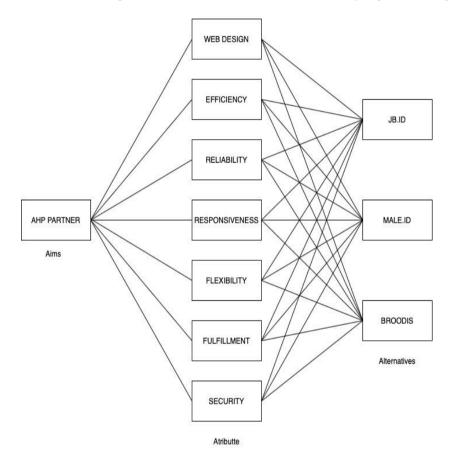


Fig. 3 – AHP Questionnaire Design

The purpose is to choose one of alternatives partner and the criteria will be electronic service quality attributes which are web design, efficiency, reliability, responsiveness, flexibility, fulfilment, and security. While the alternative competitor partners in this study are competitors that have good record on social media and e-commerce such as JB.ID, MALE.ID, and Broodis. The sampling theory used in this research is judgmental method sampling that determined by researcher. Judgmental methods make judgments about the importance of two elements. The 30 selected respondents are respondents who have ever transacted using Cotton.Go's e-commerce and competitors' e-commerce, which are JB.ID, MALE.ID, and Broodis. Respondents were asked to rate the level of comparison between electronic service quality attributes and the comparison between electronic service quality attributes used by competitors using a scale that shows how important an attribute is compared to other attributes. The scale used in this study is the fundamental scale from 1 to 9. The designed questionnaire is pairwise comparison. Comparisons are made using an absolute rating scale that represents, how much one element dominates another element [11].

| Criteria | Web design | Efficiency | Reliability | Responsiveness | Flexibility | Fulfilment | Security |  |
|----------|------------|------------|-------------|----------------|-------------|------------|----------|--|
| λmax     | 3.016      | 2.031      | 3.004       | 3.012          | 3.099       | 3.001      | 3.006    |  |
| CI       | 0.008      | 0.003      | 0.002       | 0.006          | 0.050       | 0.001      | 0.003    |  |
| RI       | 0.580      | 0.580      | 0.580       | 0.580          | 0.580       | 0.580      | 0.580    |  |
| CR       | 0.014      | 0.005      | 0.004       | 0.010          | 0.086       | 0.001      | 0.005    |  |

Table 6 – Dimensions' Consistency Ratio

Table 6 shows the consistency value that will be process for find whether the data is reliable. Table 6 is a table of the results of the alternative partner's electronic service quality's attributes such as web design, efficiency, reliability, responsiveness, flexibility, fulfillment, and security that has proved to be reliable because all of the consistency ratio value is less than 0.1 [18].

| Table 7 – Dimensions' Priority Vector |                 |       |       |         |         |  |  |  |
|---------------------------------------|-----------------|-------|-------|---------|---------|--|--|--|
| Criteria                              | Priority Vector | Rank  | JB.ID | MALE.ID | BROODIS |  |  |  |
| Web design                            | 0,056           | 7     | 0,493 | 0,275   | 0,232   |  |  |  |
| Efficiency                            | 0,121           | 5     | 0,401 | 0,338   | 0,261   |  |  |  |
| Reliability                           | 0,171           | 4     | 0,388 | 0,352   | 0,260   |  |  |  |
| Responsiveness                        | 0,189           | 2     | 0,444 | 0,365   | 0,191   |  |  |  |
| Flexibility                           | 0,181           | 3     | 0,550 | 0,322   | 0,127   |  |  |  |
| Fulfilment                            | 0,191           | 1     | 0,436 | 0,407   | 0,157   |  |  |  |
| Security                              | 0,092           | 6     | 0,334 | 0,352   | 0,315   |  |  |  |
|                                       |                 | Total | 0,440 | 0,354   | 0,207   |  |  |  |
|                                       |                 | Rank  | 1     | 2       | 3       |  |  |  |

