e-ISSN: 2614-8404
p-ISSN:2776-3234

Usability Evaluation of the Yellow Cart Feature in the TikTok Shop Application Using the System Usability Scale (SUS)

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Abstract – TikTok Shop is a rapidly growing e-commerce platform in Indonesia, particularly through its Yellow Basket feature, which allows content creators to embed product links directly in videos. This feature has become essential within Indonesia's social commerce ecosystem. However, limited research specifically evaluates the usability of this feature from a general user perspective. This study aims to measure and evaluate the usability of TikTok Shop's Yellow Basket feature using the System Usability Scale (SUS) method. This method was selected because it is a widely validated and reliable instrument for assessing the perceived usability of interactive systems, providing a standardized measure that facilitates comparison across studies. Testing involved 50 active TikTok Shop users from various age groups, within four predefined age categories (17–21, 22–35, 36–45, and above 45 years). Data were collected through an online questionnaire consisting of 10 statements with a Likert scale and then analyzed using the standard SUS scoring formula. The evaluation yielded a mean SUS score of 71.30, categorized as "Good" according to the adjective rating scale. Dimension-level analysis identified efficiency and errors as the weakest dimensions, attributed to cognitive load induced by a concurrently active background video during catalog navigation. Thematic analysis of open-ended responses revealed three dominant concerns: pricing transparency issues, a rigid and inflexible user interface, and a perceived lack of practicality. Additionally, some of respondents reported usability difficulties suggesting an age-related usability gap not captured by the aggregate SUS score. Design recommendations are proposed to address the identified usability gaps and improve the overall user experience.
Keywords – Usability Testing, System Usability Scale, TikTok Shop, Yellow Basket, User Experience, Human Computer Interaction

I. INTRODUCTION

The rapid advancement of digital technology has fundamentally altered shopping behavior among Indonesian consumers. Social media platform have evolved by making features that provide business transactions [1]. These platforms make a new digital ecosystem, referred as social commerce. TikTok, one of the world's most widely used applications, has embraced this trend through TikTok Shop a feature that allows businesses to market their own product by seamlessly integrates short-form video content with real-time purchasing activity [2].

For their customers, TikTok Shops offers engaging and also interactive shopping experience [3]. One of feature from TikTok Shop ecosystem is the Yellow Cart feature, identifiable by a distinctive yellow shopping cart icon embedded within video and live streaming content. This feature allows users to add a product to their own cart directly while watching a short creative content without the need to search manually, thereby reducing customer journey and purchasing process [4]. Potential customer will find the transaction feels fun and this feature expected to be an easy feature and make it more convenient for customer [5].

TikTok Shop is one of the most known social media platform nowadays, much more in the younger generation [3]. Although is popularity, evaluating the usability of this feature becomes important to ensure user satisfaction and effectiveness. A good feature does not make people frustrated and tired while using the functionalities [6]. Usability is a measure of the quality of a user's experience interacting with a product or system, whether a website, software application, mobile technology, or other device. According to ISO 9241-11 in 1998, usability is defined as the extent to which a product can be used by a specific user to achieve a specific goal with effectiveness, efficiency, and satisfaction in a specific usage context [7][8]. Nevertheless, the success of an application feature cannot be assessed solely by adoption rate. It must also be evaluated in terms of how effectively, efficiently, and satisfactorily it is used dimensions collectively defined as usability within the field of Human Computer Interaction (HCI). Nielsen [9] identified five core components of usability: learnability, efficiency, memorability, errors, and satisfaction. Evaluating these dimensions provides actionable insights for user centered design improvement [8].

The usability of mobile-based e-commerce features is increasingly evaluated using the System Usability Scale (SUS), a 10-item standardized questionnaire developed by Brooke in 1996 [10], that measures users' perceived ease of use through a 5-point Likert scale. SUS has been widely validated as a reliable, efficient, and technology-agnostic instrument applicable across diverse digital systems, including mobile applications, websites, and social commerce platforms [11]. Its low administration cost and straightforward scoring formula make it particularly suited for evaluating feature-level usability in consumer-facing applications. Purwandani [2] confirmed this applicability by applying SUS directly to the TikTok Shop platform, obtaining a score of 79.49, and demonstrating that SUS can effectively capture usability perceptions in a social commerce context. Building on this precedent, the present study applies SUS at a more granular level, specifically targeting the Yellow Cart feature as a distinct micro-level interaction point.

e-ISSN: 2614-8404
p-ISSN:2776-3234

Several prior studies have employed the System Usability Scale (SUS) to evaluate social commerce and e-commerce platforms. Reynald and Harry [12] assessed the usability of the e-commerce checkout system using SUS and usability testing with total of 35 user as respondents, obtaining average SUS score of 69.57 ("Good") indicating there some issue with its usability. Purwadani [2] applied SUS to perceived usability in TikTok Shop platform with total of 49 respondents, yielding a mean score of 70,49. These studies said TikTok grade scale it is quite good but furthermore need room of improvement, that shown with one of the instruments said the application is quite complicated. Both studies establish a relevant empirical baseline for social commerce usability evaluation using SUS.

