

Why They Use Wattpad: An Emotional Design Analysis on the Free Online Reading Platform

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ABSTRACT

Since its launch, Wattpad has positioned itself as a storytelling platform that allows readers and authors to join in a community that caters creative dialogues using storytelling as its foundation. The popularity of this platform has gained attention from Indonesian users. By the year 2020, Indonesia is listed as the 4th country with the number of Wattpad users, and the number keeps going up. An emotional design evaluation was conducted to understand why Indonesian users download the app and stay loyal to the platform. In order to sharpen the critical aspect of emotional design level, a practical usability approach is used to segmentize the element of Wattpad as a whole platform, then each of the usability function evaluate using Mobile Application Rating Scale that translates in a 5-point Likert type scale to get a quantitative data. Based on the result, it is concluded that Wattpad excels in its visceral design level, followed by the app's reflective design level. The behavioral level which connects a lot with usability given the lowest score among the level of emotional design; however, increasing their functionality that eliminates error during usage will impact the overall satisfaction on the app in future development.

Keywords: *Emotional Design, Usability, Wattpad*

1. INTRODUCTION

In 2008, a free online reading platform was introduced under the name of Wattpad, and it is positioning itself as a new storytelling platform for readers who want deeper interaction [1]. It is a platform that provides a space where readers and writers meet and then share and collaborate on stories. Though the main idea was to be an online-reading platform, Wattpad differs itself from solely being a reading and writing place; it offers a space for this writer-reader to become a community and invite them to engage in a web-based social activity. Just like most social media, Wattpad does not only offer a place to upload and read stories. It also has a profile page where its users can chat with each other, add friends among users, follow their favorite writers and receive notification each time these writers update their page, share their recent reads, comment on the stories, vote to their favorite stories. Just like any social media that allows their community to engage in

social activity, Wattpad does all that by building its foundation upon the same interest of storytelling.

"Social reading" encompasses a wide variety of practices mainly related to the activity of reading and using social media to discuss and elaborate on the reading experience [2]. Wattpad is considered to be a community where readers and writers engage in creative dialogues [3]. Authors upload their work and share their storytelling for free, and in exchange, the readers pay the authors' hard work by voting and commenting; giving a sense of reciprocal relationship. The dialogue starts as the authors upload their stories chapter by chapter. In each chapter, the readers are allowed to vote and comment on each word they want; this gives the authors insight into their story's engagement.

Unlike the published book where readers mostly become the passive individual who enjoys the story as it is, in this platform they can share their thoughts of the chapter they read, they can question the authors on such

events written, and they can even share their hope for the future development of the stories. Along the way, the readers and authors are having this dialogue, they share insights, and in the end, they gather in this collaborative work that represents their shared interest in the story written.

The interaction does not stop there. During the reading process, if the readers find the author's words is quote-able, they can transform it into a photo-quote; it is a unique feature provided by the platform. Using this feature, the reader can highlight the quote-able sentence, arrange it visually as they pleased, and share that photo-quote to their other social media. This practice leads to more recognition for the authors and raises their read-count; then, they made their stories well-recognized not only in Wattpad but also in another social media.

Advanced in technology has brought significant behavioral change towards society in all over the world, including Indonesia. Social media platforms such as Facebook, Instagram, Youtube, etc, is very significant among Indonesian users. Based on social media interview conducted in January 2019 [4], Indonesia has 150 million active social media users, and Indonesia has contributed as one of the primary statistics that access Wattpad. Since the platform was made to accommodate 26 different languages, and one of it is Bahasa Indonesia, Wattpad delivers Indonesian need to write and read stories comfortably in their own language. By February 2020, Wattpad was the 49th most used application under the category Books and Literature in this country. This provides 8.1% audience to Wattpad statistic worldwide [5], the 4th biggest number of users.

To understand why this platform holds a success story in Indonesia, A research question was proposed; why Wattpad is popular in Indonesian online readers? This research will dig into it through the lenses of emotional design [6], that cross-reference with some basic usability principles [7], and evaluate the elements using Mobile Application Rating System (MARS) [8]. Hopefully, by the end of the research, a wholesome understanding from the emotional aspects that draw Indonesian readers to this platform is reached.

