

GAMIFICATION IMPLEMENTATION ON XYZ DIGITAL PAYMENT SERVICE PROVIDER APPLICATION

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ABSTRACT

Nowadays, the importance of gamification is increasingly conscious by many organizations to increase the motivation of their users to spend more on their applications. Many merchants are still unaware of the importance of data in decision-making. The results of interviews with XYZ application users conducted during the previous research show that many users still keep their transaction data in notes, and mistakes like missed transactions, occur frequently. Data that is neatly organized might give them additional insight into how to improve their business. Gamification has become one of the things that keep the users retain to the application services. Through mechanics, dynamics and emotions (MDE) Framework and Self-Determination Theory, result have show that the solution from the framework that the researchers do have prove that gamification can become one of the part that reduce the number of churn rate and increase the motivation to keep using services provided. The objective of this study is to explore how gamification can increase the usage of digital payment service provider and boost their motivation to spend more on the services.

Keywords: *Gamification, MDE Framework, Self-Determination Theory, Fintech, Boost Motivation*

1. INTRODUCTION

In this era of globalization, the internet has become a primary need such as food, clothing and others. The need for the internet is already very high, even in every area, from cities to rural areas, when viewed from the demographic side, from the young to the old also need the internet.

Digital payment services in Indonesia now provide payment methods such as Credit Cards, Debit Cards, Bank Transfers, Electronic Wallets, QRIS and others.

Every fintech company will have data stored both structured and unstructured. Where the customer is a source of knowledge or what can be referred to as company data. The stored data makes data experts and product experts think more deeply how the stored data can be used to produce useful learning to improve the metrics measured at the company. One of them is that the analysis and research conducted can be used to increase customer loyalty.

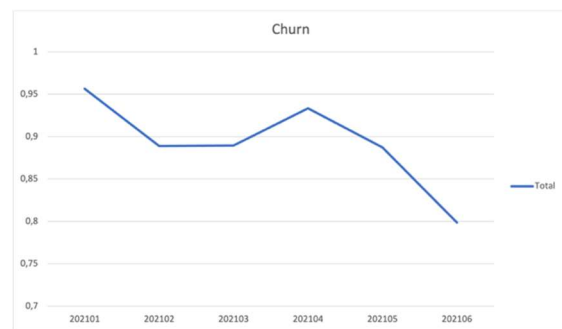


Figure 1: Churn rate at one of the XYZ application for six months in early 2021.

From Digital payment services provider at one of the provider in Indonesia data for six months in early 2021, it can be seen that customer retention is quite low, which is approximately 20% of the total customers who registered during that period. Customers who register and have transacted on the application after one month remain only approximately 20%. The company wants to increase active users and transactions from the users on the application, which is one of the urgencies of this research.

On the other hand, many merchants still do not understand the role of data in decision-making. The

importance of well-structured data is often overlooked. The results of interviews with XYZ application users that have been carried out from the last research shows that many users still store their transaction data in notes, some of them spread the data into multiple applications, and often there is a mistake occurred like a missed transaction. Neatly structured data can provide more insight on how to improve their business. [1]

Expensive acquisition costs cause companies to want to focus more on retaining existing customers. By detecting problems that cause customers to churn, it will help the company to develop strategies or steps to be taken to reduce the company's churn rate. [2]

Gamification is an innovative key to engagement. Customer success is the result of product and service engagement. Customers who find value in a company's offerings are less likely to stop using the products or services offered. In this way, companies increase customer retention rates and inspire brand loyalty.

A study, conducted in the software industry, concluded that a business solution that involves joyful elements will increase usage and therefore engage customers more easily. The gamification approach, as an element of enjoyment, is correlated with business goals such as customer motivation, experience, behavior, and engagement. [3]

Data from 276 mobile application users who apply gamification were analyzed using partial least squares regression. The results show that gamification increases user engagement through meeting the needs of competence, autonomy and relatedness. The user engagement indirectly leads to a greater intention to use and to rate positively on the application. [4]

The research questions based on the narration can be formulated as follows:

1. How is the user persona for digital payment services provider look like?
2. How is the gamification design that suitable for the user persona according to their player type?

By looking at the functions and problems XYZ application have, the researcher wants to design gamification to increase the use of the application in accepting digital payments. So that the results of the research conducted by the researcher are expected to provide insight and help increase the use of payment receipts in the application.

2. LITERATURE REVIEW

The term fintech itself comes from the words "financial" and "technology" which refers to financial innovation with the use of modern technology.

Fintech in Indonesia has grown rapidly over the last two years due to the increasingly broad segmentation of the financial sector market [5].

Fintech makes it easier for consumers, including MSME actors, to use various financial services such as payments, loans, investments, and insurance through the use of technology such as mobile phones [6].

The COVID-19 pandemic has accelerated the growth of fintech in Indonesia. Sub-sectors that experienced growth included investment (116%), remittances (43%), insurance (30%), digital payments (3%), and lending (1%) [7].

