

**UNIVERSITI TEKNOLOGI MARA**

**DEVELOPMENT AND VALIDATION  
OF AN ADVERGAMES  
FRAMEWORK FOR PERSUASIVE  
BRANDING**

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ROSLI**

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**UNIVERSITI TEKNOLOGI MARA**

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OF AN ADVERGAMES  
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BRANDING**

**NUR ILHAM SYAFEQAH BINTI ROSLI**

Thesis submitted in fulfilment  
of the requirements for the degree of  
**Master of Science  
(Computer Science)**

**Faculty of Computer and Mathematical Sciences**

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## **CONFIRMATION BY PANEL OF EXAMINERS**

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## ABSTRACT

Research on persuasive advergame elements has been minimal, even though researchers should pay attention to some elements. Even with changing technology and the gamification strategy, there is still limited research on how the persuasive advergames framework holds the key to persuading players toward the brand. The lack of proper understanding of essential elements leads to uncertainty and failure of advergames. Hence, this research study filled these gaps by conducting a study that highlights the advergames element that can persuade the player's perception as persuasive branding strategy. The objectives of this study are to identify the key elements of advergames as a persuasive strategy for brands, to develop a Persuasive Advergames (PAG) framework by enhancing the chosen framework, and to evaluate the PAG framework through the implementation of a persuasive advergame application. Four methodology phases, Phase 1: Problem Investigation involved identifying all related items through journals, articles, and proceedings. Phase 2: Framework Development involved the extraction of persuasive advergames elements of the PAG through the content analysis method. The initial draft of the PAG framework has been validated by the expert review through the process of face validation and content validation. This phase also involved the experts reviewing the elements and items of the PAG framework in terms of relevance and clarity to ensure this research study is reliable. The validation of the PAG framework consists of seven elements, which are Brand Positioning with Integration, Autonomy Brand Message, Games Brand Congruence, Entertainment, Social Influence, Commitment Consistency, and Transfer Effect. Phase 3: Framework Evaluation involved the user evaluation through a demonstration of the advergame application, namely Farm Fresh Adventure. The advergame application comprises the validated implementation of the PAG framework. The prototype evaluation yielded an overall mean score of 4.71, which indicates a 94.2% level of persuasiveness among users toward the brand. Documentation is the last phase in proposing the PAG framework, where all the gathered data and findings was documented appropriately. As a result, the development of the PAG framework is expected to help marketing practitioners and advertisers persuade their target customers with their marketing strategy, including enhancing their campaign, engaging traffic websites, while designing an entertaining source that contains advertisements in the form of digital games for the game developers and game designers. This research study could contribute to academia advancing the literature on gamification advertising with the persuasive effect on players through advergames.

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## LIST OF SYMBOLS

### Symbols

|    |                                                  |
|----|--------------------------------------------------|
| N  | The Total Number of Experts                      |
| Ne | Number of Experts Agreeing on a Rating of 3 or 4 |

## LIST OF ABBREVIATIONS

### Abbreviations

|          |                                                                |
|----------|----------------------------------------------------------------|
| AD       | Transfer Effect                                                |
| BM       | Autonomy Brand Message                                         |
| BP       | Brand Positioning with Integration                             |
| CC       | Commitment Consistency                                         |
| CVI      | Content Validity                                               |
| CVR      | Content Validity Ratio                                         |
| EN       | Entertainment                                                  |
| GB       | Games Brand Congruence                                         |
| I-CVI    | Item-content Validity for Individual Items                     |
| PAG      | Persuasive Advergames Framework                                |
| Pc       | Probability of Chance Agreement                                |
| S-CVI/Av | Scale-level Content Validity Index based on the Average Method |
| WM       | Social Influence                                               |

# CHAPTER 1

## INTRODUCTION

### 1.1 Research Background

Living in a world where everything becomes possible to achieve by using a technological approach drives the advertising field to change its strategy from traditional to digital as the latest communication medium in promoting a product. The shifting techniques allow advertisements to be more approachable and entertaining in conveying the information or message of the brand or product.

Advertising is a marketing method that the industry recognises to promote the company's products and services, mainly boosting sales while conveying information to consumers (Rabindranath & Singh, 2024). The advertising concept focuses on the consumer's purchasing decision, where every decision is made based on the consumer's unique motivation. The advertising strategy a company uses to persuade people to purchase the product. Advertising is evolving from printed media, which is traditional advertising, to digital marketing due to the demand for selling the company's product with an ample supply in the market. Traditional methods promote their brand or product, including billboards, television commercials, and radio. However, traditional advertising consumes time and extra money (Santiago, 2024).

A study shows the inefficiency of traditional advertising methods (Hasanah, 2025). Rather than improving the traditional way, identifying a new approach becomes obligatory in promoting their products. The drawback of advertising, including the restriction of scope to the user (Khamoushi, 2024), also encourages marketers, advertising practitioners, and researchers to discover new forms of advertising (Bartulay, 2024) that lead to an enhancement of marketing strategies through another medium. As a result, new advertising forms that use the gamification approach have emerged and become one of the communication mediums that gained the marketers' attention and persistently figured out how to include the new methods in marketing plans (Yassin, 2024). Hence, the markets are no longer bound to traditional advertising, and there is a massive advancement in marketing.

The consumption of computer games is changing through technological development where marketing (Santos et al., 2024), media studies (Klouvidaki et al., 2025), and product development (Sharma et al., 2024) received better attention and led the marketers to use gamification as their promoting tool (Sung and Lee, 2020). Thus, it shows that a gamification approach is a promising tool in the marketing area. The evolution in the advertising industry provokes marketers' interest in digital games as an advertising strategy. The development of technological equipment today, undoubtedly helpful for digital games, is becoming the centre of marketing strategy in the industry.

Advergaming is a gamified marketing tool that uses game thinking and a game mechanics approach to deliver the brand's message as its ultimate goal (Van Reijmersdal et al., 2021). The marketing tool refers to a video game that includes a product advertisement to deliver the message, attract customers to the company website, and build brand awareness. Advergaming is the latest entertaining tool that creates entertaining experiences with a specific function in promoting a brand or product (Jami Pour et al., 2023) that can engage the user (Sinem, 2024) more than the traditional approach. Since then, advergaming has become an interesting marketing tool in building brand loyalty towards users (Sung and Lee, 2020), which refers to the recognition of the brand (Aktan and Kocak, 2020), building brand loyalty, which is the relationship between the consumer attitude and brand (Hanbazazah et al., 2022). The marketing concept relevant in the gamification context is engagement, which is defined as developing an emotional connection between the user and the brand (Li, 2025).

Most people nowadays spend their time online gaming, with more than 30% user engagement (Amin et al., 2020). This creates a better opportunity for advertisers and marketing practitioners to connect with potential customers through Internet-based persuasive tools. Digital games are designed to promote the brand and can be used to transmit information to persuade the consumer. Digital games are persuasive that can influence player behaviour (Jacobs and Jansz, 2021), produce brand loyalty (Zhao et al., 2024) and brand memory, and stimulate consumers' purchasing behaviour. The messages can be embedded within the games and influence the users' behavioural attitudes (Kaufman et al., 2021). Based on the research study, the game's concepts are persuasive and can influence the player's attitudes in the real-world situation (Groen et al., 2023).

Many different aspects of advergame have been analyzed in previous research. Some research on advergames focuses on user intention to play and purchase a product. Previous researchers have researched advergame design, experience, and consumer behaviour (Li, 2025). Cañete & De la Hera, (2023) states that new research on advergames is necessary to understand the gamification approach. Advergame is a promising tool in delivering the brand's message. It has prompted marketers, advertising practitioners, and researchers to identify the possibility of advergames persuading customers through games. Despite its growing popularity, a part remains undiscovered that encourages researchers to study persuasion in advergame by understanding how persuasive factors can be embedded in the digital game (Cañete & De la Hera, 2023). The previous study shows that digital games can be used to persuade, but they lack the element of an advergame that can be used to persuade players.

Therefore, there is a need for further study in analyzing persuasive advergames. The main objective of this study will include the advergame elements that will contribute to persuading the player to the brand. The development of the PAG framework is expected to help the advertiser persuade their potential customer as part of their marketing strategy in the form of entertainment. Hence, this research study proposes the Persuasive Advergame Framework (PAG Framework) to promote the brand.

## **1.2 Problem Statement**

Different backgrounds in the sector have recognised advergames as a promising tool. However, advergames have still failed to fulfil their good purpose despite being acknowledged for their capabilities. The issue arises as there is limited research regarding how the persuasive advergames elements holds the key to persuading players through the gamification approach (Ghosh & Dwivedi, 2022), which could be used as guidelines to persuade users toward the brand.

The research on the persuasive elements of an advergame is still lacking, as there is too little research on the topic (Cañete & De la Hera, 2023). This situation leading to the issue in creating gamification formats as advertising tools conflicts with advertising practitioners and game developers when identifying suitable formats for children and adults (Ghosh et al., 2022) and resulting to insufficiency of strategy in designing the finalised standard of persuasive game design that acts as a guideline for

the game designer (Grace, 2021). The limited knowledge and understanding of how digital game advertising also significantly impact the brand and its related behaviour should be an important issue for marketers and advertising practitioners (Groen et al., 2023) leading to a lack of research studies identifying the persuasive factors in creating a positive experience for the brand.

With the increasing advancement of technology and the evolving marketing paradigm situation signify that there should be a specialised framework as a guideline for achieving persuasive effects on the players toward the brand. Therefore, this research study will be conducted based on elements that can persuade the consumer through an advergame to fill this gap in the study.

### **1.3 Research Gaps**

Based on the problems discussed in the previous section, the extracted research gap has limited the research for developing advergames as a persuasive strategy toward the brand. This situation will be affected by limited resources for understanding the critical issue of persuasive advergame as a guideline for marketers and game designers (Cañete & De la Hera, 2023). Even though the researcher has discovered an advergames aspect, there is still a limited, defined framework for assisting game developers in building advergames to persuade players to choose a brand through entertainment. The limitation of guidelines creates a barrier to the intended goal of persuading players toward the brand.

A poor strategy and a lack of understanding of the key elements in designing and developing any application will contribute to a failing application (Foch & Kirman, 2022). Understanding the gaming experiences will be helpful when designing the games (Poryadina, 2022). According to De la Hera (2017), marketers and game designers are responsible for developing the advergame process. However, marketers and game designers still lack game design and marketing knowledge, resulting in inefficient advertising strategies and unfamiliarity with the field of knowledge could lead to the fail to reach promising outcomes of any application (Gordon et al., 2020) and led the advergame developer to use creative strategies from other sources that do not always work. This scenario shows the unfamiliarity of implementing the knowledge into an advertising medium.