2. EMOTIONAL DESIGN AND USABILITY IN USER EXPERIENCE

During the daily interaction with things around us, human tends to have sentimental attachment. Beyond the design of an object, some components do not correlate only with its function or its beauty [6]. One expensive object does not guarantee to be more precious than a mere ragged doll to someone once it holds a sentimental meaning. What makes an object precious in its beholder's eyes relates to its emotional value, a memory attached to it, symbolic meaning that holds personal attachment, a sense of expression delivered through the object. These

objects hold story, remembrance, and something that ties us to them—something emotional.

According to Don Norman, people have three levels of emotional connections with things, something he called emotional design. The three dimensions of emotional design are visceral, behavioural, and reflective. All things created by design will have all three, and these components interweave our emotion and cognition [6]. These dimensions have made it possible for people to love an object even though it has broken; sometimes, a design-things can look be ugly but somehow desirable, or it can be beautiful but useless. It does not hold the principle of utility and usability as long as the person who uses it has that emotional attachment to the object.

2.1. Visceral Level of Emotional Design

The visceral level is the first encounter our impulses get as we interact with an object. It gives rapid judgment whether a thing is good or bad, and it locks into the attractiveness of an object towards the looker's sense. We often find ourselves seeing something and immediately think 'it is pretty, I want it.' within seconds of encounter with an object. That judgment came from the visceral level [6].

According to Norman, the principles underlying the visceral design are wired in, consistent across people and cultures. There is a global rule of what considered attractive, as Norman declared in his book, "*Because visceral design is about initial reaction, it can be studied simply by putting people in front of the design and waiting for reaction.*" [6], At the visceral level, physical feature dominates, which gives a hint that as long as designers follow the rules of what is considered unanimously attractive, their design can be perceived as beautiful.

Aesthetics play an essential role in the way a design is used. Aesthetic designs are more effective at fostering positive attitudes than non-aesthetic designs, and make people more tolerant of design problems [9]. However, being attractive is not enough to keep the users engaging with the interface. It needs certain usability principles to be added to reach its full potential, and here comes the rule of practical usability. According to Krug in his book 'Don't Make Me Think', there are some common-sense approach to evaluate how usability is applied in a design [7]. To meet its usability value, a design should be useful, learnable, memorable, effective, efficient, desirable, and delightful.

Although usability mostly defines as a product's ability to guide a specific user in a specific context to use a specific product in order to achieve a defined goal effectively, efficiently, and satisfactorily [10], there is one aspect in Krug's usability theory that intersects with Norman's idea of visceral level of emotional design.

Usability means the design needs to be desirable. Krug defines a design being desirable if people look at it and want it. Therefore, in order to measure its attractiveness on visual level, the basic usability principle of the visual appeal of design will be its starting point.

2.2. Behavioural Level of Emotional Design

After we encounter an object through the visceral level, we continue on the deeper dimension that is behavioural. The behavioural design states that function comes first and foremost. It is all about use. If a visually pleasing object passes the test on the visceral level, the object can fail on this behavioural level if its function does not meet the expectation. According to Norman, what matters at this level are four components that are function, understandability, usability, and physical feel; the keyword that need to be highlighted in this level is usability.

Usability is a big part of user experience, and user experience defines as the experience the product creates for the people who use it in the real world. In the surface level, users see how a button looks and how it can be pressed; usability in user experience makes sure that the button gives feedback once it is pressed [11]. Usability defines how well a specific user in a specific content can use a product to achieve a defined goal. To understand how usability perceived, Steve Krug explained his common-sense approach to define practical usability in website and application design. Here are some elements that must meet the user's expectations:

(1) Useful

The product should do something that people expected it to do. If a design element looks like a button, it should be press-able and lead user to the next task.

(2) Learnable

Being easy to learn means it displays the information people need. It gives guidance even when the user ignores the manual. It does not make the user feel idiotic as they are interfacing with the product, and it provides chances to recover from error.