Based on a survey conducted by PwC, after the COVID-19 outbreak there were five significant increases in the spending power of Indonesian consumers, health products (77%), groceries (67%), entertainment and media (54%), food collection / delivery (47 %), and independent skill activities (DIY) on home improvement and gardening (32%).

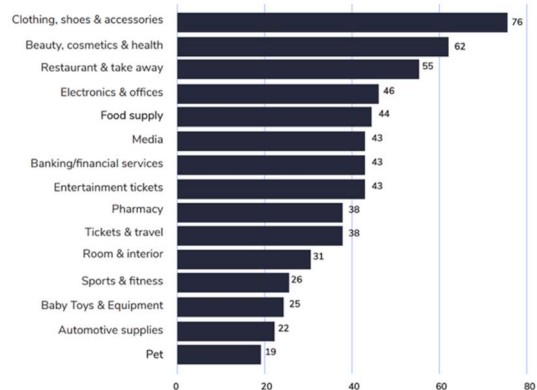


Figure 2: The best selling products in online shops during the Feb-Apr 2020 pandemic. (Katadata 2020)

Fintech is now one of the drivers of the digital economy in Indonesia. Based on the e-Conomy SEA 2020 Report [8], states that there is a 37% growth in new users on the internet. According to the e-Conomy SEA 2020 report, Indonesia managed to record a Gross Merchandise Value (GMV) of USD 44 billion, which was contributed from the e-commerce, on-demand, online travel and fintech sectors.

2.1 Payment System in E-commerce

With the development of the era due to increasingly advanced information technology, nowadays, especially in Indonesia, it is necessary to have an easy and fast way to convey and receive information. E-commerce is one form of information technology. Talking about e-commerce is certainly related to transactions and how to receive payments. Payment systems offered in Indonesian e-commerce in general are credit cards, digital wallets, bank transfers, retail outlets and digital credit. [9]

According to data from the Badan Pusat Statistik [10], e-commerce transactions in Indonesia based on the most popular digital payment methods are: COD (73%), Bank Transfers (21%), Digital Wallets (4%), Credit Cards (1%), and others (1%).

2.2 Digital Payment in Indonesia

With the development of technology, the more advanced the technology in the payment system. Digital payment instruments have become more economical and efficient, which has caused the payment system to have now replaced the role of cash. [11]

The internet as one of the modern information technology media has spread and developed rapidly in all aspects of people's lives in Indonesia and throughout the world. The economy is no exception. The internet, facilitates the delivery of information quickly, widely, and accurately.

The internet has become one of the media in exchanging information and indirectly becomes the information technology needed by many people. In Indonesia and around the world, the internet is rapidly spreading and growing in all aspects of people's lives. [9]

The economy, especially in digital payments, is affected by the development of the internet. The Internet also facilitates the dissemination of information quickly, widely, and accurately. An example of digital payments is that information about payment status can be known in real-time.

The payment systems offered in Indonesia are used all over Indonesia, such as Credit cards, bank transfers, E-money, retail outlets, and cash on delivery (COD).

- *Credit Card*: Credit card is a payment method that can be done online or offline. There are five parties involved in a transaction with a credit card, namely consumers, merchants, clearinghouses, merchant banks (acquiring

banks), and consumer banks (issuing banks). To be able to accept payments with this method, merchants must have a bank account with the desired bank institution. [12]

- *Bank Transfer*: Bank Transfer is one way to transfer from one account to another in one bank or different banks. Bank Transfer is often used as a form of payment from consumers to merchants. Along with the development of the era, banks in Indonesia now support payments using bank transfers using virtual accounts.
- *E-money*: A digital wallet is a tool that stores personal information, one of which is money in digital form which is usually found on smartphones. Digital wallets can be used to send money to other people in digital form. On the other hand, digital wallets can also be used as a means of payment. Before being able to use the digital wallet, the user must first top up the digital wallet through a bank account. [12]
- *Retail Outlet*: Retail Outlets are outlets that sell various types of individual needs. Along with the development of the era, retail outlets now support payment systems, where consumers who make online transactions can pay them to the nearest retail outlet to complete the payment.
- *Cash on Delivery*: Cash on Delivery (COD) allows customers to make cash payments when the product is delivered to any location the customer chooses. COD differs from all other payment methods in terms of how it is processed, when and where payments are made, the parties involved, and many other things. [13]

2.3 Gamification

Gamification, as created by computer programmer/game designer Nick Pelling in 2002 is described as the application of game components and mechanics in a non-game context [14] for customer engagement and problem-solving to improve user experience and improve [15] involvement in achieving certain goals. [14] Huotari and Hamari, on the other hand, emphasize the experiential aspect of gamification as a process for generating value for users. As a result, gamification design is more than just games and entertainment; it fulfills a specific purpose while allowing the consumer to enjoy the process. [16]