A deep understanding helps a designer to create worthwhile games for users. Foch et al., (2022) found that a lack of proper understanding of essential elements in designing and implementing leads to uncertainty and failure of advergames. The dearth of knowledge in designing an effective persuasive game design might prevent game designers from showing the most excellent persuasive power in advergames (Krath & Korflesch, 2021). Given the importance of advergames in marketing and advertising, a guideline for developing any project is needed to achieve its goals or purpose successfully for all ages (Thomas et al., 2022). Advergames should provide engagement in a fun and rewarding way since digital games are a powerful dimension of marketing that influences consumer behaviour, providing a powerful interaction between the brand (van Berlo et al., 2023). Hence, the guideline is important as it can lead to a better understanding of game design structure.

Based on the research study, it was found that there is an existing framework that highlights the persuasive mechanism of advergames. However, it is necessary to enhance the existing framework since more research is being conducted to identify the full potential of the topic area of study. Therefore, it is important to understand how advergames and gamification have been utilized over the past decade, which provides valuable insights into their effectiveness (Abusharieh et al., 2025). Hence, to achieve the reach of the promising outcome, there is a need for a comprehensive framework that clearly defines how to design advergames and provides the necessary support for implementing the persuasive strategy toward the brand residing in the game. The developers may refer to the signified advergames framework (PAG Framework), which includes elements for advergames as a persuasive strategy toward brand applications. Therefore, this research study offers guidelines with enhancements from the existing framework that could be used for future research to increase our knowledge of persuasive advergames by providing explanations on how and why advergames could influence players' persuasive actions toward a brand.

#### **1.4 Research Questions (RQs)**

- a) **RQ1:** What are the key elements for advergames as a persuasive strategy toward the brand?
- b) **RQ2:** How can the identified key elements for advergames be developed as a persuasive strategy toward brands?

- c) **RQ3:** How is the PAG framework acceptable for advergames as a persuasive strategy toward the brand?

## **1.5 Research Objectives (ROs)**

The research's objectives are:

- i) **RO1:** To identify the key elements for advergames as a persuasive strategy toward the brand.
- ii) **RO2:** To develop a persuasive advergames framework (PAG framework) as a persuasive strategy toward brands.
- iii) **RO3:** To evaluate the PAG framework through a persuasive advergame application.

## **1.6 Significance of the Study**

This research study proposed that the PAG framework is a guideline for persuading players toward brands through advergames. This research study has several significant findings that could contribute to society and the field.

### **Game Designer**

The PAG Framework would help game designers understand critical issues when developing the advergames application. The game designer could refer to the framework as a guide in developing the application for promoting a brand and improving satisfaction for the consumer. Advergames can also aid the company's business in promoting their product or brand by using more fun and effective media rather than traditional advertising (Santiago, 2024), as it costs more money. Powerful tools such as advergame applications can build brand awareness among customers, establish brand loyalty, and gain information about potential customers (Jami Pour et al., 2023).

### **Marketers Practitioners**

The proposed framework helps marketing practitioners to advertise their brand while implementing it as their marketing strategy. Implementing a marketing strategy

possesses significant value that can be used to create a relationship. It provides a better opportunity to reach the customer rather than solely focusing on product sales. The conceptual framework could help marketers map the advertising formats accurately with potential customers of different ages. Hence, it can be said that the PAG framework helps produce a better possibility for marketing practitioners to publicize their brand and create more profitable returns.

#### Users

Most people nowadays spend their leisure time on the Internet as a source of escape from their hectic lives. The situation urges them to find a tool to entertain themselves and the research showed that games could provide entertainment for the user. The development of branded entertainment games works as an entertaining tool for the player while getting information about the product through digital games. Advergaming facilitates more productive returns that help a company convey its brand information to consumers through games.

#### Researchers

This study would help other researchers gain more knowledge, as the research is growing rapidly. Hence, there will be more new input from different perspectives from other researchers, yet it will provide a better understanding and more profound knowledge in the study area. The proposed framework can be used as a referral for other researchers in their studies, leading to the contribution of knowledge to society.

### **1.7 Research Scope**

This research proposes an advergaming framework as a persuasive strategy toward brands. The primary objective of this research study is to identify the key elements of an advergame that can persuade users to adopt the targeted brand through an advergame application. The PAG framework encompasses advergame elements, such as brand positioning with integration, autonomy brand message, games brand congruence, entertainment, social influence and commitment and consistency, that have been implemented in the advergame application. The advergame element will persuade the user toward the brand and convey information about it without the user's awareness.

Moreover, the advergaming prototype was developed for the young market aged 18 - 32. The youth market is selected as the target market due to their ability to influence the trends and increase the purchasing power of the product (Divyabharathi, 2023). Hence, it shows that the youth market can create more engagement while socialising. However, since the research study is aimed at the youth market, participants who do not fall within the designated age range will not be included in the evaluation.

Next, the advergaming prototype, Farm Fresh Adventure, was developed for evaluation purposes with a genuine brand in the market to support the relevance of the research, focusing on the persuasion element. The advergaming application was developed on a mobile device and used Android as the game platform since accessibility of the mobile platform enhances the interaction between users, hence improving the social interaction while sharing information about the brand. The Unity engine, as the game engine, was chosen because it simplifies the process of developing applications. The gameplay content of the advergaming prototype consists of information about a *Farm Fresh* product, and the company information is used to persuade the player toward the brand.

## **1.8 Operational Definition**

This research study uses different and unfamiliar terminologies. Providing the operational definition of a variable allows the researcher to communicate terminology with another researcher and deepen the understanding of the study area. By giving explicit and understandable explanations of each element's tasks and functions, these definitions made it easier to see how each fits into the overall framework. Table 1.1 shows some of the terminology with its definition that will be used in the research study.

Table 1.1  
Operational Definition of Element of the PAG Framework

| Elements                                    | Operational Definition                                                                                                                                                                     |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AdvergAMES</b>                           | AdvergAMES use a gamification approach to convey information about the brand or services of the company through the combination of advertising and a video game in a gamified application. |
| <b>Gamifications</b>                        | The utilization of game elements found in the game can be applied in real-world production activities.                                                                                     |
| <b>Persuasion</b>                           | An effort to influence an individual's actions or beliefs results in changes in behaviour based on their own choices of mind.                                                              |
| <b>Brand Position with Integration (BP)</b> | The location of the brand item throughout the gameplay.                                                                                                                                    |
| <b>Autonomy Brand Message (BM)</b>          | A message can be conveyed throughout the game by using the game narrative as a storyline and interaction.                                                                                  |
| <b>Games Brand Congruence (GB)</b>          | Information that aimed to shape or change the player's perception through the gameplay narrative.                                                                                          |
| <b>Entertainment (EN)</b>                   | The enjoyable experience of the player within the gameplay, with the pleasure of control                                                                                                   |
| <b>Social Influence (WOM)</b>               | The actions of recommending or influencing the games to their peers increase the likelihood of the game.                                                                                   |
| <b>Commitment Consistency (CC)</b>          | Consistency in engaging the player through the game task leads to commitment toward the game.                                                                                              |
| <b>Transfer Effect (AD)</b>                 | The ability to create an emotional relationship in a real-world situation between the player and the game through engagement in the gameplay.                                              |

## 1.9 Thesis Outline

The research study has been planned accordingly to the research objectives. The description of each chapter involved in completing this thesis are elaborated in this section. Chapter one begins with preliminary studies to identify the problem in the study field, the research gap, and what must be done to address the issue. This chapter also highlighted the objectives of this research study by answering several research questions, along with the significance of this research that can contribute to others. Furthermore, the scope and limitations of the research study and the research framework

in proposing the PAG framework have been elaborated precisely. Lastly, this chapter also states operational definitions of the terms and outlines the thesis for each chapter.

Chapter two elaborates on the concept of advergames, persuasion, and topics related to this research topic of study, gathered through journals, articles, and proceedings. Moreover, this chapter also describes the theoretical foundations in proposing the PAG framework, which consists of advergame elements to persuade players toward the brand.

Chapter three is the research, which proposes the PAG framework as a strategy to persuade players toward the brand through advergames. Four phases are involved in the study: 1) *Problem Investigation*, 2) *Framework Development*, 3) *Framework Evaluation*, and 4) *Documentation*. Phase 1 is the initial stage of the research study, which involves identifying the existing issue and managing the raised issue. Phase 2 describes the development process of the proposed framework, which involves several activities, including assessing the expert opinion regarding the identified potential elements of advergames that can be used to sway the player's perceptions toward the brand. This phase also involved the development of the advergame application and the implementation of the validated PAG framework. The panel expert analysed the validated advergames elements in terms of relevance and clarity and interpreted them in Chapter 4. Phase 3 is the evaluation phase, which involves the user evaluation through an advergame prototype. The last phase is documenting the gathered data throughout the research study.

Chapter four discusses the evaluation constructed throughout the research study, including the face validation survey and the validation of the PAG framework. The panel expert will analyse and conduct the face validation survey for several criteria to ensure the questionnaire is appropriate for the research study. This chapter also evaluates the PAG framework that encompasses the elements of Advergames that can persuade players toward the brand through games. The questionnaire will be evaluated in terms of relevance and clarity to prove the reliability of the research study by a panel of experts selected from academia and industry. Any necessary amendments will be made based on the expert's suggestions and opinions. In addition, this chapter will

analyse and evaluate the advergAMES prototype with the implementation of PAG elements that the panel experts have validated. The intended target user will evaluate the designed advergAMES prototype to ensure the objectives of this research study are achieved. All the findings gained during the evaluation process will be documented appropriately.

Chapter five summarises the research study that proposed the PAG framework as a persuasive strategy through gamified advertising. Furthermore, this chapter discusses the contribution of this research study, its limitations and ideas for improving the field of study on the issue with new knowledge.

## **1.10 Summary**

This research intends to propose a framework as a guideline to persuade players toward the brand. The PAG framework consists of advergAME elements that can be implemented in the games to deliver the brand advertisement that resides within the games, so that it can alter the players' perception towards the brand. Hence, chapter one summarises the context of this research study by highlighting the problem and the research gap that needs to be filled to address the issue. All information regarding the research study is gathered through a comprehensive analysis of journals, proceedings, and related articles related to the topic area of study. This research study plans to achieve its research objectives: *1) To identify the key elements for advergAMES as a persuasive strategy toward the brands, 2) To develop a persuasive advergAMES framework (PAG framework) as a persuasive strategy toward brands, and 3) To evaluate the PAG framework through a persuasive advergAME application* by answering the intended research question of the research study including *1) What are the key elements for advergAMES as a persuasive strategy toward the brand?, 2) How can the identified key elements for advergAMES be developed as a persuasive strategy toward brands?, and 3) How is the PAG framework acceptable for advergAMES as a persuasive strategy toward the brand?.* Besides, this research study comprises the significance of this research study to others, the research scope, and the limitations that may need some modifications in the future.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents an overview of the literature review in the research study, which comprises a relevant description of related topics in the area of the research. It describes the advertising, advergames, gamification, marketing, persuasion and branding concepts. It also elaborates on the theories associated with the research topic, theoretical foundations, and the existing model based on the previous study.