(3) Memorable

A memorable product will ensure that their users do not have to relearn the steps they already mastered every time they interact with it. It weighs in the ability to deliver understanding to users. With good understanding, user will remember and avoid error in the next try once the operation is explained.

(4) Effective

Effective use means using a system in a way that increases the achievement of the goal from using the product [12]. There are three dimensions of effective use: transparent interaction, faithful representation, and

informed action. Ensuring to have all three reduce the user's negative emotion when they interact with a product/system.

(5) Efficient

Being efficient means that the design requires a reasonable amount of time and effort to be operated.

(6) Desirable

It needs to be physically pleasing in the eye, so people want it. Desirability is the first and rapid encounter the user will have with the product. It is crucial to make a product with visual appeal to make people like it and desire to interact further in the experience [13].

(7) Delightful

It is the highest usability level when users find enduring and lasting pleasure in the product [13]. It is a positive emotional output that a user may have when interacting with a device or interface [14].

Reflecting on the usability principle proposed by Krug, it is clear that putting user perspective as the basis of designing experience is key-success. The good behavioural design should be human-centred, it has to understand what their user wants, what they need, and how to deliver a satisfactory result with minimum effort and time.

2.3. Reflective Level of Emotional Design

After encountering the two levels of emotional design, a successful product will enter the reflective level. Reflective emotional design is about the meaning of things, the personal remembrances something evokes [6], the share-ability of the experience, and the cultural impact [13]. One product can look annoying to some, but it can be nostalgic to the others on the reflective level. In this level of experience, how one individual perceives something is important. It determines a person's overall impression of a product [6]. We get a reflective reaction after we have been immersed in the experience [13]. Once the user gets that positive emotional output during their interaction with a product, the last element of practical usability—delightful—is achieved. Their whole experience becomes something worth savouring that stays in their memory.

A product that touches users in their reflective emotional level has more chance to be used for a long time and can have a powerful nostalgic effect. Because once the reflective level is achieved, a product not only gained loyalty from the users, it can encourage user to share their treasured experience with others [14], and they also evoke a sense of pride and identity to the users that are using their product [13].

3. METHODS

3.1. Preparation

A descriptive research method by conducting survey where the respondents answer through two kinds of questionnaires was used to gather two kinds of understanding. The first questionnaire given to the participants contains questions regarding demographics, the time spent on the platform, primary impression, their personalized interface preference, and their opinion about the platform. From the first questionnaire, the respondents were also given a chance to write what they love and hate about Wattpad. From this, an understanding of their knowledge and fluency of the app is gathered and described.

The second questionnaire were written based on the questions listed in the Mobile Application Rating Scale. Originally, five broad categories of criteria were identified, including four objective quality scales: engagement, functionality, aesthetics, and information quality. Also, one subjective quality scale was added before these scales refined into the 23-item MARS [8]. Out of four objective qualities, the information quality part was dismissed because it lacks correlation to this research's purpose. The rest of the scales that remain were explicitly picked to highlight the seven usability lenses mentioned in the previous chapter. Each respondent that voluntarily participate in the questionnaires was familiar with Wattpad platform, as 100% of them have been using the platform for at least one year; thus, they were eligible to answer all the questions related to the platform.

The methods will define the three levels of emotional design by Donald Norman by intersecting it with the basic usability approach by Steve Krug. The seven points of Krug's usability principles are divided into three bigger emotional design level before it is measured using a standardized measurement by Stoyanov et al. called Mobile Application Rating Scale (MARS) that were based on the 5-point Likert type scale.

On the visceral level, the desirability of Wattpad as a platform will be measured using the aesthetic scale on the MARS questionnaire. The respondents gave their scores regarding Wattpad's layout, graphic, and visual appeal.

On the behavior level, its usability was evaluated from five lenses of Krug's usability: useful, learnable, memorable, effective, efficient. Using the MARS 5-point Likert type scale questionnaire, the respondent will answer questions about Wattpad value of being entertaining, interesting, how it meets the target audience, customizable, interactivity, performance, easy-to-use, easy-to-navigate, and consistency of the gestural design within the apps.