The word "gamification" and its application have become a common practice along with the development of mobile commerce and new digital technologies such as smartphones. Gamification techniques can be easily transferred from the

software world to the business world. Gamification is still in its infancy but is quickly gaining traction. Companies incorporate gamification into their operations in response to customer engagement challenges. Gamification can improve the consumer experience by making it more engaging, interactive, and fun. On the other hand, it also increases the client's interest in the product and improves their behavior, resulting in better customer relations. [17]

2.4 Mechanics-Dynamics-Emotions (MDE) Framework

The MDE framework combines the mechanics, dynamics, and emotions of participants in a game. The principles of the MDE framework are based on the literature dealing with game design. The elements in the MDE framework are shown in Figure 2. [18]

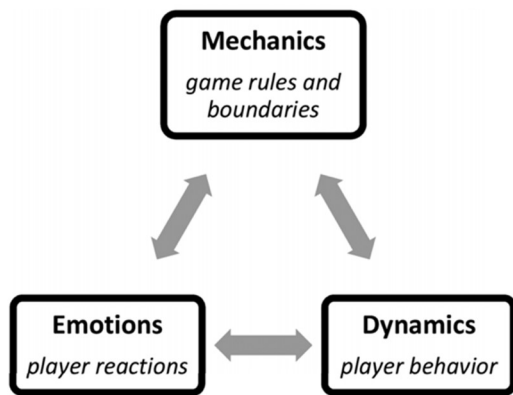


Figure 3: MDE Framework.

MDE highlights the importance of emotional experiences in motivating human behavior. Consistent with previous work on gamification, this framework proposes that fun is the most important goal of player engagement and that it may stem from a variety of positive emotions such as joy, surprise, and victory over adversity.

More broadly about this discussion, MDE recognizes the importance of mixed emotions such as disappointment or sadness due to failure in a game. However, MDE does not provide guidelines for designing such experiences. [19]

2.5 Increasing Motivation Through Gamification

With gamification, the main benefit that can be felt the most is increased user motivation and engagement. Motivation is a process that makes an individual start doing an activity and continue. [20]

The most effective optimization technique is a combination of barcode scanning using a Handheld Mobile Computer and creating a payment system with Electronic Data Capture (EDC) equipment which indicates to receive payment digitally, which can cut processing time in half. [21]

In research on motivation, six main perspectives can be distinguished, which are concerned with gamification: Trait perspective, the general class of motives and needs can generate motivation. Behavioral learning perspective, the formation of motivation from the positive and negative of the past, which affects the possibility of future behavior. The cognitive perspective describes motivation as a result of the means-end analysis. The perspective of self-determination focuses on the social contextual conditions that facilitate versus prevent the motivational process. The perspective of interest considers individual preferences and content aspects. The perspective of emotion focuses on the role of emotions in cognitive and motivational processes [20].

2.6 Gamification Player Type

Within a user-centered philosophy, Self-Determination Theory (SDT) shows how to build systems that help users find their motivation to participate by building intrinsic motivation. The wants for Competence, Autonomy, and Relatedness have been identified as three basic psychological needs in the SDT theory (Figure 4). [22]

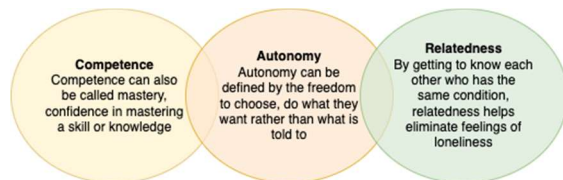


Figure 4: The Self-Determination Theory (SDT).

Having discussed intrinsic motivation, now go back and review the theme of Gamification. In short, the origin of Gamification is the players. That is, in any system, player motivation ultimately drives results. Therefore, understanding player motivation is very important to build an efficient Gamified system.

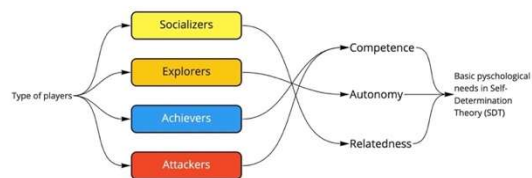


Figure 5: Framework for gamer psychology.

By analyzing the type of player proposed by Bartle, Nicholson relates the type of player to the three basic needs in SDT [23], and the conclusion is shown in Figure 5:

1. Using the Gamification system, Socializers tend to meet and interact with other people, they are interested in the concept of relatedness;
2. Trying to go beyond the limitations of the Gamification system, Explorers desire to participate widely, they appreciate the concept of play and pay special attention to the Autonomy element;
3. Achievers look for ways to get a sense of satisfaction with achievements, they value the element of Competence (Mastery);
4. Attackers expect competition and conquest and value the Mastery element in SDT.

3. RESEARCH METHODOLOGY

Qualitative research will be use by the researcher to collect data and information. Data collection is done by randomly selecting eight active merchants on XYZ application from different industry. The selected candidates will be interviewed directly by the researcher.