#### **2.2 Advertising**

The Internet has increased the availability in the marketing industry for companies to advertise their product. Advertising can be stated as a tool to deliver and engage consumers with the information (Rehman et al., 2019). It also involves the process of identifying customer needs and satisfying those needs in a way that is beneficial to society. Advertising as a marketing component can be understood as an effort to advertise the company's product or brand through a channel. The possibilities led the industry to connect people through different media as a strategy in promoting a brand or product, consisting of advertising and branding.

Advertising can be found everywhere, including on billboards, magazines, websites, and social media. Advertisements are one of the ways of conveying the intended message or promoting a product to a specific target audience. They are essential in the marketing industry since they act as a medium for delivering information about the product or brand to consumers. As a communication tool, advertising requires all possible strategies to inform the consumer and draw attention while promoting the company's product to drive sales and achieve its objectives.

Advertising must be planned precisely and carefully to reach the target audience through paid campaigns such as online advertising, newspapers, television, and radio. Advertising is a medium where they can educate and transmit messages about their product or services without direct communication with consumers. Marketers and advertisers should include a creative strategy in convincing consumers of their products since they have the power to control the market (Becker & Gijzenberg, 2023).

Advertising is becoming a powerful tool in the marketing industry to persuade consumers to purchase products. Ogah & Abutu, (2022) defined advertising as persuasive information through media on the product defined by the advertiser. The company's marketers should utilize an advertising strategy to persuade consumers to change their behavioural decisions when purchasing products and services.

According to Hussin & Hishan, (2022), an advertising strategy encompasses promoting and building brand awareness for a company's product. A primary reason companies select advertising services is to increase public exposure of their products, ultimately aiming to drive sales. An advertising strategy enables companies to analyze consumer needs in order to effectively sell products, as consumers ultimately control the market. Additionally, it facilitates the delivery of the company's message to the target audience in an engaging manner. Some advertisements can be exposed to the global market through social media without boundaries. Nowadays, Individuals and companies advertise their products to create brand awareness and persuade consumers. The market has become globally competitive due to many new products and inventions entering the industry.

Advertising starts with the traditional strategy, where the information on the product or company is mainly in printed media such as newspapers, magazines, and billboards. Due to technological development, most marketers from the company shift their strategy by using digital marketing to convey information about their products. Their ultimate goal for the new advertising strategy is to attract potential customer to the company's websites and create engagement with their product or brands. Technological advancement brings positivity to the marketing area, as a new strategy has been developed in the marketing industry.

### **2.2.1 Types of Advertising**

Advertising is evolving from the traditional to a digital form, along with the evolution of the digital world. Marketers use traditional advertising, such as billboards or television commercials, to promote their products and convert to advertising by implementing interactive methods to create engagement from the user. The types of advertising are described in detail below.

### ***2.2.1.1 Traditional Advertising***

Traditional advertising is one approach marketers and practitioners use to promote their products to consumers. Most traditional advertising involved printed media such as magazines, newspapers, and billboards to deliver product information before the introduction of the Internet as a new marketing strategy. Although digital media is becoming the centre of advertising, some companies still use traditional media to promote their campaign. Traditional advertising may impact an advertising campaign, but creating one campaign still requires a large budget. On top of that, there is no direct interaction between the customers. The company may be in the dark about getting a response from the customer for their advertising campaign. The drawback of advertisement through television commercials may be that advertisement avoidance consumers can switch to another channel rather than engage with the TV commercial (Dix & Phau, 2017), preventing marketers from persuading the consumer toward their brand. Figures 2.1 shows the usage of traditional advertisements on billboards that can be seen on the roadside to promote their brand.



Figure 2.1 Example of Traditional Advertising

### ***2.2.1.2 Digital Advertising***

An advancement in technology drives the shift in advertising strategy. Digital marketing strategies brought changes in communication since they allowed companies to use a communication tool including websites and games to promote their product. This type of advertising uses the Internet's advantage since people nowadays spend more time surfing the Internet to get new information. Digital marketing could also be

used on social media platforms like Instagram and Facebook to promote their product. Using digital advertising allows the company to have feedback on their product, resulting in more engagement with the consumer. According to Dwivedi et al., (2021), technology usage has succeeded in helping companies promote their products.

Digital advertising is a more targeted strategy than the traditional strategy; the business can focus on the target group while running a product campaign. Despite having benefits as an advertising medium in promoting a product, digital advertising might be bothersome for some customers since it might interrupt their time on the Internet by showing multiple advertisements on social media or websites. The advertisement may face other challenges while promoting the brand, as there will be a constantly evolving marketing strategy in the future. Figures 2.6 shows the brand that utilises games as its new advertising strategy.

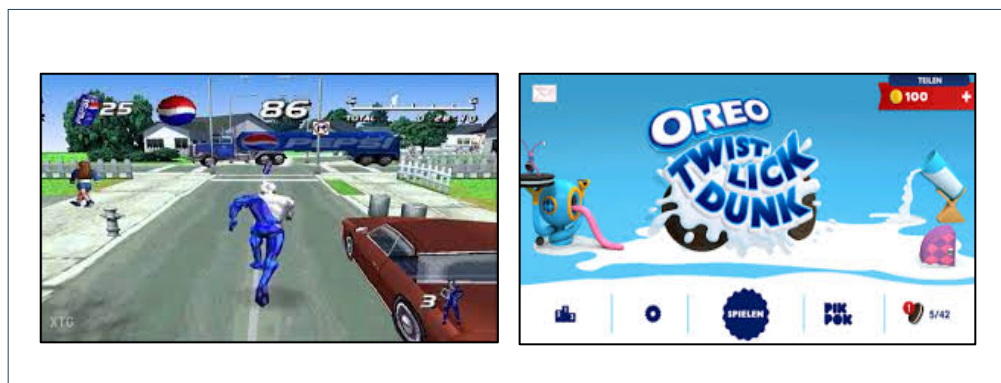


Figure 2.2 Example of Brand with Digital Advertising

### 2.2.2 Conceptualisation of Branding

Competition in the market becomes more vigorous, making brands and branding increasingly important to distinguish from competitive products by creating creative brand names, attractive packaging, and trademarks. Branding is a representation of the identity of one's business. It is the process of creating a company concept in customers' minds. Shams et al., (2024) reported that a brand could be described as a name, symbol, or design attributes used to differentiate a company from its competitors regarding product or service. The components of the brand, including the name, logo, font, and colour scheme, are important elements in branding as they help a consumer remember a specific brand. A brand is an important tool in advertising as it helps consumers

differentiate one brand or product from another according to their preferences, making it easier to create brand awareness of the product. The brand feature should appeal to the user for its presentation, as it promotes the product characteristics and information.

#### ***2.2.2.1 Branding Strategies***

Branding is crucial in developing the long-term commitment of the business since it can promote loyalty and establish trust with the consumer. Branding products became the norm as it allowed the customer to differentiate one company from another by the identity that has been created. Several branding strategies have been identified in the marketing industry for promoting their product. The marketer and advertiser should choose a suitable branding strategy, as different campaigns involve different target audiences.

The first branding strategy is product branding, designed to differentiate a product through symbol or design. This type of branding is noticeable since most products have tactical branding with a unique design and logo. Next is personal branding, which refers to individual branding that establishes personality or character. This type of branding can represent the best version of the individual to create and influence their impression on public perception in the industry. Personal branding, the ongoing process of developing and maintaining a reputation, includes unique skills, experience, and personality as crucial elements in promoting an individual.

Corporate branding is the practice of promoting the brand as a corporate entity. It is different from product or service branding as the scope of a corporate brand is broader, including all the marketing affairs of a company. Moreover, the services branding includes brand-building activities with different service sectors and industries. A service brand is more complex and challenging to manage than a product brand. A product brand is a concrete product, while a service brand is an intangible service, including brand name, employee image, and word-of-mouth.

The last type of branding is co-branding, combining multiple brand names from a company's products into a strategic alliance. Co-branding services or brand partnerships involve at least two companies creating a new identity with the help of a unique logo and brand identifier, and improving the market strength.

### **2.2.2.2 Implication of Branding**

Branding is crucial in developing the long-term commitment of the business since it can promote loyalty and establish trust with the consumer. The impact on branding through advertisement established a positive connection between products and customers (Tahir et al., 2024). The branding affects the ease of decision-making by comparing a brand's quality and reliability with its services. The advertiser should identify the effective strategy in branding since purchasing decisions of consumers are driven more by identity expression and social status than by functional value. In conclusion, branding is significant in equity and customer loyalty.

The branding also resulting a positive link in customers by having a favourable brand and generating sales for the company. Companies from the food industry, like KFC and Doritos, acknowledged the positive outcomes and chose to deliver the information on their product through game development. The package image, brand character, and company logo act as a brand identifier in the advergames, making it difficult to recognise the persuasive intent of the advertisement when being integrated into the game content (Thomas et al., 2022) and lead to positive attributes to the product.

### **2.2.3 Implications of Advertising**

Advertising has influenced various aspects of society, including consumer attitudes and market competition, by informing and persuading individuals about brands, products, and services. Effective advertising strategies can improve brand recognition and loyalty, stimulate consumer interest, and support economic growth. Expanding a business is crucial for becoming more relevant in the globalized market. However, the company will face some challenges while expanding its business to adopt creative strategies and innovations to expand the business. The marketers should keep track of the industry's marketing strategy to reach the potential customer while achieving the full potential of advertising. According to Sharma et al., (2024) business success comes from developing technology in the marketing environment. Companies should acknowledge using technology as a marketing strategy to sustain their business in promoting their product and to retain customer relationships.

Marketers acknowledge some tools, such as creative media, to deliver information to help promote the business, such as advertising, digital marketing,

traditional media, and non-mass media, such as event marketing and branding. The company's business in the marketing industry allowed us to create an imaginary difference in product operations, thus increasing the company's productivity through marketing strategy. Digital marketers should identify the content of advertising to shape consumers and influence them to purchase. Digital marketing is so powerful as an effective branding strategy that it can speak with the intended target consumer with one image or video, leading to changes in company sales.

#### **2.2.4 Advergames as Advertising**

Advertising through billboards or television is no longer the top choice strategy for the company, as they are more static than digital advertising, creating less consumer engagement. Advertisements through digital strategy allow advertising practitioners to promote brands or services by implementing the features of their products into the gameplay. The new advertising strategy favours (Putri, 2021) for the company as they can produce more positive attitudes (Sung & Lee, 2020). The ability to create a positive association between the product and consumers through branding (Hanbazazah et al., 2022).