Table 7 – Dimensions' Priority Vector

Table 7 is table of ranking partners which shows that JB.ID became the chosen competitor because it has highest number of scores compared to another alternative competitor. JB.ID surpass MALE.ID and Broodis with total 0,440 while MALE.ID is in the second place with score 0,354 and Broodis in the last place with total score 0,207. The chosen competitor will be process into the next questionnaire about importance and performance to find which focal company attribute is weak and strong compared. With that, focal company can be more focus to fix their e-commerce system service. After competitor is chosen, the next questionnaire needs to be conducted to see how the performance of focal company (Cotton.Go) compared with its competitor (JB.ID). The questionnaire is filled with respondents that already have use their e-commerce to buy products.

| Table 8 – | Significancy | Difference |
|-----------|--------------|------------|
|-----------|--------------|------------|

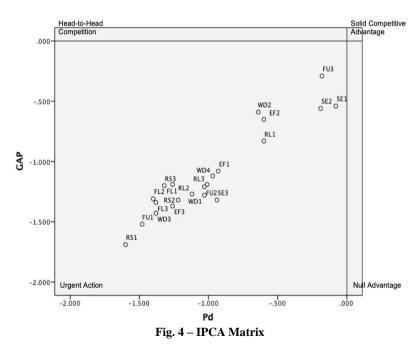
| Attribute          | Focal<br>Performance | Competitor<br>Performance | Sig  | Focal<br>Importance | Competitor<br>Importance | Sig  |
|--------------------|----------------------|---------------------------|------|---------------------|--------------------------|------|
| Web Design - 1     | 2.418                | 3.445                     | .002 | 3.700               | 3.373                    | .000 |
| Web Design - 2     | 2.835                | 3.473                     | .010 | 3.426               | 3.300                    | .000 |
| Web Design - 3     | 2.051                | 3.427                     | .000 | 3.477               | 3.318                    | .000 |
| Web Design - 4     | 2.440                | 3.409                     | .000 | 3.557               | 3.264                    | .000 |
| Efficiency - 1     | 2.576                | 3.509                     | .000 | 3.660               | 3.482                    | .000 |
| Efficiency - 2     | 2.911                | 3.509                     | .005 | 3.565               | 3.500                    | .001 |
| Efficiency - 3     | 2.239                | 3.500                     | .000 | 3.609               | 3.445                    | .000 |
| Reliability - 1    | 2.863                | 3.464                     | .000 | 3.696               | 3.564                    | .005 |
| Reliability - 2    | 2.333                | 3.455                     | .000 | 3.606               | 3.591                    | .000 |
| Reliability - 3    | 2.321                | 3.327                     | .012 | 3.513               | 3.473                    | .000 |
| Responsiveness - 1 | 1.816                | 3.418                     | .002 | 3.502               | 3.582                    | .000 |
| Responsiveness - 2 | 2.211                | 3.427                     | .000 | 3.529               | 3.582                    | .000 |
| Responsiveness - 3 | 2.171                | 3.491                     | .015 | 3.370               | 3.436                    | .000 |
| Flexibility - 1    | 2.090                | 3.345                     | .737 | 3.276               | 3.427                    | .000 |
| Flexibility - 2    | 2.087                | 3.445                     | .086 | 3.400               | 3.518                    | .000 |
| Flexibility - 3    | 2.005                | 3.382                     | .757 | 3.348               | 3.464                    | .000 |
| Fulfillment - 1    | 1.975                | 3.455                     | .069 | 3.496               | 3.527                    | .000 |
| Fulfillment - 2    | 2.432                | 3.464                     | .000 | 3.644               | 3.509                    | .000 |

|   | Fulfillment - 3 | 3.388 | 3.564 | .000 | 3.678 | 3.573 | .837 |
|---|-----------------|-------|-------|------|-------|-------|------|
|   | Security - 1    | 3.309 | 3.391 | .000 | 3.845 | 3.545 | .293 |
|   | Security - 2    | 3.255 | 3.445 | .000 | 3.818 | 3.527 | .159 |
| Γ | Security - 3    | 2.473 | 3.409 | .000 | 3.791 | 3.536 | .000 |

