Designing Consumer Intention Index

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ABSTRACT
This research is a preliminary study to develop a national Consumer Intention Index (CII) in the context of batik-art. As a preliminary study, this study was conducted on 346 people who purchased batik-art as samples in the cities of Yogyakarta and Solo. The result shows that the CII instrument produced was considered viable both in terms of validity and reliability. In addition, there were other variables used to test the nomological validity of the CII instrument. Those variables consist of Trust, Satisfaction and Perceived Value. Using SEM (Structural Equation Modeling), Intention has shown to possess good nomological validity. In relation to it, there are four instruments used to measure the variables. In addition to the conclusion, at the end of this research report several suggestions are given.

Keywords: Consumer Intention Index, Trust, Satisfaction, Perceived Value

1. INTRODUCTION
For most companies, consumer satisfaction possesses a direct impact on the company’s main source of income in the future [1]. In relation to this matter, several countries have developed what is referred to as national index of consumer satisfaction. The index is an important complement to traditional measures of economic performance, which produce information that is useful not only for companies, but also for stakeholders and investors, government regulators, and buyers [1]. The national index of consumer satisfaction was first developed in Sweden in 1989 [1] and then followed by other countries. The index is made in the form of a theoretical model that includes several related variables. Some indexes and variables used are presented in Table 1 below.

Table 1. Several National Consumer Satisfaction Indexes

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<tbody>
<tr>
<td>V1</td>
<td>Consumer loyalty</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>V2</td>
<td>Consumer satisfaction</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>V3</td>
<td>Consumer complaint</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>V4</td>
<td>Perceived quality</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>V5</td>
<td>Consumer expectation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>V6</td>
<td>Perceived value</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>V7</td>
<td>Image</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Mediator for V1 and V2</td>
<td>V3</td>
<td>V3</td>
<td>None</td>
<td>V7</td>
</tr>
</tbody>
</table>

There are at least four things that need to be evaluated in these models. First, the endogenous variable used in the models is consumer loyalty. However, in reality it is measured by the intention to repurchase, which is inconsistent. If it is measured by intention, then loyalty should be replaced with the intention to repurchase [4]. In essence, loyalty and consumer’s intention to repurchase are different [4]. Loyalty is the repeated buying behavior of a certain product from the past until now. Therefore, such behavior has happened, and is happening, and is often referred to as covert behaviour. Conversely, the intention to repurchase the same product is a plan that will be carried out in the future. This intention has not yet occurred and cannot be observed directly, and therefore it is often referred to as overt behaviour. Second, the link between consumer satisfaction and consumer loyalty should be mediated by other variables [5]; [6]; [7]; [8]; [9]. However, it is not the case with the model developed in Europe. The models developed in Sweden and the United States use consumer complaints as the variable mediating the relationship between consumer satisfaction and consumer loyalty. For the model developed in Malaysia, perceived image is the mediating variable between consumer satisfaction and consumer loyalty. However, many recent research findings in the field of consumer behavior show that the relationship between consumer satisfaction and consumer loyalty is mediated by consumer trust [10]. Third, as described above, the appropriate endogenous variable in the models is intention which is future-oriented. Such orientation, of course, is the orientation of each individual company. In addition, satisfaction is no longer the central topic in consumer behavior research. Related to that, the more appropriate title for above models is the National Consumer Intention Index or abbreviated as CII. Fourth, some variables in the model overlap, specifically satisfaction, complaints, expectations, and performance. From the disconfirmation perspective, satisfaction is the
difference between performance and expectations. Thus, performance and expectations are included within satisfaction by default. In addition, people who complain are a representation of satisfaction. Therefore, performance, expectations, and complaints should not be included in that model. This is in line with the principle of parsimony in science.

As far as it can be traced, no national index of intention or consumer satisfaction in Indonesia, including in the context of batik can be found, despite being a part of the creative industry based on sustainable development. Based on that and the four descriptions of the evaluation above, there is a need for the development of the National Consumer Intention Index. Therefore, the result of this study is expected to support the achievement of the strategic roadmap for tertiary research, specifically related to the creative industry based on sustainable development. This research was intended to develop an instrument to measure the Consumer Intention Index. Related to that, the validity and reliability of the instrument were tested at the levels of item statement and variables. The nomological validity was also tested using three other variables, which are trust, satisfaction, and perceived value.