Advergames utilize gamification in the advertisement, which evokes a pleasurable experience for the players while engaging with the product in the game, resulting in more positive attitudes toward the advergames. Therefore, gamified advertising is used with current marketing firms to raise brand exposure and associations (Yassin, 2024). Based on the current study, advergames affect the attitudes, memory, and choice behaviour of the consumer since the digital natives are more interested in a message that is well implemented through games.

Advertising through gameplay affects consumers' processing more, creating brand awareness and increasing brand knowledge of brand details than traditional advertising (Adis, 2020). Advergames can influence brand belief, leading to transfer effects on the consumers. The positive effect transfer can happen without the marketing cues being understood or processed consciously. Gamified advertising can be used to improve the brand impression of the intended target audience (Santiago, 2024) and facilitate an emotional relationship with players. Based on the research study, using game mechanics makes the advertised messages pleasurable (Altmeyer et al., 2019),

creating more positive attitudes once the hedonic value is achieved (van Berlo et al., 2021)

Video games encourage users to be active, allowing marketers to promote action and manage the game's actions. The persuasion power held within the advergames allowed one to alter one's decision. This situation can be seen when the player chooses to buy a product after interacting with a brand in the game; hence, it shows that advergames impact respondents' buying behaviour (Hsiao et al., 2022). Advergames as a marketing tool effectively convey a brand's message for a product campaign, which is supported by other research that shows that advergames can persuade users since they have persuasive power.

Despite being a promising tool in advertising, advergames are challenging to create, as many things need to be considered when choosing the strategy to promote the company's brand through games (Gungor, 2020). There is a need for an in-depth understanding while creating a promotional strategy to promote the brand through advergames (Ghosh et al., 2022). The type of the game, the integration of the brand and the brand's location are the attributes that the researcher should identify to ensure the goal of advergames is achieved. The advertising practitioner and the game developer should work together to create an effective communication strategy to drive traffic across all platforms through advergames. The company should keep in mind that developing a game takes longer as the process of designing, developing and testing needs to be carried out in steps.

### **2.3 Advergames**

Advertising banners, television, and newspapers are traditional advertising media that marketers and practitioners use to promote their products. However, the strategy is no longer effective since they are time-consuming and money-consuming. Therefore, marketers and advertising practitioners sought a more creative and entertaining way to persuade customers in advertisements (Ghosh & Dwivedi, 2022). Based on the research study, the impact of these emerging kinds of advertising is more substantial than that of conventional forms (De Pelsmaker, 2019). The promising marketing tool that is being acknowledged for its possibilities is known as an advergame.

Advergame is one of the fastest-growing strategies for promotion based on electronic games. It is the combination of advertising and video games that act as tools in promoting brands, products, or services through digital games and can be defined as the latest entertaining tools that create entertaining experiences with a specific function in promoting a brand or product that can engage the user (Sinem, 2024). Advergames can deliver an advertising message to promote a company's product (Van Reijmersdal et al., 2021), drive traffic to the website while building brand awareness (Farzinnejad et al., 2024). The primary purpose of advergames is to provide an enjoyable experience (Whittaker et al., 2021) for the player while providing information and engage with the brand of a company (Ghosh & Dwivedi, 2022). Advergame can also be related to the flow of experience, which refers to the user's involvement while playing the game. Advergames or digital are built to provide entertainment while ensuring the delivery of the brand information so that the player can identify the intended message in the game environment. Based on the current study, the increased consumption of digital games by youngsters prompts marketers to utilize this communication medium to advertise their products (Mishra & Malhotra, 2020).

Advergames consist of marketing content, including advertising messages, logos, and characters that can be represented as an effort to provide certain information about a product throughout the game (Gumber, 2023). This situation significantly increased company sales by using strategies to communicate with the respective customers (Cañete & De la Hera, 2023). The potential of advergames shows in engaging the user toward the brand while incorporating game components in the game more than the average of traditional advertising periods compared to traditional advertising (Castiblanco Jimenez et al., 2022). It has been demonstrated that advergames influence how people receive brand information by causing positive arousal during gameplay. This leads to increased brand awareness, favourable brand attitudes, and knowledge.

The cost-effectiveness and viral marketing ability are the essential criteria that made the company choose to use this type of medium in delivering the information on their product, as they are explicitly designed to deliver brand, service, and product in the form of entertainment (Santiago, 2024). According to Abusharieh et al., (2025), the embedded messages in advergames combines entertainment and advertising allow user to interact with the branded content and could be used to increase brand awareness and

create a positive attitude towards the brand and experience for the user (Sung & Lee, 2020) since the nature of an advergame holds the power of persuasion through the game.

Advergames strategy is introduced to gain the product's information and produce a positive experience toward a specific brand (van Berlo et al., 2024). Regardless of the possibility of advergames, the failure of advergames to effectively convey brand information persists, as this field is underdeveloped and lacks extensive research (Groen et al., 2023). Based on existing studies, one reason for advergames' failures is a lack of awareness of user interest (Robson et al., 2015). User interest is an important element to consider when developing game application since it can affect performance actions throughout the game (Persada, 2019). Lack of awareness will result in user engagement, where they could lose interest while playing the advergame, which could lead to an application's failure. The advergame failed to engage the users because the developers were unaware of the users' needs or interests and motivation to improve in performing the actions throughout the game.

### **2.3.1 Current Trends in Advergames**

Advancements in advergame technology and user engagement have prompted various sectors to explore the potential applications of advergames. The food manufacturing sector, in particular, has begun to recognize the advantages of using advergames to communicate brand information and promote directly to consumers in ways that stimulate increased consumption (Maksi et al., 2024). One of the food companies takes advergames to another level by creating a virtual reality game environment, *"Doritos VR Battle"*, to promote the flavour of tortilla chips. The food company promotes its products through digital games to make customers aware of them and shows a more positive impact on the company than other forms of the campaign. Besides, the combination of games and advertisements can create brand awareness, collect potential customer data, and create positive associations with the brands or products of a company (Mishra & Malhotra, 2020).

The possibility of advergames in engaging users has ushered the tourism marketers to utilize its functionality to improve visitor experiences, promote destinations, and cultivate a stronger connection between travelers and the locations they explore (Preko et al., 2022). The tourism sector also chose advergames as an advertising medium to promote national landmarks, highlighting the growing

importance of digital marketing in tourism marketing. Promoting through the advergames campaign could enhance tourist experiences, promote cultural, and support tourism practices (Abusharieh et al., 2025). Using gamification enables tourism marketers to convey information about the landmark, helping users to gain new knowledge and contribute to the tourism sector. Hence, it shows the benefits of advergames to tourism marketers, destination managers, and policymakers, and explains how to leverage their potential to enhance brand recall and foster emotional connections with the destination.

### **2.3.2 Advergames Platform**

The advergames are relatively simple in their design; hence, they are easier to disseminate on several platforms (Ghosh et al., 2021). Even though the platform is different in build, distinct features and size, the purpose of providing entertainment while transmitting information to the player is still the same. Based on the previous findings, developing games on different platforms may influence the player's attitudes (Sinem, 2024) toward the intended embedded brands. According to Vashisht and Sreejesh (2019), changes in the advertising environment prompt the researcher to identify a suitable platform to bring out the most effects on players while playing games. Therefore, the game designer needs to identify a suitable platform when developing advergames, as it is associated with the player's engagement and experience in game-playing situations. Multiple platforms require the game designer to choose a proper platform in developing the game to help the player experience better game-playing situations. Below are several video game platforms for the player to play the game.

#### ***2.3.2.1 Personal Computer***

Personal computers or PCs are the basic platform for the player to access digital games (Ghosh et al., 2021). Players might access the game online or offline, where online games need an internet connection to access the game, while offline games do not require an internet connection. The player may need a mouse, joystick, or high-quality touchscreen graphics to enjoy the gaming experience. However, players might need to upgrade the specifications of their computer to get a better resolution and a

smoother gaming experience. Figure 2.3 shows the image of a personal computer for players to play games.



Figure 2.3 Example of a Personal Computer

#### **2.3.2.2 Mobile Phone**

The rising interest in the game made advergAMES available and developed into other platforms such as mobile applications. Mobile phones have been upgraded yearly in terms of their functions and features, becoming powerful tools for completing our daily tasks and becoming compulsory items for most of us. Mobile phones are easily accessible due to their small size, yet they have a powerful impact as they can be accessed everywhere. According to Degenhard (2024), smartphone users are increasing, totalling 1.7 million between 2024 and 2029. Hence, it shows that people spend most of their days utilizing the capabilities of smartphones. According to Adis (2020), digital games through mobile are a brand communication tool and are likely to deliver information and attract customers more in a unique and fun way. Therefore, marketers and advertising practitioners acknowledged their potential in the advertising area in accessing advergAMES. Figure 2.2 shows the kinds of mobile phones that can be used to access a video game.



Figure 2.4 Example of a Mobile Phone

### 2.3.2.3 *Game Console*

Game consoles offer marketers and advertising practitioners more opportunities to promote their company's brand, as they are popular game platforms nowadays. A game console, like Nintendo and PlayStation, is a video game that needs a game controller in order to play a game. The promise of advergames in delivering the brand's information makes it possible to create a positive relationship for the player and the brand through the game console. Figure 2.3 shows an example of the game console platform that the player can access to play games.



Figure 2.5 Example of Game Console

### 2.3.2.4 *Arcade*

The accessibility of advergames can be reached through an arcade platform. One of the examples of a video game is Tapper or Root Beer Tapper, to promotes the root beer drink to the player. In this game, the player will act as the bartender at the bar who

will serve a drink and collect an empty mug from the customer. Figure 2.4 (a) shows the usage Tapper video game, which features the brand's logo at the centre of the gameplay, and (b) shows the arcade platform that the player could access.