In Table 8, it can be seen that the independency of some data using Whitney-Mann test is significant which is below 0,05 [12]. There is some attribute that do not have significant difference of performance level in two company which are attribute Flexibility -1, Flexibility -2, Flexibility 3, and Fulfillment -1. The rest of attributes are indicating that it has a significant difference of performance between the two company.

| Attribute     | Performance<br>Focal | Performance<br>Competitor | GAP   | Importance<br>Focal | Importance<br>Competitor | PD    | IPCA Quadrant |
|---------------|----------------------|---------------------------|-------|---------------------|--------------------------|-------|---------------|
| WD - 1        | 2.418                | 3.45                      | -1.28 | 3.700               | 3.37                     | -1.03 | Urgent Action |
| WD - 2        | 2.835                | 3.47                      | -0.59 | 3.426               | 3.30                     | -0.64 | Urgent Action |
| WD - 3        | 2.051                | 3.43                      | -1.43 | 3.477               | 3.32                     | -1.38 | Urgent Action |
| WD - 4        | 2.440                | 3.41                      | -1.12 | 3.557               | 3.26                     | -0.97 | Urgent Action |
| EF - 1        | 2.576                | 3.51                      | -1.08 | 3.660               | 3.48                     | -0.93 | Urgent Action |
| EF - 2        | 2.911                | 3.51                      | -0.65 | 3.565               | 3.50                     | -0.60 | Urgent Action |
| EF - 3        | 2.239                | 3.50                      | -1.37 | 3.609               | 3.45                     | -1.26 | Urgent Action |
| RL - 1        | 2.863                | 3.46                      | -0.83 | 3.696               | 3.56                     | -0.60 | Urgent Action |
| RL - 2        | 2.333                | 3.45                      | -1.27 | 3.606               | 3.59                     | -1.12 | Urgent Action |
| RL - 3        | 2.321                | 3.33                      | -1.19 | 3.513               | 3.47                     | -1.01 | Urgent Action |
| RS - 1        | 1.816                | 3.42                      | -1.69 | 3.502               | 3.58                     | -1.60 | Urgent Action |
| RS - 2        | 2.211                | 3.43                      | -1.32 | 3.529               | 3.58                     | -1.22 | Urgent Action |
| <b>RS</b> - 3 | 2.171                | 3.49                      | -1.20 | 3.370               | 3.44                     | -1.32 | Urgent Action |
| FL - 1        | 2.090                | 3.35                      | -1.19 | 3.276               | 3.43                     | -1.26 | Urgent Action |
| FL - 2        | 2.087                | 3.49                      | -1.31 | 3.400               | 3.52                     | -1.40 | Urgent Action |
| FL - 3        | 2.005                | 3.38                      | -1.34 | 3.348               | 3.46                     | -1.38 | Urgent Action |
| FU - 1        | 1.975                | 3.45                      | -1.52 | 3.496               | 3.53                     | -1.48 | Urgent Action |
| FU - 2        | 2.432                | 3.46                      | -1.21 | 3.644               | 3.51                     | -1.03 | Urgent Action |
| FU - 3        | 3.388                | 3.56                      | -0.29 | 3.678               | 3.57                     | -0.18 | Urgent Action |
| SE - 1        | 3.309                | 3.39                      | -0.54 | 3.845               | 3.55                     | -0.08 | Urgent Action |
| SE - 2        | 3.255                | 3.45                      | -0.56 | 3.818               | 3.53                     | -0.19 | Urgent Action |
| SE - 3        | 2.473                | 3.41                      | -1.32 | 3.791               | 3.54                     | -0.94 | Urgent Action |

 Table 9 – Quadrant Calculation



The IPCA matrix is produce by calculating the difference of performance score between focal company and its competitor. After the data being calculated, matrix can be form with gap score as Y axis and performance difference score as X axis of matrix. Scattering of attribute in IPCA matrix uses zero point as central tendency (0.0) [13].