2. THEORETICAL FOUNDATION AND HYPOTHESIS

Intention. According to [11], "Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior." People with high level of intention to perform a behavior have a strong motivation to realize that behavior. Thus, there is high probability that the behavior will be realized [12].

Trust. One definition of trust that is often cited is "... an expectancy held by an individual or group that the word, promise, verbal or written statement of another individual or group can be relied upon." [13] From this definition, it is known that trust includes two different parties, namely the trusting party and the trusted party. Trust can be related to words, promises, oral or written statements from the trusted party. Therefore, trust refers to an expectation of the realization of the words, promises, and statements in the future.

If the trusting party is confident about the reliability and integrity of the trusted party, then the trust of the trusting party increases [14]; [15]. In relation to expected results, [16] stated that expectation includes the actions of other parties that yield positive results, and without any negative results. [17] also stated that trust is the desire or willingness of one party to believe in the ability, integrity, and motivation of the other party to prioritize their needs and interests as per agreement, either explicitly or implicitly. Therefore, trust in this research is the hope of the trusting party that the trusted party has the ability, integrity, and motivation to realize their promises so as not to harm the trusting party.

Satisfaction. The purpose of buying and consuming a product is to fulfill their needs or desires. In another word, through the consumption of a product, consumers have certain expectations of the obtained result. If the expectation is not fulfilled, then the consumer will feel dissatisfied. Conversely, if the expectation is fulfilled or exceeded, then the consumer will feel satisfied. Therefore, satisfaction is the result of a comparison between expectations before buying and consuming a product, and the actual results. The concept of satisfaction and dissatisfaction refers to expectation disconfirmation model that has been consistently validated through empirical studies [18].

Perceived value. There are many definitions of perceived value [19]; [20]; [21]; [22]), however, the point is that values perceived by consumers are consumers' perceptions of price comparisons or sacrifices made to obtain the benefits of a product. In accordance with the word "perception" used on that variable, the value is subjective.

Perceived Value and Satisfaction. The relationship between perceived value and satisfaction is in line with the experience of confirming the value of a product. If the value the consumer perceives for a product is confirmed, the consumer will be satisfied with the product [23]; [24]; [25]. This is supported by the results of several empirical studies [23]; [26]; [27]; [28]. On that basis, a hypothesis can be formulated that perceived value is a positive predictor of consumer satisfaction.

Consumers are accustomed to assessing a product based on their perception. The assessment is based on their experience in using the same or similar products. If the value of the product is confirmed based on their experience, then they will feel happy or satisfied. On that basis, the first hypothesis (H1) can be formulated that perceived value is a positive predictor of consumer satisfaction.

Trust and Intention. Both TRA and TPB state that an individual's intention to do something begins with higher belief that the action is possible to be done [11]; [12]. Consumer confidence in the competence, reliability, and integrity of parties associated with a product will determine the consumer's intention to repurchase the product in the future [4]; [29]; [30].

Research on the relationship between trust and intention has been done by several researchers [4]; [31]; [32]; [33]; [34]; [35]; [36]; [37]. The results of these studies indicate that trust is a positive and significant predictor of consumer intention to repurchase the same product.

Consumer intention to be loyal to a product shows the intention to repurchase it in the future. That intention might be related to consumer confidence in the product. The higher the consumer's trust in the product, the higher the intention to purchase it in the future. Based on this framework, the second hypothesis (H2) can be formulated that trust is a positive predictor of intention.

Satisfaction and Trust. Satisfaction occurs after the consumption of a product. In relation to this, research by [38] and [39] showed that there is a relationship between consumer satisfaction and consumer trust.