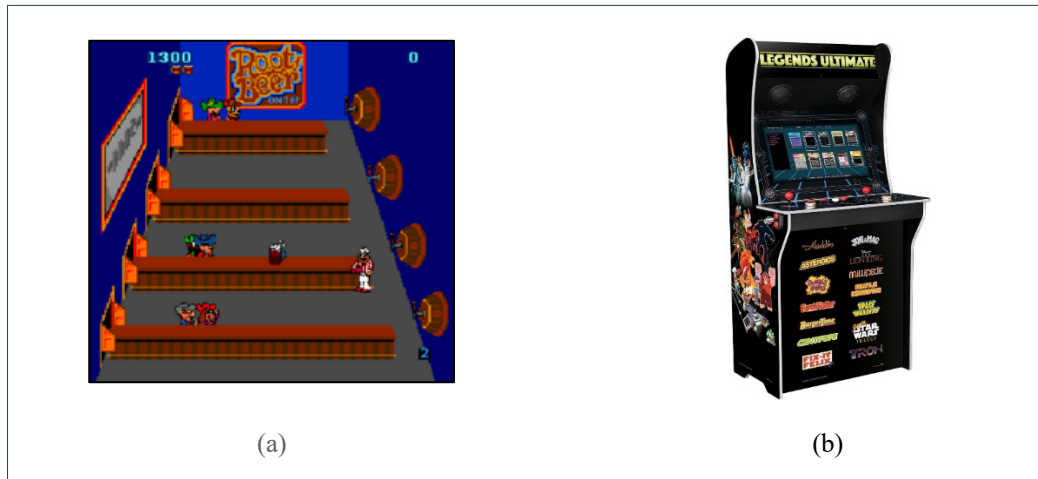


Figure 2.6 Example of Arcade Platform

### 2.3.3 Existing Brand with Advergaming Application

The advergaming technique is constantly evolving and can be used to create brand awareness for any product. Advergame for a brand is increasingly popular among companies in marketing trends. The developed game will represent a brand for the company, and all the visual elements and marketing communication messages will be included in the computer and video games (Sung et al., 2020). Therefore, some companies take other steps to promote their brand by producing an advergame. Table 2.1 shows some of the successful applications of the advergame campaign in promoting their brand.

Table 2.1

## The Example of an Existing Advergame Application

| Brand                                                                                                                      | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>M&amp;M</b><br>                        | M&M is one of the applications that is developed to promote its brand. The concept of M&M advergame comes from Connect 4, the classic game, and transforms it into their brand advergame. The user must place at least three equal M&M candies to be eliminated. The company also has a PlayStation game with over 20 levels that can be downloaded for free.                                             |
| <b>KFC's "Shrimp Attack"</b><br>          | KFC Japan uses a gamification approach to promote its new menu, shrimp. The user must defend the KFC Headquarters from the shrimp attack. The company distributes the game via social media, producing 800,000 players and 600 hours of playtime. Hence, it shows that the advergame has successfully promoted its new menu.                                                                              |
| <b>Crazy Taxi</b><br>                   | Crazy Taxi is a driving game that promotes the most well-known companies, including KFC. The user will act as a driver to pick up the customer and drive them to the intended locations while unconsciously engaging with the brands in the gameplay.                                                                                                                                                     |
| <b>Doritos VR Battle</b><br>            | Doritos VR Battle is an active virtual reality application developed to promote a particular flavour of tortilla chips. The user will be set in the cave and needs to avoid being hit by the monster while collecting as many tortilla chips as possible. The game can be played by yourself or among friends.                                                                                            |
| <b>Wendy's Smoky' Shroom Sprint</b><br> | Wendy's Smoky Shroom Sprint created a game to be shared on social media to promote their new mushroom burger. The user will be played as "Wendy," running endlessly while dodging the net trap and collecting the mushroom burgers. The game can be played on mobile phones, computers, or tablets. The new menu has been shared over four times on social media from the previous campaign of this game. |

### **2.3.4 In-Game Advertising (IGA)**

Advergaming and in-game advertising (IGA) terms are related to gamification and advertising, but both terms are built with different functions and features. IGA is defined as incorporating paid products, services, and brands in a video game (Mishra & Malhotra, 2020), including static ads displayed in the game environment. According to van Berlo et al., (2023), video games are created to promote the brand, where the source of entertainment is the imitation of traditional game forms while focusing more on the revenue for the company. Designing and developing the game design to convey brand-related information is the core of IGA, rather than focusing on delivering entertainment for the players while playing the game. According to (Zagni et al., 2025), the difference in gamification style made the IGA more complex compared to advergaming. Based on the previous study, the difference between IGA and advergaming can be seen in the impact on attitudes and purchasing intentions, where there is a positive impact on children's attitudes and purchasing intentions through advergaming compared to IGA (Ghosh et al., 2022). Therefore, it can be concluded that IGA mostly resembles product placement where the designed game represents the brand message.

### **2.3.5 Implication of Advergaming**

Digital advertising has fundamentally reshaped contemporary marketing practices by shifting promotional strategies toward data-driven and highly targeted communication. Offering advergaming as a tool that offers advertisers and marketers a powerful tool for engagement and experiential branding. Advergaming is designed with the specific function of delivering the intended message by integrating the brand message into games and symbolizes a type of digital advertising that is becoming more immersive and blurring the line between persuasion and enjoyment. The type of engagement can enhance brand recall and brand attitudes from users, engaging in advergaming apart from traditional advertising, which often struggles in this technology era. Despite the substantial advantages offered by digital advertising, its sustained success depends on responsible data usage, adherence to regulatory requirements, and the cultivation of consumer trust, in addition to achieving organizational objectives.

## 2.4 Gamification

The evolving technological advancement unlocks new possibilities for the game developer to create more engaging player experiences. Gamification is one of the new approaches, as most companies nowadays use gamification as their marketing strategy. Behl et al., (2022) state that gamification can be defined as applying the engaging game elements to real-world production activities. It is an approach that utilizes capabilities, techniques, and theories of the game in unrelated game surroundings, including marketing, human resources, and learning. It also involves user motivation (Behl et al., 2022), which gives users chances and rewards to improve their actions.

According to Yassin (2024), using gamification principles can increase the effectiveness of their advertising messages, affecting the brand evaluations and also engaging with more enjoyable content (Trinidad et al., 2021). Hence, there is no doubt that gamification would be an effective technique with the digital presence. Avatars, countdowns, timers, point scoring and levels are several successfully identified as relevant game elements used in the gamified non-game context (Pasca et al., 2021). Based on the existing studies, gamification is positively associated with brand, leads to positive changes of consumer behavior (Schöbel et al., 2020).

Gamification is a new approach that benefits marketers in the marketing field. According to Sharma et al. (2024), marketers are growing their interest and are highly motivated to apply the gamification approach to enhance marketing effectiveness. It shows that gamification can positively affect brand management and increase brand equity. Therefore, it is a powerful approach for increasing brand management (Li, 2025, Hsu, 2023). Gamification as a marketing strategy for any business and industry delivers the most effective and creative strategy message by implementing gamified elements, including badges or points as a reward for the player when they accomplish the task given. Providing fun and engaging experiences allows customers to remember the brand itself.

As the gamification technique grows among marketers, many aspects have been analyzed to create consumer engagement and persuasion toward the brand. Gamification has been an important issue for practitioners and researchers. Detailed research on the combination of gamification and advertising needs further study due to the increasing divergence in diverse areas. It is important because gamification design categories have different marketing outcomes and engagement (Habachi et al., 2023).

## **2.5 Persuasion**

Persuasion can be defined as an effort to sway an individual, leading to a change of behaviour on their own (Perloff, 2017). The method of persuasion is critical as the proper process can lead to changes in one's decision or actions. Persuasion in marketing is crucial as it involves the decision making by the consumers.

### **2.5.1 Persuasion Techniques in Advertising**

Persuasive methods have been widely employed in marketing to promote and provide information about the company's products. Several persuasive mechanisms have been widely used in marketing, as Cialdini (1993, 2007) outlined. The first persuasive mechanism is reciprocity, which refers to an unforeseen gift, such as free samples. Marketers can use the free sample technique to target potential customers and give product information, as free samples can persuade or influence others regarding marketing. The following technique is commitment or consistency, which explains the customer's belief in consistency and their previous actions or attitudes. This situation would give the marketers higher conversion rates, so the customers would willingly complete the form. Social proof, as the third persuasion technique, can be defined as the uncertainty in making any decisions, including observing what other people have been doing to get the evidence or proof before making any decisions.

Sympathy or likability, as a marketing technique, explains that people can be influenced by people's actions based on their liking. This principle is widely used in social media, where the company will choose an influencer to promote their product to increase their sales. Moreover, authority is defined as the tendency of people to follow authority figures to gain some opinion or guidance on any product before purchasing or making decisions. At the same time, scarcity is related to supply and demand in the marketing field regarding the availability of the product, as marketing techniques have been widely used in the marketing field. The power or capability to persuade consumers depends on the technique that is being implemented. Thus, the marketer must identify a suitable approach to engage consumers in their product.

Persuasive strategies can be implemented in advergames, and it can be a successful persuasive game if the game design can facilitate the transfer effects from the game-world experience to the real-world environment for the end-user. Persuasion

and advergames relate to procedural rhetoric theory, which is defined as a theory of game categorization with a unique pervasive property since they can embed an argument in the form of rules and procedures (Bogost, 2007). The procedural characteristic allows for engaging players while delivering the intended messages through the game.

### **2.5.2 Persuasive Advergames**

Persuasive methods have been widely employed in marketing to promote and provide information about the company's products. In a recent study, researchers, marketers, and practitioners investigated the prospective method as a marketing tactic that may persuade possible customers within advergames (van Berlo et al., 2021), as it is in nature that one can be persuaded by using an effective strategy. According to current research, advergames significantly affect the persuasive outcomes of relevancy, the direction of more positive attitudes and intentions, and increase consumption behaviour (Thomas et al., 2022). Given the findings, advergames are considered persuasive because of their ability to engage consumers with the advertising content (van Berlo et al., 2021), resulting in difficulty in recognizing the intentions of the game's persuasion. Advergames' features in achieving player attention during the game invite marketers and practitioners to persuade the player toward the brand through this medium.

The capabilities of advergames in promoting a product through a unique game environment with minimized wording usage show that it can be used to persuade consumers (Thomas et al., 2022). Marketers and advergames designers should identify how to incorporate persuasive messages in online games that could influence gamers' mental, emotional and conative brand outcomes and attitudes toward the game. It has also been stated that players can learn about the brand through a well-embedded brand in the game, known as procedural rhetoric (Bogost, 2007). Several methods can be used to persuade players through persuasive games, including combining the persuasion technique with games (Groen et al., 2023).

Advergames go beyond as they have the power to change the players' behaviour (Arifah et al., 2022), engage them emotionally, and create connections between the products, hence fostering greater loyalty to the brand (Hanbazazah et al., 2022). Moreover, a research study pointed to the factors that influence players' ad persuasion,

including the prominence of the brand and the repetition of tasks in the game (Van Reijmersdal et al., 2015). The concept of persuasive games tends to focus more on persuasion, aimed at the transfer effect in persuading players to change their beliefs and views or influence their behaviour. The exposure of brands embedded in the game has a persuasive effect on gamers' memory and attitude toward the brand (Mishra & Malhotra, 2020). The power of games could influence the player's behaviour to feel empowered and more confident in making decisions (Hanbazazah et al., 2022). Based on the previous study, it is said that the game is persuasive through the interaction of players with real-world issues or experiences. Using the game design element in the real world to create a game world with user experiences makes the player accept the persuasion attempt through the gameplay.