Figure 4 concluded that all of Cotton.Go's attributes are in urgent action quadrant which actually needing an immediate action to improve because the performance is way lower to competitor.

## 5. Conclusion

This research proves that Cotton.Go is not doing a maximum selling on its e-commerce. For fashion world in Indonesia especially in Bandung that being called as fashion city, Cotton.Go has become widely known. Cotton.Go entered the fashion market in 2015 and since then, they have continued to develop their business consistently. Cotton.Go is starting to market their products by utilizing social media and various sales platforms such as bazaar, and personal business e-commerce. Nowadays, e-commerce has been used by various of groups. With e-commerce, many people use it as a promotional media, sales tool, and to provide information related to an agency or institution. E-commerce has the power to allow transactions anytime and anywhere. To be able to compete in the digital era as today, business owners are required to be able to develop their marketing very well through an electronic basis so that they are not lose to their competitors. Competitor are chosen because they have similar products and same target market. Alternative competitors also determined that have same year. Analytical Hierarchy Process is used to choose the best alternative competitor to compete in Importance Performance Competitor Analysis. From electronic service quality literature, it is conducted seven main attribute which are web design, efficiency, reliability, responsiveness, flexibility, fulfillment, and security that considered to have strong factor in a good e-commerce. These seven attributes are described into 22 statement that later will be a tool to absorb customer perception. The 22 statement are the core for further research such as selection of competitor. From the calculation, JB.ID is chosen because it has the highest priority vector among all alternatives.

The level of importance and performance of Cotton.Go generate four attributes to be concentrate, two possible overkill attributes, ten that considered to be low priority, and six attributes that can maintain its performance because it is include in keep up the good work quadrant in importance performance analysis matrix. The importance and performance level of JB.ID produce four attributes that need to be concerned, three attributes that are possible overkill, five in low priority attributes, eight attributes that can keep up its performance, and two attributes in borderline of importance performance analysis matrix. After going through the process of calculating and determining the importance performance competitor analysis matrix, the results show that all attributes require an urgent improvement. Based on the results of the integration of electronic service quality with the importance performance from JB.ID. This indicates that all attributes are still considered not operating as well as competitors. The attributes that need to be upgraded include Web Design 1, Web Design 2, Web Design 3, Web Design 4, Efficiency 1, Efficiency 2, Efficiency 3, Reliability 1, Reliability 2, Reliability 3, Responsiveness 1, Responsiveness 2, Responsiveness 3, Flexibility 1, Flexibility 2, Flexibility 3, Fulfillment 1, Fulfillment 2, Fulfillment 3, Security 1, Security 2, and Security 3.

By doing this research, it will bring many benefits to the company. Cotton.Go will find out which areas in ecommerce that still lack in serving customer needs. By knowing the level of performance of competitors in the perception of consumers, making Cotton.Go has more direction to improve attributes that are considered more urgent. This research is also useful for reference with similar case, especially in fashion sector, considering the development of the industry is growing rapid and dynamically. However, there are also deficiencies in this study, which is its limited number of samples considering that the determination of attribute values depends on the respondent. In addition, different samples produce different results.

# Disclaimer

The authors whose names are written certify that they have no conflict of interest.

# References

- [1] X. Gu, F. Gao, M. Tan, and P. Peng, "Fashion Analysis and Understanding with Artificial Intelligence," *Information Processing and Management*, vol. 57, no. 5, Sep. 2020, doi: 10.1016/j.ipm.2020.102276.
- [2] E. Y. W. Chang, "Fashion Styling and Design Aesthetics in Spacesuit: An Evolution Review in 60 Years From 1960 to 2020," Acta Astronautica, vol. 178. Elsevier Ltd, pp. 117–128, Jan. 01, 2021, doi: 10.1016/j.actaastro.2020.08.035.
- [3] K. L. Choy et al., "A RFID-case-based sample management system for fashion product development," Engineering Applications of Artificial Intelligence, vol. 22, no. 6, pp. 882–896, Sep. 2009, doi: 10.1016/j.engappai.2008.10.011.
- [4] H. Hwangbo, Y. S. Kim, and K. J. Cha, "Recommendation system development for fashion retail ecommerce," *Electronic Commerce Research and Applications*, vol. 28, pp. 94–101, Mar. 2018, doi: 10.1016/j.elerap.2018.01.012.