Then, the researcher will create the user persona based on the interview that have done. After that, the researcher will continue to specify the gamification requirements and start designing the gamification. Lastly, the researcher will analyze and evaluate the gamification that have been designed to the previous interview candidate and the result will be use for the next iteration improvement.

3.1 Method for Developing Solution

The gamification design method in the XYZ application that will be used iterative process flow which starts from planning, identifying problems and needs, analysis and design, implementation, development, testing, and evaluation. Iterations will be carried out until finally getting the most suitable result.

1. Initial Planning: Using MDE Framework to design gamification in XYZ application.
2. Planning and Requirements: At the planning stage, planning will be carried out to identify existing problems, objectives and metrics. After that, in the requirements stage, supporting data will be collected to be used in the next process. At this stage, the user persona will also be created.

3. Analysis and Design: Analysis and design of elements in the gamification that will be made. Simulation on gamification design made for Mechanics and Dynamics.
4. Implementation and Deployment: Designing a UX UI that is in accordance with the analysis and design that has been made previously.
5. Testing: Testing of all relevant stakeholders to get feedback through in-depth interviews.
6. Evaluation: Evaluate the results carried out in the previous step and will be used for development in the next iteration.

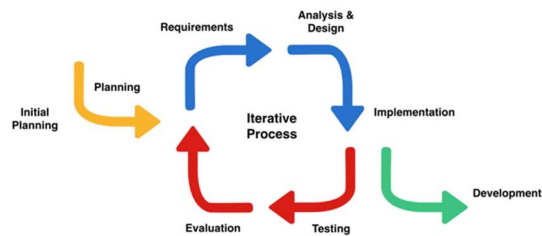


Figure 6: Iterative Process Flow.

4. RESULTS AND DISCUSSION

This research was started by looking for merchants who want to take part in the interview session. Researchers will gradually look for eight merchants from several different business sectors. The ten merchants consist of the fashion, food and beverage, services, and tourism sectors.

Based on the problems that have been discussed previously and the results of the interview, the gamification concept that will be applied is expected to solve the existing problems. From the problems that arise above, the concept of gamification that will be applied is:

- *Point Systems*: The collection of points will be done through the number of bills paid. The more bills you pay, the more points you will get.
- *Tier*: After reaching a certain point, a level-up will occur. There will be criteria needed to reach the tiers that will be created later. The tier for this gamification are: Bronze, Silver, Gold, Platinum, and Diamond.
- *Daily Check-in*: Daily check-in will be used to boost users to keep using the digital payment service provider by giving them rewards whenever they opened the apps.
- *Badge*: One of the gamification that will be applied. Users will get certain badges according

to their achievements which will be shown when the customer from the merchant wants to make a payment or the customer wants to purchase through the catalog from the merchant.

- **Rewards:** Rewards will be given to users according to the collection of points that have been done.
- **Punishment:** Penalties will be given such as point deductions if the user does not use the application within a certain period.

After that, in the requirements stage, supporting data will be collected to be used in the next process. After understanding how the background, activities, and behavior from the interviews that have been done and casual conversations with the salespeople, they are collected into points that can be included in an affinity diagram.

From the affinity diagram created, we found that most of the merchants choose a cheaper alternative to receive payment. Such as when they compare the fee to other platforms for a certain transaction, they might think to receive using other platforms. The result also concluded that some of the merchants said that when the amount of the transaction is high the fee of the transaction also increases. The last one is some of the merchants need the same-day settlement so that they can purchase their raw materials again for tomorrow's sales.

From the results of interviews conducted, using the affinity diagram above, the researcher created a user persona. The user persona contains 10 parts: Name, Picture, General Information, Activity, Business Challenges, Goals, Pains, and Trait.

Interview questions about demographics were used to generate the general information section. Questions about processes in the business are used for the activity section, business challenges, goals, and pains. Questions about the business are used to generate traits. In the end, it generates some user personas as below.

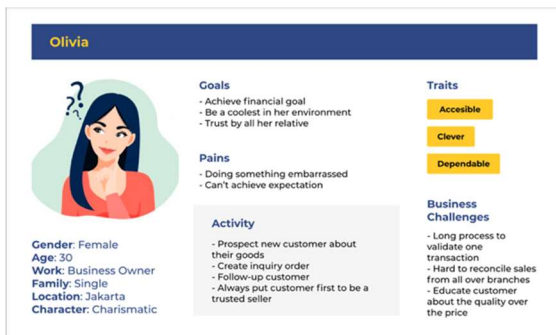


Figure 7: User Persona 1.

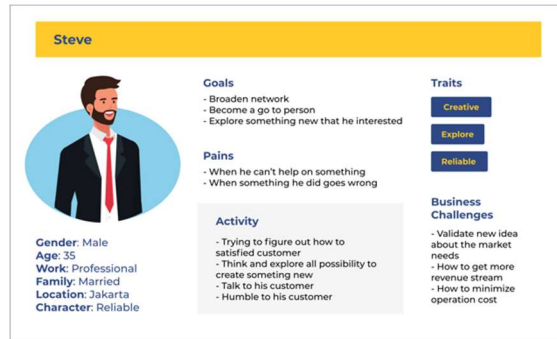


Figure 8: User Persona 2.