On the reflective level, the delight is determined by measuring the App subjective quality using the MARS 5-

point Likert type scale questionnaire to understand how this product affect their willingness to share this app to other users that might benefit from it, and the star-rating scale they would give to the whole Wattpad experience.

To gain complete understanding and explain why such score is given to each MARS scale, the answer regarding user experience gathered from the first questionnaire is reviewed accordingly.

3.2. Participants

To conduct the survey, voluntary sampling to recruit participants who are frequently exposed to Wattpad and consider the platform as one of the go-to site to read were employed. The data collecting time were done between 15 February to 28 February 2020. There were 118 respondents participated (N=118).

The final demographic consists of 100% female regular Wattpad users who have been using the platform for at least 2 years. 81.4% of the respondents were between 21 – 30 years old, 8.4% were between 31-40 years old, and 10.2% were under 20 years old. Among these respondents, 65.3% (77 out of 118) declared that they access Wattpad on a daily basis. As to the platform's choice, 86.4 % (102 out of 118) respondents were using the apps while accessing the Wattpad platform, whilst 13.6% (16 out of 118) used PC and apps to access the site.

3.3. Data Collection

The data collected during the survey mainly focused on some emotional design aspects experienced by frequent users. By cross-referencing the main idea of emotional design and usability, helped by a standardized MARS measurement, the questions divided to sections in order to correspond with three basic emotional design states.

Norman	Krug	Stoyanov et al.
Reflective	Delightful	Apps Subjective quality
Behavioral	Useful Learnable Memorable Effective Efficient	Engagement Functionality
Visceral	Desirable	Aesthetic

Figure 1. Method Analysis Based on the Emotional Design Theory [6], intersects with Practical Usability Value [7], and Measured Using Mobile App Rating Scale [8].

3.3.1. Visceral

The visceral level of emotional design is retrieved by measuring the visible aspect that attracts users when they interact with the platform. In this research, the aesthetic value of Wattpad was questioned by allowing the participant to give their score on a 5-point Likert type scale regarding these three following matters. First, about the layout. Does the arrangement, the size, the visibility, and comprehensibility of the button/icons/menus/content on the screen appropriate and clear to use. The next thing questioned in this level is the graphic. How high the quality, resolution, and the visual consistency of graphics used for buttons/icons/menus/content according to the users. Lastly, the question covered the visual appeal of the platform. Does the app looks good, is the design stand out, is it memorable, and whether it is professionally designed.

3.3.2. Behavioural

The behavioural level of emotional design relates to how fluent the users with the platform itself. It is no longer about what meets the eyes, but also about how the users feel involved as they interact. Using Krug's usability approach, behavioural level meets with the product being useful, learnable, memorable, effective, and efficient. Therefore, the MARS categories used to measure are from its engagement and functionality.

Respondents were given questions regarding their engagement with Wattpad as a platform. In the engagement segment, they're asked about How entertaining the app, how interesting, does the app provided complete tailoring for the user to customize their account, how the interactivity feedback regarding the interface, and whether it meets its target group stated on the Appstore/Googleplay Store—17 years old and above. The next segment that need to be answered is the app's functionality. To measure this, participants were asked to give their score on a 5-scale Likert type scale about its performance of being responsive, easy-to-use, intuitive, its logical navigation that gives logical flow in between the pages, and consistency of gestural design used within the apps.

3.3.3. Reflective

Level of reflective emotional design is personal to every single user. The 118 respondents were given a chance to give scores about their subjective perception of the app to retrieve this data. By utilizing MARS subjective quality questionnaire, the respondents were asked about their willingness to pay money to use the app to its fullest potential, their satisfactory level using star-rating system, and whether they are willing to share their experience by recommending it to other people that might benefit from Wattpad.

4. RESULT

Using the methods mentioned in the previous chapter, the result gathered from the participants regarding Wattpad's usability and its correlation to three levels of emotional design using the 5-point Likert type scale on the Mobile Application Rating Scale was displayed on Table 1.