Another form of experience gained by consumers in purchasing and consuming a product is their satisfaction with the product. Experience in the form of satisfaction will
be one of the considerations of consumers to trust the product in the future. Based on this framework, the third hypothesis (H₃) can be formulated that satisfaction is a positive predictor of trust.

**Satisfaction and Intention.** A positive experience in consuming a product can increase consumers’ intention to use the product in the future [40]; [41]; [42]; [43]. Related to this, several studies have found that satisfaction is a positive predictor of intention [44]; [45]; [46]; [47]; [48]. Consumer satisfaction with a product occurs after consuming it. The higher the customer satisfaction during the consumption, the more likely they will buy the product in the future. Based on this framework, the fourth hypothesis (H₄) can be formulated that satisfaction is a positive predictor of intention.

**Satisfaction, Trust, and Intention.** It has been explained above that satisfaction is the basis for the formation of trust in a product, and satisfaction also affects the intention to purchase a product. Meanwhile, it has also been explained that trust is a positive predictor of the intention to purchase a product. Thus, trust serves to mediate the relationship between satisfaction and the intention to purchase a product. Trust is a positive predictor of intention. In addition, satisfaction is a positive predictor of trust and intention. Based on this framework, the fifth hypothesis (H₅) can be formulated that the relationship between satisfaction and intention is mediated by trust. These five hypotheses will be tested simultaneously by using SEM (Structural Equation Model) with the structural model presented in Figure 1.

Research Subjects. The population of this research was all batik-art consumers in two cities, which were Yogyakarta and Solo. The planned sample size was 200 batik-art consumers in each of those cities. Therefore, the total sample of this study was 400 batik-art consumers. This refers to the minimum amount of subjects needed to use the Structural Equation Modeling (SEM) as analysis tool in this study, which is 200 (Boomsma, 1987 in [49]).

**Research Instruments.** All variables in this study were measured with a modified Likert-scale with 10 possible responses and the scores range from 1 to 10 [50]; [1]. The response options range from strongly disagree to strongly agree. Each variable is measured by 5-6 statement items.

**Reliability, Validity, and Data Analysis.** Before the validity and reliability of the measurement model were tested with SEM, the content validity of the instrument was analyzed first. The content validation was conducted by asking for opinions from experts relevant to the topic of the instrument, including: batik entrepreneurs and academics. Analysis of the validity and reliability as well as data analysis of this study was conducted with SEM by using LISREL. The results show that the overall measures above had been met as well as the reliability and validity of the measurement model. The hypotheses of this study were evaluated through the path coefficients generated for each hypothesis using a significance level of 5%.

### 3. RESEARCH METHOD

**Research Design.** This study was intended to explain the relationship among variables in the national consumer intention index. Therefore, this research adopted the descriptive research design. The approach used in descriptive research is cross-sectional. Data on consumer intentions was collected at certain times. This research is a survey method using a structured questionnaire to collect the data about each research variable.

**Table 2. Total Effect**

<table>
<thead>
<tr>
<th></th>
<th>KSI on ETA Val</th>
<th>ETA on ETA Int</th>
<th>ETA on ETA Tru</th>
<th>ETA on ETA Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int</td>
<td>0.47(8.24)</td>
<td>0.38(4.25)</td>
<td>0.54(8.65)</td>
<td></td>
</tr>
<tr>
<td>Tru</td>
<td>0.59(9.14)</td>
<td>-</td>
<td>-</td>
<td>0.68(9.71)</td>
</tr>
<tr>
<td>Sat</td>
<td>0.87(15.91)</td>
<td>-</td>
<td>-</td>
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</table>

**Fig. 1 National Consumer Intention Index**

**4. RESEARCH RESULT AND DISCUSSION**

The sample in this study was 346 respondents consisting of 187 women and 159 men. Regarding the marital status, 188 respondents were not-married, 147 were married, and the rest didn’t provide the answer. The average age of the subjects was 30.23 years-old ranging from 17 to 68 years-old, with the standard deviation of 12.3 years. As many as 19 respondents were Civil Servants or Employees of State-Owned Enterprises, 15 were members of The Indonesian Armed-Forces / Police Force, 83 were Entrepreneurs, 57 were Employees of Private-Owned Enterprises, 169 were others, and the rest didn’t provide the answer. Among 66.5% of the subjects rarely purchased batik, 27.5% often purchased batik, 3.2% very often purchased batik, while the remaining 2.8% didn’t provide the answer.