From the analysis that have been made previously, next things is design the needs of the gamification that will be made. First, the types of players in gamification in the context of the merchant are analyzed. There are four identified merchant types and their purpose in the system. Next, find out their behavior from the goals that have been mentioned. After knowing the behavior, mechanics gamification will be made according to their characteristics. The table below shows the results of the analysis.

Table 1: Game mechanics by user type.

Type	Goal	Behavior	Mechanics
Achievers	To be the first in their industry	Active in finding customers	Membership tier, Progress Bar, Points, XP
		Continue to increase their sales target	Membership tier, Progress Bar, XP, Punishment
Explorers	To get a new experience	Looking for things that can help improve their business	Voucher, Badges, Points, Daily Check-in
		Looking for things that can help reduce costs in business	Daily Check-in, Voucher, Points
Socializers	To collaborate with other merchants	Join the sales community	Badges
		Interact with other merchants	Membership Tier, Badges
		Cooperate with other merchants	Membership Tier

Killers	To compete with their competitors	Continuously monitor how competitors are moving	Badges, XP, Membership Tier
		Monitor what strategy is being carried out	Progress Bar, Badges
		Doing things that can make them superior to competitors	XP, Badges, Membership Tier

4.1 Designing Gamification

Before starting the design, it will be made in advance how the rules of the game will form emotions. From the process that has been done previously, the elements for these emotions have been obtained, namely: discovery, submission, and challenge.

The basis of the game obtained from the observations made from the previous section divided into several components. First is submission, where the game that is raised is an activity that can give something after they perform a certain action that makes them curious after they are at the end. In this case, a daily check-in will be applied which: (a) Every day there will be something different to be gained. (b) At the end of each period, there will be something special waiting for them.

Second, Points and XP, every successful transaction, the user will get points based on the nominal and the number of successful transactions. Every successful transaction will automatically generate the points and XP. Points are rewards that are obtained every time there is a successful transaction that can be exchanged for existing vouchers. While XP is a value obtained which will continue to increase to level up to a higher tier..

Table 2: Transaction point.

No	Condition	Description
1	Multiples of 10,000	For every multiple of 10,000 rupiahs, the user will get 20 points and 20 XP
2	Maximum	For every transaction made, the user can get points with a maximum of 500 points and 500 XP

Tier, next is the level of award that is obtained after certain achievements. The tier is described in the table below:

Table 3: Tier criteria.

No	Tier	Description
1	Basic	The most basic rank is owned by the user. All users who have just registered will have this rank.
2	Silver	This is the first rank that will be achieved. This rank requires 1000 XP.
3	Gold	Next need 5,000 XP to reach this tier.
4	Platinum	This rank requires at least 25,000 XP.
5	Diamond	This last rank required at least 50,000 XP.

Each tier that has been achieved above will have different advantages. The higher the tier, the more benefits the users will get and the better.

Next is Badge, the badge will be obtained if it has reached the predetermined criteria. The badge serves to increase the level of trust from customers when they want to transact with the merchant. The badge will appear on the catalog and payment page of the merchant. The badges are described in the table below:

Table 4: Badge component.

No	Tier	Description
1	Without badge	Initially, XYZ application users will be without a badge, which means there will be a strategy to motivate merchants to reach the criteria for the next badge
2	Super Partner Badge	The next badge is the Super Partner badge, which the users will receive if meets the following criteria: - The transaction nominal has reached more than 20 million / month - The number of successful transactions reached more than 30 / month
3	Super Partner Pro Badge	The next badge is the Super Partner Pro badge, which the users will receive if meets the following criteria: - The transaction nominal has reached more than 50 million / month - The number of successful transactions reached more than 70 / month

Progress Bar, to continue to boost motivation of the users to continue to improve to participate and gain more on the game mechanics that have been played so far, there will be a progress bar that shows users how far the achievements have been achieved .

For each existing gamification components, there will be punishment that will be applied if it fails to meet the predetermined criteria, namely:

- a. Tier will be lowered in each period if the user does not succeed in achieving the game target that has been determined.
- b. In the badge component, if the merchant cannot maintain the achievements that have been achieved in the previous month, then the next month it will be lowered to the badge below it.
- c. For rewards, these rewards will be lost if they are not claimed within the specified time limit.

After generating the rules and basic games, the MDE element design will be made as follows:

Table 5: Gamification concept created using MDE framework.