Table 1. The MARS Score of Wattpad and Its Correlation to Emotional Design and Practical Usability

Emotional Design Dimension [6]	Practical Usability Principles [7]	MARS Classification [8]	Score
Visceral	Desirable	Aesthetic	4.22
Behavioral	Useful	Engagement	3.84
	Learnable		
	Memorable	Functionality	3.62
	Effective		
Efficient			
Reflective	Delightful	Apps Subjective quality	3.95

The visceral level of Wattpad app scored the highest among other levels of emotional design dimension. It means the user thinks the platform's physical appearance has met their needs and its usability spectrum of being desirable met.

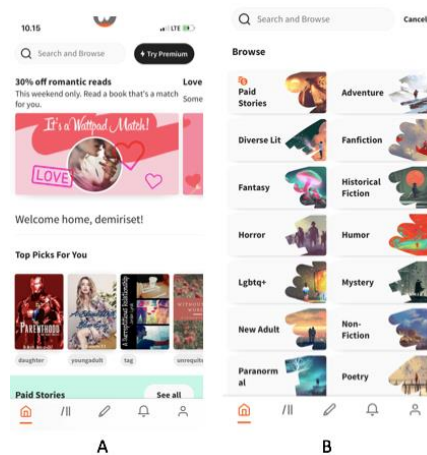


Figure 2. Wattpad Interface: (A) The Display of Wattpad Landing Page, (B) The Display of Wattpad Search Page

On the first questionnaire, when asked the main reason they use this platform, 61% (72 out of 118) declared that their love of reading led them to the app that offers a free reading platform. Out of these respondents, only 28.8 % (31 out of 118) had difficulty understanding the function of each button and icons in the platform during their encounter with the app, and 7.6 % (9 out of 118) stated that the icons and button were unclear. It means Wattpad has delivered their visual appearance well to be appreciated by most users.

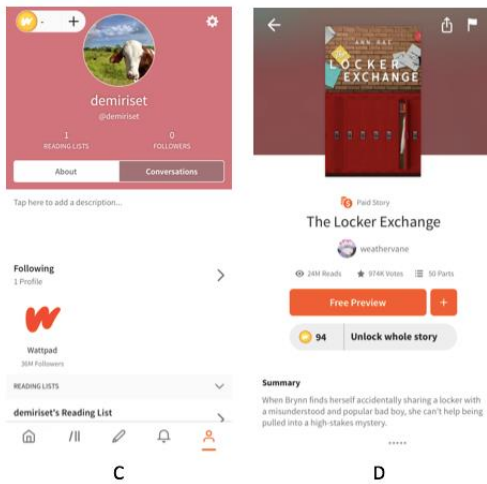


Figure 3. Wattpad Interface: (C) The Display of Wattpad Profile Page, (D) The Display of Wattpad Reading Page

The lowest score shown on the table above came from the behavioral aspect. When the usability is measured, some problems that occurred to the users during their interaction arise.

In terms of engagement, the average score regarding Wattpad being entertaining and interesting is above 4.0 on a 5-Likert type scale. On a different questionnaire, 97.4 % (115 out of 118) claimed that Wattpad made them feel entertained. Another point this platform raises above the other is the variety of customization it offers. In the platform, the reader can personalize their home page, made their personal reading list, adjust the color of the page that most comfortable for their eyes, adjust the kind and the size of the font they like to use as they read their favorite stories; this customization scored highest in the engagement specification. 95.8% (113 out of 118) feel comfortable reading in this platform because it offers various personalization options.

This personalization includes Wattpad feature that allows user to change their background or font, their ability to quote their favorite part of the story and quote it in 'photo-quote' feature to share in their other social media, and also their flexibility to voice out their comment on every single sentence they like.

Moreover, when asked about the knowledge of these customization features, 79.4 % (94 out of 118) claimed to know that Wattpad allows them to customize their font to fit their comfort, and 84.7% (100 out of 118) also claimed that they know the background color of their apps can be adjusted to enhance their most comfortable reading experience. It fits the behavioral level of the engagement spectrum, where it scored the highest on the customization.