The features of the game, which allow the player to evaluate an argument within the system, automatically allow the player to interact with the game. The combination of narration and interaction between the player and a product within the games creates the most effective form of persuasion (Groen et al., 2023). The game designer should bear in mind the integration of the brand in the gameplay that could capture the players' attention, including the mascot, avatar or logo of the brand. The task in the game should be easy for the player, like collecting the item that relates to the brand, so that it can create engagement with the content embedded in the game.

According to Ogah & Abutu, (2022), a persuasive message with the persuasive intentions of the brand can be achieved through embedded digital games. Advergame's characteristics can be used to enhance the marketing effect as it can interact directly with the product through the game rather than through a static advertisement on the billboard. This situation leads to changes in the behaviour and perceptions of individuals since they attempt to create an emotional reaction between the game and the brand toward the players (Zagni et al., 2025). Despite the possibility of advergames influencing players, the game designer's responsibility in creating persuasive advergames should be the priority while developing the games with the proper gamification format (Ghost et al., 2022). Digital marketers and designers must discover creative material or approaches to persuade customers to interact with their brand or product. Hence, it shows that this approach facilitates the development of connection and emotional resonance.

### **2.5.2.1 Types of Persuasion in Digital Games**

The researcher has acknowledged the potential of persuasion in digital games. According to de la Hera (2014), a persuasive message with the persuasive intentions of the brand can be embedded through digital games. The marketing technique melts persuasive messages into entertainment programs, contributing to faded information, entertainment, and advertising (Braca & Dondio, 2023). The previous literature review shows three types of persuasion in digital games: *exocentric*, *endocentric*, and *mediated*. According to de la Hera (2017), the exocentric persuasion strategy is the persuasive technique used in digital games to deliver the message to the player. The strategy contains a built-in strategy to alter the player's attitude by delivering a message within the game. The game that uses this kind of strategy will have persuasive intentions throughout the game (Fogg, 2003). Exocentric persuasion can be related to the *central route* persuasion approach by Petty and Cacioppo (1986), in which "the person can change the attitude results from the information gained.

Endocentric persuasion strategy is a technique that digital games can use to engage and motivate players to keep playing (de la Hera, 2017). This type of persuasion focuses on delivering a persuasive message within the digital game and persuading the player to engage in a particular activity. Endocentric persuasive is the same as the exocentric persuasive strategy, where both are embedded with the game's persuasive intention. The game that used this strategy to motivate the player to keep playing also persuaded the player to engage in a particular activity. The last strategy is game-mediated persuasion, which is different from other strategies as the focus is not on persuading players (de la Hera, 2017). It is related to the exogenous persuasive intent, in which the persuasive intentions do not have to be embedded within the game. The game-mediated technique used the game as either persuasive or not, not the message with persuasive intentions.

### **2.5.3 The Implications of Persuasion**

The correct strategy can persuade the consumer or player into the targeted product. The spreading of the product is beneficial to the company, as it can generate income for the company through the consumer's purchasing behaviour. Additionally, they could potentially express their opinion about the brand, which would spread the

word about it. Persuasion in marketing refers to the use of targeted messages and strategies to influence consumer attitudes. Its impact is evident in the ability to shape consumer choices and contribute to brand success. Persuasive techniques enable advertisers and marketers to guide decision-making processes and motivate the consumer in product purchases. It can be concluded that strategy plays an important role in changing one's behaviour. Therefore, the implication of the user can be seen in the behaviour where they would choose the product that gained their interest rather than other promoted brands.

## **2.6 Related Theory and Theoretical Foundations**

Several theories relevant to this research study include Persuasion Knowledge (PK), the Elaboration Likelihood Model (ELM), the Limited Capacity Model (LCM), Flow Theory, and the theoretical foundations from the previous study. All theories are related and affect the research. Below is the description of each significant theory in this research study.

### **2.6.1 Persuasion Knowledge (PK)**

The persuasion knowledge model was introduced by Friestad and Wright (1994) and defined as a belief and attitude that makes the consumer use their knowledge to cope with persuasive intentions by marketers. Persuasion knowledge is critical for the marketer, as there will be more of a coping response from the consumer based on the information of the commercial intent. There are three central cores of PKM: topic knowledge, persuasion knowledge, and agent knowledge. Topic knowledge refers to the individual principle of believing the product's intended message. In contrast, agent knowledge is the perception of the individual of the persuasion agent, including the advertiser who promotes the product.

The customer's persuasion knowledge is always in a developmental condition, as they always gain new information whenever the persuasive intent comes across. It helps consumers identify how and when marketers induce the persuasive intention. The higher the consumers' persuasion knowledge, the better the chances are for them to cope with different persuasion attempts. The coping mechanism allows the consumer to have a sort of control over the outcomes of specific episodes of persuasion. Based on

the previous study, consumers can develop negative brand attitudes, reducing purchase intentions, and increasing scepticism toward ads, and negatively impacting consumers' attitudes toward promoting products (Eisand & Tarrahi, 2022). Contrary to the impact on brand recall, persuasion knowledge positively impacts consumers (Eisand & Tarrahi, 2022).

In the context of advergames, advergames are one of the tactics used to deliver information about the product while providing a gameplay experience for the player. Game designers should pay attention to integrating the product into the gameplay to prevent the consumer from recognizing and understanding the persuasive intentions of advertising through advergames. They must also tackle the persuasion technique, as some players will recognise advergames' intent. According to Eisand & Tarrahi (2022), the persuasive knowledge of players will be activated when they are aware of the promotional ad embedded in the game, leading to tactics to counteract on the persuasion attempt and refine their attitudes toward the product. Therefore, the game designer should be concerned with integrating the brand identifier in the game so that the player would be noticed of the persuasion attempts of advertising. The persuasion knowledge is critical in designing the branded game content since it involves the player's knowledge. If the player notices the persuasion attempts in the game, they will most likely stop playing the game since they realise that they are being promoted instead of playing the game. This situation led to the advergame's failure to deliver the information about the targeted promoted brand. Therefore, the Farm Fresh Adventure application incorporates the brand identifier subtly to minimize the player's awareness of the persuasive intent embedded within the game.

### **2.6.2 Limited Capacity Model (LCM)**

The limited capacity model (LCM) by Lang (2000) focuses on the capacity of mental resources to process information. The model describes the limitations of an individual in processing information while being hooked on other tasks for a certain amount of time. The mental capacity can be divided into two parts: the primary task and the secondary task.

The scenario of this model can be seen in a game-playing situation; playing a game will be the primary task, while processing the product's information will be the player's secondary task. Players who are highly involved with the game would likely

use most of their mental resources, which leaves them with less mental capacity to process the information or advertisement in the games, while players with less game involvement have sufficient capacity to process the information incorporated in the game.

LCM is acquainted with the players' game experience, where the player with prior knowledge of the product has more capability in processing the advertisement in the game, since they have a low level of attention while engaging in the game. It is also stated that games with fast speed need more cognitive resources compared to slow video games, as the player has to implement responses at a faster speed, which increases the perceptual load and leads to the receiver's memory suffering from the advertising message, as the resources allocated for the specific messages are insufficient. In conclusion, the player may find it more challenging to process the persuasive attempt as a secondary activity when the cognitive load of the primary task is heightened. Therefore, advergaming designers should incorporate simple tasks to enable players to process persuasive elements effectively, given that players must divide their limited attention and cognitive resources between two distinct activities. This approach aligns with research indicating that advergaming featuring simple tasks allow users sufficient cognitive capacity to comprehend and recognize brand information.

### **2.6.3 Elaboration Likelihood Model (ELM)**

The elaboration Likelihood Model (ELM) was developed by Petty and Cacioppo (1986), and the model uses mental processes of motivation and reasoning in accepting or rejecting persuasive messages. There are two methods of influence with different target audiences: the central and peripheral route messages.

The central or elaborated route includes information, rational arguments, and evidence to support a conclusion. The central route messages create a long-term change for the receiver and only occur when both factors encounter each other: (1) the target is highly motivated to process the information given, and (2) the target can process the message cognitively. The target user needs to understand the persuasion attempt to bring about a shift in behaviour. Therefore, the motivation and the ability to interpret the message are the keys to the central route message.

The peripheral route message relies only on the receiver's emotional involvement and persuasion through superficial means. The peripheral route provides cues that the persuader should change their strategy to attract the receiver's attention when they are unmotivated and unable to process the message given. Contradicts the central route message, where the peripheral route message leads only to a short-term change. Therefore, this theory can conclude that persuasion through the central route results from the individual observation of the presented message. In contrast, the peripheral route resulted from the provided cues in the game. Figure 2.7 shows the elaboration likelihood model consisting of central and peripheral routes.

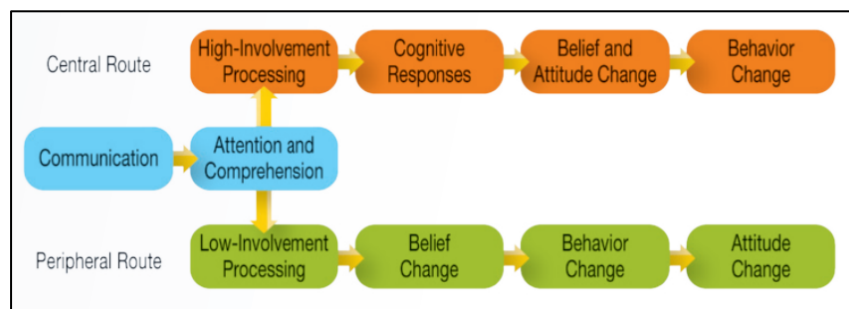


Figure 2.7 Elaboration Likelihood Model

#### 2.6.4 Flow Theory

The flow theory developed by Csikszentmihalyi (1988) is described as an optimal experience and occurs if the skills meet the offered challenge. This theory involves the perception of entertainment leading to positive emotions, immersion, the pleasure of controlling the activity, and focused attention on the activity. The theory can be understood when the player's mental state is highly concentrated on the task, and nothing else seems to matter. The player's environment is screened out, showing the player experiences the optimal flow. The theory positively affects the player's attitude and purchase intention since the player can be persuaded if they reach the optimal experience. Therefore, anything that motivates players to challenge themselves is essential to create persuasive advergames. The flow theory is related to the entertainment or enjoyment of a player. The main objective of the advergames is to provide an enjoyable experience while transmitting the information about the brand through the game. In the context of an advergame, the game content should include a function that could produce enjoyable experiences for the player so that the player could

receive the intended information of the brand while playing the game. Therefore, it can be concluded that flow theory is important in delivering the entertaining experience. Figure 2.8 shows the image of the Flow Theory developed by Csikszentmihalyi (1988).