No	Mechanics	Dynamics	Emotions
1	Points and XP	The point system uses numbers from 1	20 points dan 20 XP / IDR 10.000
2	Tier	Using a level system based on points	Basic, Silver, Gold, Platinum, Diamond
3	Daily Check-in	Daily check-in per day	Check-in per day and at the end of the period there will be something
4	Badge	Badges will appear on the payment page and catalog when the page is opened by the customer of that merchant	No badge, Super Partner, Super Partner Pro
5	Progress Bar	Visualize how points have been earned	How many more points to reach the next tier
6	Punishment	Penalties are given if you don't reach the set target	Will be downgraded to the previous tier

After the gamification analysis and design is complete, it is finally determined how the game will be done. The next step is to design the process flow and how the gamification forms in the XYZ application. Figure below is one of the example mechanics of tier elements that will show in the user interface.

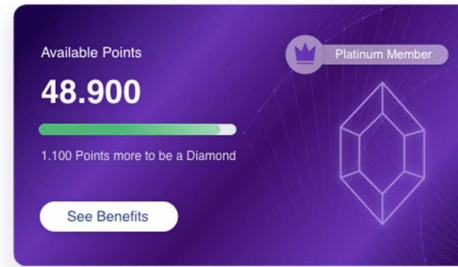


Figure 9: Platinum membership.

There will also be a badge. Below is the two types of badge that have been mention before.



Figure 10: Super Partner and Super Partner Pro badge.

4.2 Rewards

From the gamification concept that has been designed, to solve existing problems, several rewards will be offered per tier.

Table 6: Rewards per tier offered.

No	Tier	Rewards
1	Basic	At this tier, there will not be any rewards offered, but a strategy to motivate them to reach the next tier immediately will be carried out.
2	Silver	- Priority for disbursement D+1 from the time of transaction - Sales report - Free to use promo code generation feature
3	Gold	- Everything in the Silver tier - Guarantee of disbursement of D+1 from the time of transaction - Free to use catalog feature
4	Platinum	- Everything in the Gold tier - Priority disbursement on the same day - Service fee reduced by 10% from the normal rate - Analytical reports and catalog insights
5	Diamond	- Everything in the Platinum tier

		<ul style="list-style-type: none"> - Guaranteed same-day disbursement - Service fee reduced by 20% from the normal rate - Entitled to make loans with low interest - Free shipping up to IDR 20,000 for transactions that require delivery with a minimum transaction nominal of IDR 200,000 for 20 transactions per month
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game period for tier element is six months, namely January to June and July to December.

The penalties that apply to tier elements can be seen in the table below. The penalty will be different depending on the user's position tier. The user's tier will be downgraded to the tier below which automatically points will also be reduced. Example if the user already has 7000 XP. This means that the user is in the Gold tier. If by the end of the period the user cannot reach the checkpoint per each tier, then the user will be downgraded to the previous tier, in this case to Silver.

In addition to rewards per tier, there will also be rewards that will be obtained for daily check-in, which must be done every day for a certain period.

Table 7: Rewards daily check-in.

No	Range	Rewards
1	Per Day	At this tier, there will not be any rewards offered, but a strategy to motivate them to reach the next tier immediately will be carried out.
2	7 Days	<ul style="list-style-type: none"> - Extra points and XP as much as 20 - Certain e-commerce internet discount vouchers up to 15%
3	14 Days	<ul style="list-style-type: none"> - Extra points and XP as much as 50 - Selected e-commerce internet discount vouchers up to 20%
4	30 Days	<ul style="list-style-type: none"> - Extra points and XP as much as 100 - Selected e-commerce internet discount vouchers up to 25% - Selected e-commerce office equipment discount vouchers up to 20%

For starters, the points earned can be exchanged for vouchers that have been planned and discussed. The voucher redemption can be seen in the table below.

Table 8: Point redemption voucher.

No	Point	Description
1	250 Points	Selected e-commerce internet discount vouchers up to 25%
2	250 Points	Selected e-commerce office equipment discount vouchers up to 20%
3	1000 Points	Service fee 5% discount voucher for 10 transactions

4.3 Punishment

Regarding the gamification that has been made, it cannot be separated from the punishment that will be made. This punishment aims to make XYZ application users remember the achievements that have been achieved so far. With this punishment, it is hoped that merchants will be motivated to transact and sell continuously using XYZ application. One

Table 9: Punishment on tier element.

No	Tier	Description
1	Silver	Must be able to get a minimum of 2500 XP points to survive to the next period.
2	Gold	Must be able to get a minimum of 5,000 XP to survive into the next period.
3	Platinum	Must be able to get a minimum of 10,000 XP to survive into the next period.
4	Diamond	Must be able to get a minimum of 20,000 XP to survive into the next period.

Next is the penalty for the badge element. Penalties on badges are relatively faster to execute. On the badge, the punishment applied is simpler. If each month the user cannot reach the criteria specified in the mechanics element, then the user will be downgraded one level below. If it fails to achieve it then in the following month it will be downgraded back to the category below it. An example of the application of punishment on the badge can be seen in the table below.

Table 10: Punishment on badge element.

No	Type	Description
1	Super Partner	Users must meet the criteria with 30 successful transactions and an accumulated nominal of 20 million.
2	Super Partner Pro	Users must meet the criteria with 50 successful transactions and an accumulated nominal of 70 million.