Unfortunately, Wattpad’s interactivity and target group has affect the overall engagement score. According to the respondents, Wattpad interactivity that defined as its ability to give feedback as user gives input (scored 3.35), and its target group (scored 3.28) has not met their expectation. In a different questionnaire, 70.3% (83 out of 118) users stated their frustration on the constant error while interacting with Wattpad. The error they encountered varies. Sometimes they do not receive notification even though they have followed the author. Sometimes they cannot vote the story. Sometimes, they were writing long comments on the page, then the page reloads itself, taking their unfinished comment away. Sometimes some part of the letters on the story looks gibberish, and so on.

Regarding the target group, Wattpad also received low score in this assessment. When asked further in the other questionnaire, 74.6% (88 out of 118) stated that although the creator of Wattpad targeted the app to be used by 17 years old and above, they have frequent encounter with underage readers—and they met these underage readers in the adult stories section. This lack of restriction regarding age has made them uncomfortable and feel like Wattpad has not met its target group.

In terms of functionality, the score got even lower. The aspects measured were performance, easy-to-use, navigation, and gestural design consistency. The highest score from the spectrum is the easiness to use. An average score of 3.9 on 5-point Likert type scale showed that its learnability is comprehensible. It is approved by the different questionnaire when the users were asked how easy it was for them to use Wattpad as a platform, 93.2 % (110 out of 118) agreed that the platform itself is easy to use daily basis. What scored the lowest among all functionality is its performance; this relates to the difficulties users encounter when they use the menu and the app does not respond to their input correctly.

Last to evaluate from this research is the reflective level of emotional design. The satisfaction, user’s willingness to pay for money to use the app, and whether they want to share their experience with the app placed on an average of 3.95, which is higher than its behavioural level score. However, when asked about their willingness to pay, the average score given was only 1.42 out of a 5-scale Likert. The other questionnaire is used to understand users' perspective in their daily interaction with the app to explain this odd finding.

Like any other social platform, Wattpad relied on advertising to keep itself running as a company. They offered a premium account for users who are willing to pay more to avoid advertisement. It turned out, the advertisement was considered bearable to most readers, so the platform up their game to gain income from its users. In 2017, Wattpad launched a new concept of 'paid stories'. The platform developer cooperates with popular writers in the community and then offered them a chance to have their stories upgraded to be a paid story—forcing anyone interested to read to pay the amount of coins to unlock the story. When asked about the knowledge of this new feature, 100% of the respondents claimed that they all know about Wattpad coins and its function to unlock a paid-story, yet only 1.7% (2 out of 118) declared that they are willing to purchase Wattpad coins in order to read the paid stories.

Despite the low score on the willingness to pay, Wattpad gained a high score in subjective rating. Seeing how they failed at the behavioural level but managed to raised again on the reflective level, further research was done. The participants questioned what they love and hate about this platform to look deeper into the things that tie these users to the platform despite what they think as a lack of efficiency. In the downside, 74.6% (88 out of 118) voiced out their annoyance for its advertisement, while the rest varied between its frequent error, its new paid-story concept, and their encounter with the lag between the input and the action from the app.

Despite their annoyance, these users also declared that they love the app for what it is—the place where readers and writers can meet; as stated in the description in the Appstore and Googleplay Store. 92.4% (109 out of 118) users stated that they love using this platform because they can have social interaction with the author whose story they follow and among readers that share the same interest. These users stated that one reason they stay on the apps is that Wattpad accommodates their needs not just to read but also to be a part of the community that collaborates using storytelling as the catalyst. Therefore, the chance of increasing Wattpad reflective level of emotional design and gain more users along the way is possible as long as it stay true to its original mission to be a platform that allows readers and authors to join in a community that caters creative dialogues using storytelling as its foundation.

5. CONCLUSION

The highest level of emotional design in Wattpad is in the visceral aspect. The platform is desirable for those who love to read and would like to engage in a social reading platform. In terms of meeting the usability requirement, it is concluded that Wattpad is useful, learnable, and memorable as the users only need to understand how to use this app once to fluently use it. The platform's customization scored the highest in terms of its

engagement; what it still needs to improve is being effective and efficient. Ineffective use will be associated with feelings of lost control, vulnerability, and frustration (Burton-Jones & Grange, 2013), and this has proved to lower their overall score at the behavioural level. However, Wattpad has hope. Though the behavioural level was low, its reflective level of emotional design remains high because the user looks passed through their annoyance regarding its functionality and see Wattpad as a community where they can collaborate.