Statistics for the purpose of testing can be seen on Table 2, Table 3, and Table 4, as well as in Figure 2 and Figure 3.
The direct path coefficient from Val (perceived value) to Sat (satisfaction) is equal to 0.87 with the t-value of 15.91, which is greater than 1.96. This means that the path coefficient is positive, which empirically matched what was formulated in the first hypothesis (H1). In addition, the result of t-value has a smaller or equal probability of error to 0.05 which means that the path coefficient has been statistically tested. Thus, the first hypothesis in this study has been empirically and statistically tested. Confirmation of perceived value based on experience with a product occurs in the context of batik products. Therefore, such value can be the basis for formulating customer satisfaction. Thus, both theoretically and empirically, it has been tested that perceived values can be used to explain consumer satisfaction with a product [23]; [24]; [23]; [26].

The direct path coefficient from Tru (trust) to Int (intention) is equal to 0.38 with the t-value of 4.25. It indicates that the second hypothesis (H2) was empirically and statistically tested, because the coefficient is positive as hypothesized, and it has a probability of error that is smaller than or equal to 0.05. In line with TRA and TPB, consumer confidence regarding the purchase of batik is important in explaining the consumer’s intention to purchase batik in the future [11]; [12]. Empirically, the link between trust and intention has also been tested through several studies [4]; [29], including in the context of intention to purchase batik in this study.

The direct path coefficient from Sat (satisfaction) to Tru (trust) is equal to 0.68 with the t-value of 9.71. This means that the third hypothesis (H3) has been empirically tested, of which it can be seen from the positive coefficient as formulated in H3 while it has also been statistically tested, because the probability of error is less than or equal to 0.05. Satisfaction is an affection that appears after consuming a product. Theoretically, the more satisfied the consumers after purchasing and consuming a product are, the more they trust the purchase or the consumption of such product will be. Referring to the results of research conducted by [38] and [39], it has also been empirically tested in the context of batik in this study.

The direct path coefficient from Sat (satisfaction) to Int (intention) is equal to 0.29 with the t-value of 3.60. This indicates that the fourth hypothesis (H4) has been empirically and statistically tested. Empirically, the resulting path coefficient is positive as formulated in H4. Statistically, the t-value obtained is greater than 1.96 indicating that the probability of error is less than or equal to 0.05. Positive experience gained from the purchase and consumption of a product will make consumers feel satisfied. Positive experience tends to be repeated [40]; [41]; [44]. This applies in the context of batik buyers and consumers, as generated in this study.

The indirect path coefficient from Sat (satisfaction) to Int (intention) through Tru (trust) is equal to 0.26 with the t-value of 4.16. That means that these results are in accordance with those formulated in the fifth hypothesis (H5), having positive coefficient, and statistically has a probability of error that is less than or equal to 0.05. As explained in the H5 testing that the direct path coefficient from Sat to Int is equal to 0.29 with the t-value of 3.60. Thus, the total path coefficient from Sat to Int is equal to

<table>
<thead>
<tr>
<th>Table 3. Indirect Effect</th>
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<tbody>
<tr>
<td>KSI on ETA Val</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Int 0.47 (8.24)</td>
</tr>
<tr>
<td>Tru 0.59 (9.14)</td>
</tr>
<tr>
<td>Sat -</td>
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<table>
<thead>
<tr>
<th>Table 4. Direct Effect</th>
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<tr>
<td>ETA on ETA Int</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Int -</td>
</tr>
<tr>
<td>Tru -</td>
</tr>
<tr>
<td>Sat -</td>
</tr>
</tbody>
</table>

Fig. 2. Structural Equation Model: Standard Coefficient

Fig. 3. Structural Equation Model: t-value
0.54 (it should be equal to 0.55, the difference is due to rounding) with the t-value of 8.65. Thus, the indirect path coefficient (0.26) is less than the direct path coefficient (0.29) with a difference of 0.03, which can be considered less significant. Consumers feeling satisfied after consuming a product may not necessarily have a strong intention to consume the same product again. This may occur if they do not possess sufficient trust that they will gain, which more or less equals the consuming experience they have experienced. The result of this study empirically confirms such perspective.