- [5] Badan Pusat Statistik Indonesia, "BPS-Bekraf Lanjutkan Kerja Sama Penyusunan Data Statistik Ekonomi Kreatif," 2018. .
- [6] K. Larry, "What's a Good Conversion Rate?," *Wordstream*, Mar. 17, 2017. https://www.wordstream.com/blog/ws/2014/03/17/what-is-a-good-conversion-rate (accessed Sep. 17, 2020).
- [7] J. Wirtz, "Impact of Display of Anger @ the Service Encounter View project Winning in Service Markets-A Practitioner's Guide for Services Marketing & Management View project," 2011. [Online]. Available: https://www.researchgate.net/publication/263523474.
- [8] T. Febiara Putri, F. Nirmala Nugraha, D. Pratami, and L. Suwarsono, "IT Services Quality Measurement Using IT SERVQUAL at University X," *International Journal of Innovation in Enterprise System*, vol. 3, no. 01, pp. 15–23, 2019, doi: https://doi.org/10.25124/ijies.v3i01.29.
- [9] M. Theodosiou, E. Katsikea, S. Samiee, and K. Makri, "A Comparison of Formative Versus Reflective Approaches for the Measurement of Electronic Service Quality," *Journal of Interactive Marketing*, vol. 47, pp. 53–67, Aug. 2019, doi: 10.1016/j.intmar.2019.03.004.
- [10] H. Li and R. Suomi, "A proposed scale for measuring e-service quality Big Cities meet Big Data View project Big data Analytics and Opinion Mining View project A Proposed Scale for Measuring E-service Quality," 2009. [Online]. Available: https://www.researchgate.net/publication/31598134.
- [11] P. Rita, T. Oliveira, and A. Farisa, "The impact of e-service quality and customer satisfaction on customer behavior in online shopping," *Heliyon*, vol. 5, no. 10, Oct. 2019, doi: 10.1016/j.heliyon.2019.e02690.
- [12] R. W. Saaty, "THE ANALYTIC HIERARCHY PROCESS-WHAT IT IS AND HOW IT IS USED," United Kingdom, 1987.
- [13] T. Albayrak, "Importance Performance Competitor Analysis (IPCA): A study of hospitality companies," *International Journal of Hospitality Management*, vol. 48, pp. 135–142, Jul. 2015, doi: 10.1016/j.ijhm.2015.04.013.
- [14] J. A. Martilla and J. C. James, "Importance-Performance Analysis," 1977.
- [15] R. Nunkoo, V. Teeroovengadum, C. M. Ringle, and V. Sunnassee, "Service quality and customer satisfaction: The moderating effects of hotel star rating," *International Journal of Hospitality Management*, 2019, doi: 10.1016/j.ijhm.2019.102414.
- [16] C. Prentice and M. Kadan, "The role of airport service quality in airport and destination choice," *Journal of Retailing and Consumer Services*, vol. 47, pp. 40–48, Mar. 2019, doi: 10.1016/j.jretconser.2018.10.006.
- [17] T. Albayrak, M. Caber, M. Rosario González-Rodríguez, and A. Aksu, "Analysis of destination competitiveness by IPA and IPCA methods: The case of Costa Brava, Spain against Antalya, Turkey," *Tourism Management Perspectives*, vol. 28, pp. 53–61, Oct. 2018, doi: 10.1016/j.tmp.2018.07.005.
- [1] [18] R. B. DiPietro, J. A. Levitt, S. Taylor, and T. Nierop, "First-time and repeat tourists' perceptions of authentic Aruban restaurants: An importance-performance competitor analysis," *Journal of Destination Marketing and Management*, vol. 14, Dec. 2019, doi: 10.1016/j.jdmm.2019.100366.