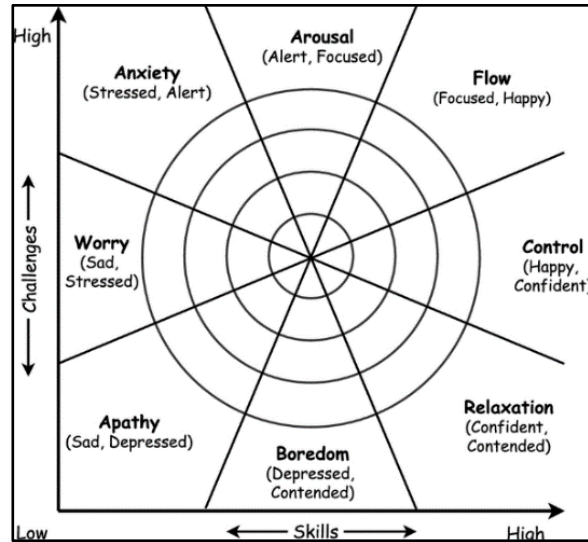


Figure 2.8 Flow Theory Model

### 2.6.5 The Persuasive System Design Model

The Persuasive System Design (Oinas and Harajumaa, 2008; Oinas and Harajumaa, 2009) is an approach to developing persuasive technology. The model includes theory, a suitable approach for developing persuasive technology. The framework consists of three main ideas: *1) understanding the key issue, 2) analysis of persuasive context, and 3) design of persuasive qualities*. The framework will follow the step-by-step process of determining the main idea for the behaviour change. Steps one and two show that the designer must understand the issue and the persuasive context. The designer needs to identify the intended event and the strategy of the persuasive context. Step three shows the persuasive qualities within the system. It can be divided into four persuasive qualities: primary task, dialogue support, system credibility, and social support. Identifying three main steps can lead to behavioural changes in the user. Figure 2.9 shows the Persuasive System Design Model (PSD). This research also comprises several steps toward achieving its objectives; one of these steps is identifying the key issues related to advergames, advertising, and persuasion, which serve as the main topics of this research. This research continues with an analysis that

could contribute to the design of the PAG framework and lead to changes in user behavior toward the brand.

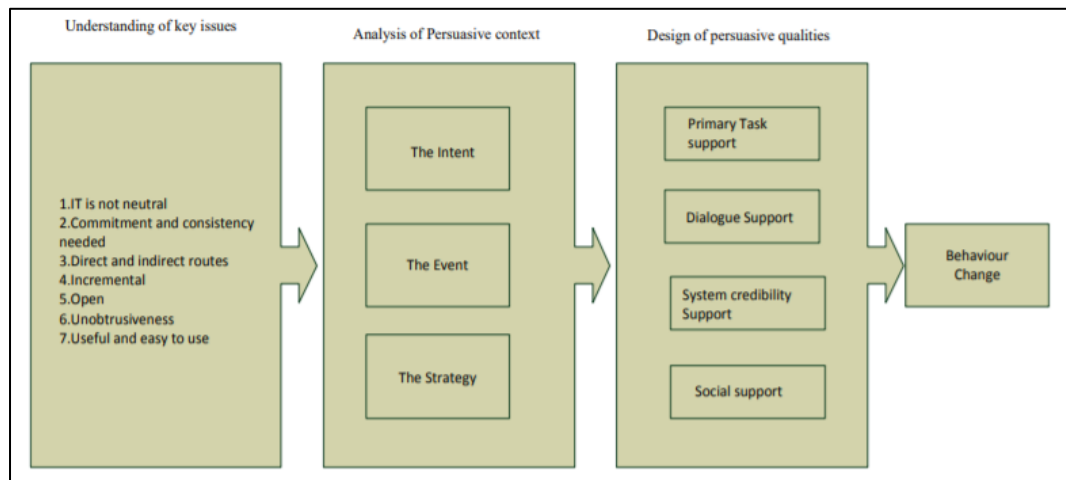


Figure 2.9 Persuasive System Design Model

## 2.6.6 Persuasive Game Design Model

The persuasive game design model is one of the existing models that Visch has developed. Vegt and Anderisien et al. (2013) state that the model research focuses on the user's changing behaviour regarding persuasion in the game design. The model was built based on the gamification process, the game world, and the behavioural change design. The researchers seek to create a user experience through a game world that would change the user's behaviour when facing the actual world. It is said that the game environment is a protective world for the user, such that it will control their behaviour (Apter, 2007) and have less significance in actions. In order to reflect their behavioural changes, an individual requires motivational needs, including competence and social relatedness (Ryan & Deci, 2000), to control their behaviour. The existing model that has been identified is in the context of persuasion that related with the topic of this research which focuses more on the behavioural change of the user. The model shows that analysing the elements that could produce behavioural changes that affect individuals is important. The model includes gamification in their framework, which can be related to the advergAMES as the crucial element in persuading consumers in the real world. The persuasive system design identified three steps that could be the key to behavioural changes in a consumer. Therefore, marketers and game designers should

work together to design parties responsible for user behaviour in the real world. Figure 2.10 shows the model developed regarding persuasion in game design.

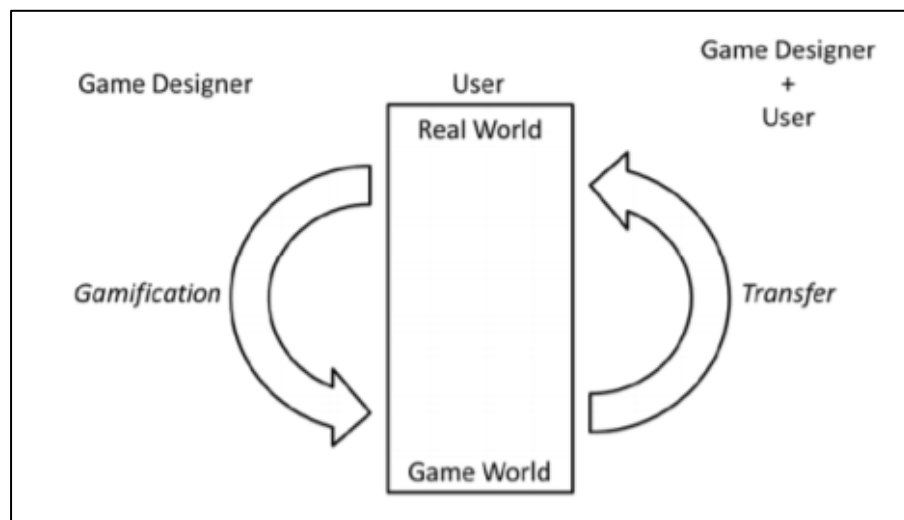


Figure 2.10 Persuasive Game Design Model

## 2.7 Analysis of framework by Roettl et al., 2016

The analytical framework by Roettl et al., (2016) consists of a persuasive mechanism of advergames. Based on the research study, the selected framework is the most relevant to this research study since it covers the advergames and the persuasive mechanism topic. The analytical framework consists of six advergame mechanisms to persuade users: brand position and integration, autonomy, brand message, game-goal message goal overlap, entertainment, word of mouth and social integration, and commitment and consistency.

The first element is the brand position and integration. This element is important and related to the placement of the brand identifier within the game. The game designer should identify the strategy for locating the brand identifier and the appropriate way to integrate the brand within the game so that the player can grasp the intended information of the brand. Hence, it shows that the brand position and integration are important persuasion elements of advergames.

Secondly, the autonomy brand message refers to the information of the promoted brand that players could gain while playing the advergame without having to go outside from the game. The information can be included as the brand identifier that

allows players to receive information about the product. This element is important to persuade the player toward the brand.

Thirdly, the persuasive mechanism is the game-goal message goal-overlap. This element relates to aligning the game theme and the promoted brand. The game theme and content should be aligned so that players can grasp the intended message implemented in the game. The fourth element stated by the author is entertainment. The entertainment element is related to the enjoyment experiences of a player. It is an important element since the advergame objective is to deliver the information about the product in the form of entertainment.

The next element the author identifies is word of mouth and social interaction. This element is important in an advergame as it allows the player to connect with others. The game designer should include a function, such as a sharing function, so that the player can share the game, hence encouraging the player's word of mouth and social interaction. The last persuasive mechanism stated by the author is commitment and consistency. Commitment and consistency are related to the activity for the player that requires the player to keep going to play the game. The activity could be a sign-in function that requires the player to commit to the game.

The elements highlighted by the author demonstrate the mechanisms underlying persuasive advergames, and each component is essential for effective advergame application. These elements must be incorporated to ensure that users can identify brand information through embedded brand identifiers within the game. Nevertheless, there is a need to introduce an additional element that could further enhance the persuasive effect on users throughout gameplay. This indicates the need to refine the existing framework and develop standardized guidelines for persuasive advergames. Given the limited research in this area and the increasing scholarly attention to persuasive advergames (Ghosh & Dwivedi, 2022), further investigation is warranted. Figure 2.11 presents the model of the existing framework proposed by Roettl et al. (2016).

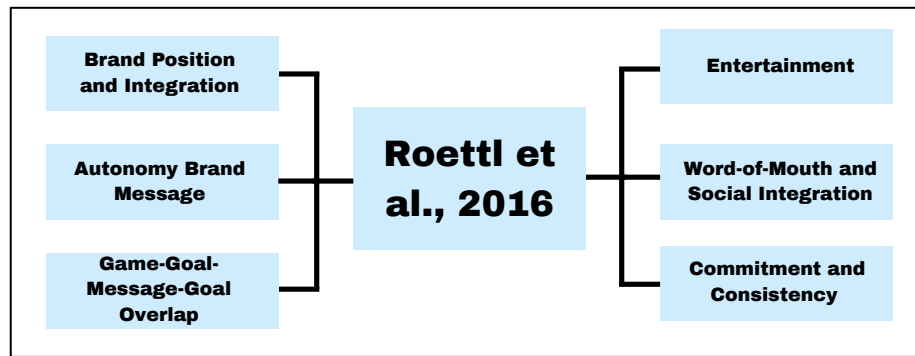


Figure 2.11 The Analytical Framework by Roettl et al., 2016

## 2.8 Summary

This chapter presents a literature review of related studies, including articles and journals, for the research study and its topics. This chapter starts with the main idea of this research study, advergames, and the related theoretical foundations. Advertising is the communication medium that advertisers and marketing practitioners use to promote their brand, product, or services. This chapter also elaborates on the field of marketing, including advertising strategy and branding. However, the drawbacks of traditional advertising encourage advertisers to seek new, engaging promotional tools, such as digital games, also known as advergames. Advergame is the combination of advertising and video games that act as tools in promoting brands, products, or services through digital games and can be defined as the latest entertaining tools that create entertaining experiences with a specific function in promoting a brand or product that can engage the user. As the latest entertaining tool, all the current trend of advergame, types of advergame, and existing brands with advergame applications were identified to gain insight into the research process in this study. Although traditional methods remain important, integrating digital strategies has been shown to improve overall effectiveness. Marketing ability is the essential criterion that led the company to choose this medium to deliver information about its product, as it is explicitly designed to convey the brand, service, and product through entertainment and to persuade users to adopt the brand. The persuasion strategy concept has also been elaborated, identifying embedded strategies in advertising to persuade customers. There are several types of persuasion tactics that can be used by the advertiser to persuade the consumer into their product, and that's why the advertiser should identify the suitable way to promote their brand. The existing literature from previous research and theoretical foundations, including Persuasion Knowledge (PK), the Elaboration Likelihood Model (ELM), the