A review of existing literature reveals, however, that usability evaluations of TikTok Shop have predominantly been conducted at the macro or general application level. No prior study has specifically examined the micro-level interaction of the Yellow Cart feature in particular, the cognitive load experienced by users when navigating the product pop-up catalog while a short form video continues to play in the background. In this dual-attention scenario, users must simultaneously manage continuous audio-visual stimuli and process product details (color, size, price) within a half-screen catalog interface. This represents a distinctive and under-examined usability challenge in the social commerce context.

This study addresses this gap by evaluating the usability of the Yellow Cart feature using the SUS method with 50 general TikTok Shop users. The findings aim to provide an objective, data driven basis for targeted design improvements to the feature.

II. RESEARCH METHODOLOGY

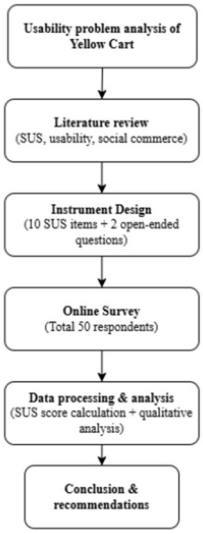

Figure 1. Flowchart Research Phase

The research initiated to analyze the perceived usability problems of the TikTok Yellow Basket feature, followed by a comprehensive literature review focusing on the System Usability Scale. In the third phase, the research instrument was designed, using the standard 10 item SUS questionnaire combine with 2 qualitative open-ended questions. Data collection was conducted through google form by gathering responses from total 50 active TikTok Shop users with the following requirement. The collected data then analyze by using quantitative SUS scoring and by using qualitative analysis for the open-ended question. Finally, the study concluded with the evaluation of the features usability level and the formulation of actionable improvement recommendations

This study adopted a quantitative descriptive approach using a survey method. The primary evaluation instrument was the System Usability Scale (SUS), developed by Brooke [10]. SUS is a technology-agnostic, 10-item questionnaire rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). It has been widely validated as a reliable and efficient tool for usability measurement across diverse systems and applications.

For odd-numbered items (Q1, Q3, Q5, Q7, Q9), the contribution score is the respondent's rating minus 1. For even numbered items (Q2, Q4, Q6, Q8, Q10), the contribution score is 5 minus the respondent's rating. All 10 contribution scores are summed and multiplied by 2.5, yielding a final SUS score between 0 and 100. Interpretation follows the adjective rating scale by Bangor [13], presented in Table 1 [14].

Table 1. SUS Score Interpretation

SUS Score Range	Adjective Rating
> 90.9	Best Imaginable
80.8 – 90.9	Excellent
68.0 – 80.3	Good
63	Ok
51.0 – 67.9	Poor
< 51.0	Awful

The population consisted of TikTok Shop active user and had used the Yellow Cart at least once. A sample of 50 respondents was selected through purposive sampling based on the following criteria: (1) Active TikTok Shop user age above 17 years old; (2) had at least once click or used Yellow Cart feature; and last (3) willing to complete questionnaire. Data were collected via google form questionnaire distributed with link. Then open questions were given as a complementary instrument to the SUS questionnaire. Question was given for all of respondents ages above 17 years old, so we can determine the usability for different ages.

The SUS questionnaire administered to all respondents consisted of the following 10 standardized items adapted to the context of the Yellow Cart feature:

Table 2. SUS Questionnaire Items

No	Statement
Q1	I think I will be using this Yellow Basket feature a lot to search for items.
Q2	I find the flow from clicking the cart to the checkout page complicated.
Q3	In my opinion, this Yellow Basket feature is very easy to use.
Q4	I think I need someone else's help or to watch a tutorial first to be able to shop smoothly using this feature.
Q5	I feel this feature performs its function very well (from clicking the icon to the product details appearing)
Q6	I feel the shopping flow in the Yellow Basket is inconsistent.

e-ISSN: 2614-8404
p-ISSN:2776-3234

Q7	I think other people will be able to learn to use this Yellow Basket feature very quickly.
Q8	I found the Yellow Basket feature confusing when I first tried it.
Q9	I feel very confident and have no obstacles when using this feature.
Q10	I feel like I have to get used to it or learn a lot of things first before I can shop smoothly using this feature.

Respondents also given an open-ended question, consist of 2 question that respondents could answer voluntary. (1) "What is the main problem or difficulty when using Yellow Cart feature?". (2) "What improvement would you suggest to make Yellow Cart easier or more convenient to use?". The inclusion of open-ended question and SUS instrument was intended to provide qualitative depth that explain why certain usability score lower.

The sample size of 50 respondents was determined based on established recommendations in the usability literature. Tullis and Stetson [15] demonstrated empirically that SUS achieves reliable conclusions in over 90% of cases with as few as 12–14 participants, establishing a clear minimum threshold. Lewis [16] further confirmed that SUS produces stable and consistent reliability estimates across varying sample sizes, making it one of the most robust usability instruments available. With 50 respondents, this study substantially exceeds the recommended minimum, ensuring that the SUS results are statistically stable and representative of the general Yellow Cart user population.