The penalties for the last few elements such as daily check-in, vouchers, points, and cheating are shown in the table below.

Table 11: Punishment on daily check-in, voucher, point, and cheating.

No	Type	Description
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1	Daily check-in	The penalty for daily check-in is when the user does not do consecutive check-ins. Which if this happens, then the user must start again from the beginning, namely the first day. For example, if the user has checked-in until the tenth day, and the eleventh day the user does not check-in, then the penalty is that the user has to start again from the first day the next day.
2	Reward (Voucher)	In this element, the applicable penalty is the forfeiture of the redeemed voucher if it is not used within the specified period.
3	Point	In this element, the punishment that applies is more or less the same as the reward, the difference is that points will be forfeited if they are not redeemed within the specified period.
4	Cheating	If a user is caught cheating in the gamification system that has been created, for example making fake transactions, manipulating the system, then a penalty will be imposed on that user according to the amount of fraud that has been committed.

The concepts and elements that have been created in the previous section will finally be designed into the XYZ application that is running now.

4.4 Results of the Designed Gamification

The concepts and elements that have been created in the previous section will finally be designed into the current XYZ application.

Changes with the addition of gamification elements are very important changes to the application's Home page. Below is a user interface design that has changed with the addition of gamification.

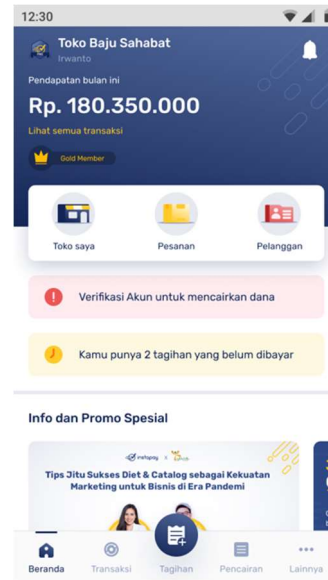


Figure 11: Home page user interface design after adding gamification.

In the gamification tier, the user interface design that has been implemented according to the tier mentioned above is shown in Figure 11 below.

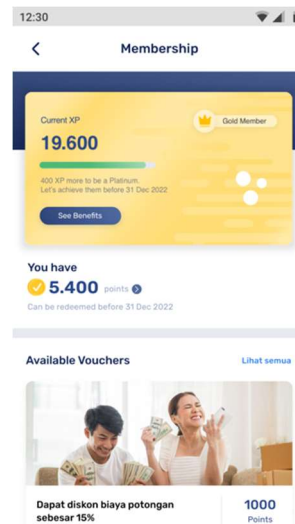


Figure 12: User interface design for adding tier elements.

With the different tiers created, different benefits will be obtained. The higher the tier, the more benefits the user will receive. The image below is an example of a designed benefit page. It can also be seen that there is an unlock reward mechanism that motivates users to get it.

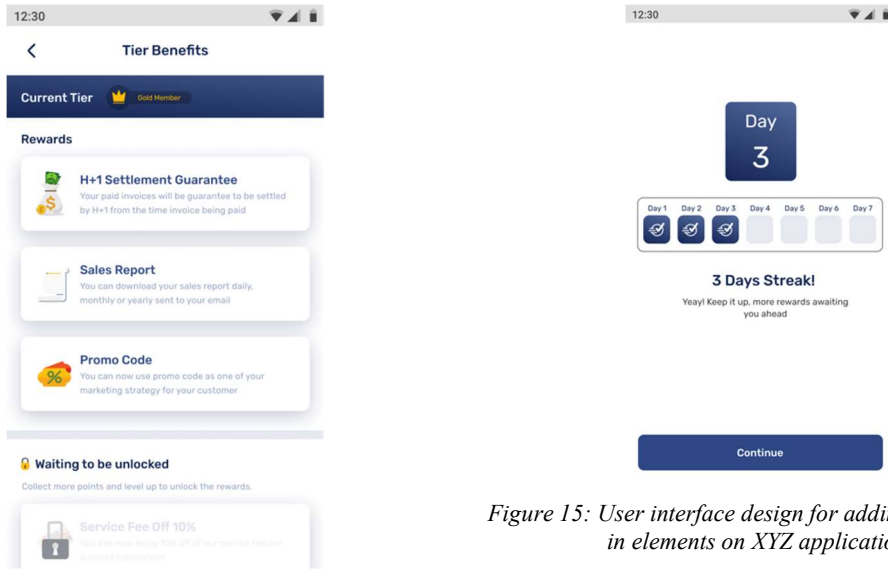


Figure 13: User interface design for adding reward mechanisms to tier elements.

The badge will be visible on the payment page which is opened on the customer side. Each invoice made by the merchant will automatically have a badge element according to the achievements that have been achieved by the user. Figure 13 shows a payment page with the Super Partner Pro badge.



Figure 14: User interface design for adding badge elements on the payment page on XYZ application.