Another statistical result generated is the coefficient of determination for each ETA, namely for Int of 0.37, for Tru of 0.46 and for Sat of 0.76. This indicates that the Int variability that can be explained based on the variability of Tru, Sat and Val, according to the SEM is equal to 37%. Tru variability which can be explained based on Sat and Val variability is equal to 46%. Sat variability that can be explained based on Val variability is equal to 76%.

**Consumer Intention Index.** CII was calculated through the following stages. First, the scores of the 5 statement items used to measure the Intention variable were added. Second, the result of the sum was divided by the number of subjects, which was 346 people, so that the average calculated value for each of the 5 statement items was obtained. Third, the calculated average values were added. Fourth, the sum total of the calculated mean values was divided by 5 statements which yields the calculated mean value of the Intention variable. Fifth, the average calculated value of the Intention variable was divided by the largest possible score for each statement item, which was 10. Sixth, the result in the fifth stage was multiplied by one hundred percent, which yields the CII value of 73.6%.

The smallest possible score for each statement was 1, and the largest possible score was 10. If the average value was calculated, then a score of 5.5 or (10 + 1) / 2 would be obtained. Thus, the resulting CII (7.36) was still above the supposed average value, which was 5.5. However, the CII was still under the largest possible score of 10, in which the difference was exactly 2.64 (= 10 - 7.36).

Assuming that the average calculated value was normally distributed, by dividing the difference of 2.64 with the standard deviation (1.57), then a standard score (Z) of 1.68 would be obtained. It means that the resulting CII was still positive, because 1.68 standard deviation was greater than the average calculated value or percentage of 95.35%. This means that there was still as much as 4.65% which had not been included based on the resulting CII.

Judging from a certain point of view, CII obtained is considered good, because 95.35% of the subjects have the intention to purchase batik again in the future. However, there is still the 4.65% which serves as a market opportunity for further analysis. Thus, the market niche is expected to be identified as a specific market. Such a market is an opportunity for batik producers and / or sellers to be utilized.

5. CONCLUSION

On this basis, using the average calculated-value approach, the resulting CII is equal to 95.35%. The CII obtained is considered good, because 95.35% of the subjects have the intention to purchase batik again in the future. The CII is generated by using the SEM approach, which of course includes both measurement model and structural model. There are four variables used, namely Intention, Trust, Satisfaction, and Perceived Value. In the context of measurement, the quality of the instrument to measure the four variables has been empirically tested. The quality includes convergent validity (statement items and variables) as well as discriminant validity of each variable. The reliability of statement items and their variables is also considered good.

In addition, the summary of the theoretical framework presented visually in Figure 1 is empirically confirmed in this study, namely in the context of batik purchase. It can be seen from the empirical test results and the discussion presented. Related to that matter, the five hypotheses developed in this study become the conclusions of this study, namely: Trust and Satisfaction can be used to explain the Intention to purchase batik; Perceived Value can be used to explain Satisfaction, Perceived Value can indirectly explain the Intention to purchase batik through Satisfaction; and Satisfaction can be used indirectly to explain the Intention to purchase batik through Trust variable.

6. SUGGESTION

This research was conducted only on batik consumers in two cities, namely Yogyakarta and Solo. Expansion to consumers in other cities can be used to test the external validity of the Consumer Intention Instrument to purchase batik. External validity can also be tested by applying the instruments produced in this study to other products. The products can be in the form of other traditional clothing, such as ulos (a shawl).

Nomological validity of Intention in this study can also be tested by adding other variables that can be used to explain CII. Another important variable included is the actual purchasing behavior of batik to be used as an antecedent variable as well as a CII consequence variable.

REFERENCES


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