III. RESULTS AND DISCUSSION

From total of 50 respondents participated in this study. Majority were aged between 17-22 years old with a percentage of 70%. Followed by the age of 22-35 years old for 14%, people >45 for 10%, and last people ages around 36-45 years old for 6%. All of the respondents confirmed having click or used Yellow Cart feature at least once. This demographic profile is consistent with TikTok user base in Indonesia, affirming that the sample is representative of the general Yellow Cart user population.

With all the data gathered for SUS item across 50 respondents, together with the corresponding contribution scores computed using the standard SUS formula. The sum of all contribution scores and the resulting final SUS score are shown at the bottom of the table.

Table 3. SUS Result for Usability of Yellow Cart in TikTok Shop

Respondent	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	SUS Score
R1	3	3	4	3	3	3	4	3	4	3	82,5
R2	2	4	4	4	4	4	4	4	4	4	95
R3	3	4	4	4	3	2	2	3	4	4	82,5
R4	2	3	4	4	3	4	4	4	3	4	87,5
R5	3	2	3	2	3	1	3	3	3	3	65
R6	2	3	3	3	3	2	3	3	3	3	70
R7	2	1	4	1	2	3	0	3	2	1	47,5
R8	0	0	0	0	2	0	2	0	2	1	17,5
R9	4	4	4	4	4	4	4	4	4	4	100
…	…	…	…	…	…	…	…	…	…	…	…
R50	3	3	3	4	3	2	3	3	3	3	75
Total Average											**71,3**

With all the response from 50 participant, the mean SUS score of 71,3 falls within the "Good" category (68,0-80,7) and still in the "Acceptable" range according to Bangor [13]. This is means that the Yellow Cart feature in TikTok Shop actually meets the baseline threshold of usability and it generally functional for the majority of users. However, the score also signal that the feature has not reach the optimum yet. That mean there is a possible area for improvement.

The SUS Score of 71,3 obtained in this study is closely comparable to existing findings in the social commerce usability literature. Purwadani [2] reported a score of 79,49 for the TikTok Shop application. Notably, however, the present study differs from both prior works in its level of analysis. Rather than evaluating an entire application, this study isolates a single, high-traffic feature and its specific micro-level interaction context. In other side, qualitative responses further revealed two categories of concern: interface design limitations and pricing transparency issues. The latter, while not directly measured by SUS, significantly impacts the satisfaction dimension, as discrepancies between advertised and actual prices erode user trust and increase perceived risk of purchase.

The most frequently reported theme was pricing transparency. Respondent describe discrepancies between displayed price and the actual price appearing in catalog pop-up. Further design recommendation a dynamic price synchronization mechanism should be implemented to ensure consistency between the price displayed in the product catalog and the final checkout price. By using real time database with the merchant pricing database, it can minimize discrepancies and also increase user trust. Also, the second theme reported that the user interface was rigid and inflexible. Several noted difficult to scrolling through product felt difficult and make some of the prefer to use another application. In addition, several participants found the interface visually cluttered, with excessive information increasing cognitive load, particularly for older or less digitally experienced users. Based on these findings, TikTok could further optimize the existing interface by improving navigation fluidity and simplifying information presentation. A clearer visual hierarchy and a less cluttered product display may reduce cognitive load and make the Yellow Basket feature more intuitive for users with diverse levels of digital experience

IV. CONCLUSION

This study evaluated the usability of the Yellow Cart feature in TikTok and TikTok Shop using the System Usability Scale (SUS). With the data from 50 general TikTok and TikTok Shop users as a respondent, the evaluation produced a mean SUS score of 71,3 placing the feature in the "Good" category within the "Acceptable" range. This result indicates that the feature in Yellow Cart is completely functional and satisfactory for general users, while simultaneously identifying concrete area for improvement.

Dimension-level analysis identified *errors* and *efficiency* as the two usability dimensions most in need of attention. These weaknesses are closely tied to the dual-attention cognitive load generated when users must

e-ISSN: 2614-8404
p-ISSN:2776-3234

navigate the product catalog while the background video remains active a micro-level usability challenge that distinguishes this study from prior macro-level evaluations of TikTok Shop. *Satisfaction* and *learnability* were identified as the strongest dimensions, affirming the feature's core intuitiveness for its target demographic.

Beyond the quantitative SUS findings, qualitative responses highlighted two additional concerns with implications for the feature's broader usability. First, several respondents reported difficulties related to the user interface design of the catalog pop-up, citing cluttered layout and inconsistent visual elements as sources of confusion Future studies are therefore recommended to conduct age-stratified usability analyses to determine whether the Yellow Cart feature meets inclusive design standards across a broader demographic spectrum. Experimental evaluations of interface simplification strategies could further identify design improvements that enhance navigation and overall user experience. Furthermore, future work should focus on developing a high-fidelity UI/UX prototype based on the recommendations proposed in this study.

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e-ISSN: 2614-8404
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