Lastly is the daily check-in gamification element, which is designed into the XYZ application for each time a user opens the app. It can be seen in Figure 13 for the daily check-in element design into the XYZ application.

Figure 15: User interface design for adding daily check-in elements on XYZ application.

From the gamification that has been designed, it can also be seen in the form of a table how it affects before and after the gamification designed in the following table.

Table 12: Before and after the gamification element.

No	Before	After
1	Making invoices for payment receipts that only provide benefits for the ease of receiving payments.	After gamification, every time a successful bill is paid, the user will receive points and XP which provides more benefits that aim to increase motivation in making payments.
2	The application is opened without any reward given.	Daily check-in will provide rewards such as disbursement on the same day for the first bill paid.
3	The application is only used to receive payments without any other purpose that can increase their business sales.	With the point system created, users can carry out other activities and benefits by exchanging points for the prizes offered. It's like being a partner with Blibli for one month.
4	Applications are used by users in their business to receive payments without any reciprocity being given.	XP earned from each bill paid will continue to increase which contributes to the tier loyalty program that has been designed. The higher the tier, the more benefits provided to the users. Such as cheaper service fees, so users will continue to be motivated

		to continue using XYZ application.
5	Lack of trust in merchants who have good quality products and services.	With the Super Partner or Super Partner Pro badge, customers will have more confidence in paying bills from these users.
6	There are no activities other than making invoices and sending them to customers	With the elements of points, XP, daily check-in, reward and punishment applied, users will have other activities to interact and remember to keep the XYZ application. Such as looking for vouchers, daily-check-in to get prizes, continue to make transactions until you reach a higher tier to pursue existing rewards and also to avoid the applicable punishment.

The next step is testing the gamification that have been done. The results of interviews related to the gamification design that have been carried out are shown in the table below.

Table 13: Results of interviews related to gamification design

No	Title	Description	Statement
1	No mission	With the mission, participants feel they have a target per period that must be achieved and what must be achieved.	Improvement
2	Rewards are still lacking	The rewards offered are still lacking so that it does not attract the attention of users to participate in gamification.	Improvement
3	Game elements	The existing game elements are good enough to convince the participants to finish the game.	Positive
4	How to participate	The explanation regarding how to play is still lacking, so there are some participants who	Improvement

		are still confused and ask questions.	
5	Interesting	The elements of the game and some of the rewards offered inspire enthusiasm to complete the game.	Positive

5. CONTRIBUTIONS

Contributions to this study are as follows: This study reviews existing gamification research and presents a research strategy for extending gamification's use in digital payment service provider application. The designed element is the first unique gamification design on the digital payment services application in Indonesia. The design outcomes are tailored to meet the needs of the merchants and based on the interview result from XYZ digital payment service current users. The gamification design motivates the merchants to use the application to receive payment.

6. CONCLUSION

Gamification in business has grown highly essential, playing a significant role, being well-liked by a wide range of users, and helping to favourably influence their use of gamified applications. Researchers and non-researchers alike are now aware of this reality. More researchers and enterprises are increasingly attempting to gamify various areas of their work, either to boost user involvement or to inspire their own learning.

Finally, while the gamification designed doesn't directly trigger one's visit, experiential marketing is critical in facilitating and influencing players' following activities. Overall, the experiential aspects that have been mentioned above impact gamers' propensity to visit some of the in-game locales in real life.

This article highlights and advances the development and use of game design elements, application of game design elements, and the influence of game design elements by extending Kirriemuir and McFarlane's (2004) inquiry into gamification. Overall, the research comes to a conclusion about gamification in the evolution of game element research over time, as well as some design principles for future gamified systems [24].

As expected, gamification is very useful when solving things that are related to motivation. Many

studies show that gamification has successfully proved that through gamification the company has successfully increased the motivation of the users to spend more time on the services.

The result of the research shows that through the gamification that was created, merchants show positive feedback even though there are some improvements that need to be done for future research. Using the mechanics, dynamics, and emotions created in this research can motivate the users of the application to spend more on the company. By providing the reward to discount the service fee, the merchants have shown that they are motivated to use the application to receive payment more in the future. By default, the merchants will have well-structured data that they can use as an insight to improve their business. The result shows that gamification is one of the ways to increase the usage of the application.

6.1 Limitation of Research

The limitation of the results and discussion for this research is education on transactions in accepting digital payments. It must also include why digital transformation makes the process more effective and efficient than the conventional transaction recording and receiving payments. This research is only focusing on how to design the gamification requirement that suits the problem and user needs. This research didn't show how is the acceptance of the merchants on the gamification result looks like.

6.2 Recommendation for Future Research

There were several inputs given from the interviewed users regarding the implementation of the gamification on XYZ application, namely the mission to be achieved so that the users had an idea regarding what had to be completed. The second is that the rewards given are still lacking. And the last is a tutorial on the gamification that has been designed. Further research on evaluating how the acceptance of the merchants on gamification is also needed.

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