6. DISCUSSION

After this research, Wattpad's emotional design can still be analysed from various sectors and one of them is about the platform as a brand. Brand loyalty has an emotional correlation to the users as Brand loyalty strengthens consumers' emotional bonds with a targeted brand through its product carrier [15]. Therefore, Wattpad's emotional design level and its correlation to the user's loyalty to it as a brand can be observed and evaluated in future research.

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REFERENCES

- [1] Popescu, A. (2013, 10 01). *Wattpad is the Most Active Social Site You Never Heard Of*. Retrieved 03 05, 2020, from Mashable.com: <https://mashable.com/2013/09/30/wattpad/>
- [2] Reborra, S., and Pianzola, F. (2018). A New Research Programme for Reading Research: Analysing Comments in the Margins on Wattpad. *Scientific Journal on Digital Cultures*, pp. 19 – 36. <http://dx.doi.org/10.4399/97888255181532>
- [3] Davies, R. 2017. Collaborative Production and the Transformation of Publishing: The Case of Wattpad. In: Graham, J. and Gandini, A. (eds.). *Collaborative Production in the Creative Industries*. Pp. 51–67. London: University of Westminster Press. DOI: <https://doi.org/10.16997/book4.d>.
- [4] Kemp, S. (2019, January 31). *Digital 2019: Indonesia*. Retrieved September 10, 2020, from Data Reportal: <https://datareportal.com/reports/digital-2019-indonesia>

- [5] Similarweb, T. (2020, 03 03). Wattpad.com Overview. Retrieved 03 03, 2020, from Similarweb: <https://www.similarweb.com/website/wattpad.com/>
- [6] Norman, D. (2004). *Emotional Design: Why We Love or Hate Everyday Things*. Cambridge, MA, USA: Basic Books.
- [7] Krug, S. (2014). *Don't Make Me Think, Revited: A Common Sense Approach to Web Usability*. Indianapolis, USA.
- [8] Stoyanov, S. R., Hides, L., Kavanagh, D. J., Zelenko, D Tjondronegoro, and Mani, M. (2015). Mobile App Rating Scale: A New Tool for Assesing the Quality of Health Mobile Apps. *JMIR Mhealth Uhealth*, vol. 3, no. 1, pp. e27 doi: 10.2196/mhealth.3422.
- [9] Lidwell, W., Holden, K., & Butler, J. (2003). *Universal Principles of Design*. Beverly, USA: Rockport.
- [10] Interaction-Design.org. (n.d.). *Usability*. Retrieved September 11, 2020, from Interaction-design.org: <https://www.interaction-design.org/literature/topics/usability>
- [11] Garrett, J. J. (2011). *The Elements of User Experience: 2nd Edition*. Berkeley: New Riders.
- [12] Burton-Jones, A., & Grange, C. (2013). From Use to Effective Use: A Representation Theory Perspective. *Information Systems Research*, 24(3), 632-658. Retrieved September 10, 2020, from <http://www.jstor.org/stable/42004286>
- [13] Baker, J. (2019, January 28). *The Art of Emotion-Norman's 3 Levels of Emotional Design*. Retrieved March 13, 2020, from Medium: <https://medium.muz.li/the-art-of-emotion-normans-3-levels-of-emotional-design-88a1fb495b1d>
- [14] Fessenden, T. (2017, March 5). *A Theory of User Delight: Why Usability is the Foundation for Delightful Experience*. Retrieved March 13, 2020, from Nielsen Norman Group: <https://www.nngroup.com/articles/theory-user-delight/>
- [15] Qu, Yonghao. 2012. Developing an Emotional Design Predictor for Brand Loyalty: An Introductory Research on Interrelationship between Brand Loyalty and Emotion, Brand Loyalty and Culture. Unpublished master's thesis. Arizona State University