Limited Capacity Model (LCM), and Flow Theory, was identified and discussed in terms of their importance to this research. The Persuasion Knowledge (PK) theory is critical to the advertisement's success, as users may recognize the persuasion attempt and stop being persuaded by the brand. Therefore, the game designer should identify a suitable way to embed the brand identifier without recognizing the persuasion attempt. The same goes for this research, which applies the subtle brand identifier in the advergame application. The Elaboration Likelihood Model (ELM) comprises central and peripheral routes and highlights their importance for the behavior and attitude changes relevant to this research, specifically persuasion that could alter the user's behavior toward the brand. The Limited Capacity Model (LCM) and Flow Theory are important in this research. The LCM is related to the capacity the user processes when committing to the task in the game. The game designer should provide the game with a simple task so that the user can recognize the information about the promoted brand without focusing on the game itself. The flow theory is also important and relevant to this research, as it concerns the player's enjoyment, and the main objectives of the advergame are to deliver brand information to the user in an entertaining way. All theories are important and must be well understood when applied in the advergame. In conclusion, this chapter gathers information from the research study and its related topic, with supporting documents drawn from the critical review.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter elaborates on the phases involved in the research study methodology for proposing the PAG Framework as a strategy for the brand that can persuade players through advergames. The chapter explains four phases: (1) Problem Investigation, (2) Framework Development, (3) Framework Evaluation, and (4) Documentation, through the chapter. All the processes in developing the PAG framework are important to reach its research objectives.

The research framework phase starts with the problem investigation. The activity answers several questions that help analyse the raised issue, including 1) *What is the problem?* 2) *Why is it a problem?* 3) *Where is the problem occurring?* 4) *Who is experiencing the problem?* and 5) *What is the solution to the problem?*. All related topics with the keywords “advergames”, “persuasive”, “advertising”, “branding”, and “marketing” has been analysed through an extensive literature review from journals, articles, and proceedings. The data collected through the analysis concludes with identifying a gap in the research study, allowing the continuation of the second phase, framework development. The end of the phase will provide an in-depth review that will help extract the critical points of the research study.

The second phase is the development of the framework, which begins with analyzing the existing theoretical framework that needs an enhancement and will be adapted into a new framework, the PAG framework, as a foundation for this research purpose. A mapping process was conducted by extracting a list of potential advergame elements that can persuade players toward the brand through a literature review and the selected existing framework. This activity leads to the initial draft of the PAG framework that needs to be validated by the panel of experts to ensure the research study's relevance. The panel of expert are selected from academia and industry to assess their insights regarding the compatibility of the finalised PAG framework. This phase will focus on two crucial validations, including (1) Face Validation and (2) Content Validation. Face validation is important in determining the appropriateness of the instrument to ensure the instrument is suitable and relevant for the research study, while

content validation is important in ensuring the relevancy and clarity of the proposed framework. The panel expert needs to evaluate the compatibility of elements in the PAG framework regarding relevancy and clarity. Any feedback and suggestions from the expert reviewer will be used to make adjustments in the initial draft. Hence, it could be summarised that the output of this phase would be the validated PAG framework.

Furthermore, the research methodology continues with framework evaluation, which involves the user evaluation regarding implementing the PAG framework into an advergaming prototype. The intended target user will evaluate the advergaming prototype to ensure this research study meets its objectives. The evaluation process was conducted using the instrument based on the PAG framework. The evaluated advergaming prototype is the expected outcome in this phase.

The final phase of this research methodology is the documentation phase. All gathered data, results, procedures will be adequately documented in a report form. Consequently, the expected output for the documentation phase will be the organised data acquired from the research study. Table 3.1 shows the process of developing the PAG framework.

Table 3.1  
The Process of Developing the PAG Framework

| Phase                                       | Activity                                                                          | Method of Data Collection                                          | Sampling Design                                                                                                                                                                                                                                                                        | Procedure                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Phase 1</b><br><br>Problem Investigation | <ul style="list-style-type: none"> <li>Literature Review</li> </ul>               | <ul style="list-style-type: none"> <li>Content Analysis</li> </ul> | <p>An analysis of the issue through literature review from articles, journals and proceedings using the keyword related to the research:</p> <ul style="list-style-type: none"> <li>Advergame</li> <li>Persuasive</li> <li>Advertising</li> <li>Branding</li> <li>Marketing</li> </ul> | <ol style="list-style-type: none"> <li>Gather data from existing studies</li> <li>Analyse data to identify the research gaps</li> <li>Investigate the problem with an answer to this question: <ul style="list-style-type: none"> <li>What is the problem?</li> <li>Why is it a problem?</li> <li>Where is the problem occurring?</li> <li>Who is experiencing the problem?</li> <li>What is the solution?</li> </ul> </li> </ol> |
| <b>Phase 2</b><br><br>Framework Development | <ul style="list-style-type: none"> <li>Comprehensive Literature Review</li> </ul> | <ul style="list-style-type: none"> <li>Content Analysis</li> </ul> | <ul style="list-style-type: none"> <li>The analytical framework by Roettl et al. (2016) has been chosen to be enhanced and adapted into a new framework.</li> </ul>                                                                                                                    | <ul style="list-style-type: none"> <li>Identification and combination of advergames elements from the existing framework using the content analysis method</li> <li>Mapping the advergames element from the literature review</li> </ul>                                                                                                                                                                                          |

|                                    |                                                                                              |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                               |
|------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | <ul style="list-style-type: none"> <li>Expert review</li> </ul>                              | 1. Face Validation                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Face Validation aims to ensure the instrument is relevant to the research study.</li> </ul>                                                                                                                                                                             | <ul style="list-style-type: none"> <li>The instrument will be distributed to the panel experts for the evaluation process through email.</li> <li>The panel experts submit their feedback to the researcher</li> <li>Analyse the feedback</li> </ul>                                                          |
|                                    |                                                                                              | 2. Content Validation <ul style="list-style-type: none"> <li>Content Validity Ratio (CVR)</li> <li>Item Content Validity Index (CVI)</li> <li>Scale Content Validity Index (S-CVI)</li> </ul> | <ul style="list-style-type: none"> <li>Content Validation aims to validate that the proposed framework is relevant and clear for the research study.</li> <li>Identify the inclusion and exclusion criteria for the panel of experts.</li> <li>The panel experts will be from academia and industry</li> </ul> | <ul style="list-style-type: none"> <li>The initial draft will be distributed to the panel experts for the evaluation process</li> <li>The experts submit their feedback in terms of relevancy and clarity</li> <li>Execute a necessary amendment for the initial draft based on the expert opinion</li> </ul> |
| Phase 3<br>Framework<br>Evaluation | <ul style="list-style-type: none"> <li>Development of a prototype</li> </ul>                 | <ul style="list-style-type: none"> <li>Implementation of the PAG Framework in an advergame prototype</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>The target user is a young adult who will partake in a demonstration of the advergame prototype.</li> </ul>                                                                                                                                                             | <ul style="list-style-type: none"> <li>The development will implement the RAD Model:               <ol style="list-style-type: none"> <li>Requirement Phase</li> <li>User Design Phase</li> <li>Construction Phase</li> <li>Cutover Phase</li> </ol> </li> </ul>                                              |
|                                    | <ul style="list-style-type: none"> <li>Evaluation of the prototype</li> </ul>                | <ul style="list-style-type: none"> <li>Evaluate the advergames prototype that implements the elements of the PAG framework to persuade users toward the brand.</li> </ul>                     | <ul style="list-style-type: none"> <li>The target user is a young adult</li> <li>Evaluate the brand persuasion through the instrument of the PAG framework</li> </ul>                                                                                                                                          | <ul style="list-style-type: none"> <li>The validation of the PAG framework will be implemented in the advergames prototype</li> <li>The target user will evaluate the Advergames application using the PAG framework instrument</li> </ul>                                                                    |
| Phase 4<br>Documentation           | <ul style="list-style-type: none"> <li>Writing data and findings in a report form</li> </ul> | <ul style="list-style-type: none"> <li>Organise all data and findings</li> </ul>                                                                                                              | <ul style="list-style-type: none"> <li>N/A</li> </ul>                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Documentation of data in a report form</li> </ul>                                                                                                                                                                                                                      |

### **3.2 Phase 1: Problem Investigation**

Research on persuasive advergame elements was minimal, even though some should interest the researcher. This research study tries to fill these gaps by conducting a study that highlights the advergames element that can alter the perception of the player toward the brand. Proposing the PAG framework begins with the problem investigation phase. It involves gathering and analysing information through a comprehensive literature review from journals, articles, and conference proceedings related to the topics with the keywords of “advergames”, “persuasive”, “advertising”, “branding”, and “marketing”. The problem investigation phase is crucial in identifying the existing issue. Several questions were constructed, including *(1) What is the problem? (2) Why is it a problem? (3) Where is the problem occurring? (4) Who is experiencing the problem, and (5) What is the solution to the problem?* The expected outcome for this phase would be identifying the research gap, the research objective, the solution to overcome the issue, and the contribution of this research study to the research field. To conclude, this phase will investigate the issue regarding persuasive advergames as a strategy for the brand.

### **3.3 Phase 2: Framework Development**

Framework development is the next step in developing the PAG framework. The development phase will only start when the problem investigation is completed. The process proceeds by extracting advergame elements through a literature review content analysis, identifying elements from the existing framework that can be used as a strategy to persuade users toward the brand through advergames. The identification of the element will undergo the mapping process to eliminate or combine the element to fulfil the objectives of this research. The framework development phase includes validation by a panel expert through an expert review process. The panel expert must be a full-time lecturer, have at least 10 years of teaching experience in Computer Science and have a qualification that the Ministry of Higher Education recognises. The initial draft of the PAG framework consists of the persuasive advergames elements. It will be distributed to the panel experts to gain their feedback on the framework's compatibility, relevance, and clarity. The panel experts' validation of the PAG framework will be the output in this phase. During this phase, the advergame application

was developed using the PAG framework that had been validated. Developing an advergame application through user validation is important in the evaluation phase.

### **3.3.1 Comprehensive Literature Review**

#### ***3.3.1.1 Content Analysis***

The elements in the PAG framework were extracted using a content analysis approach through a review of previous studies. To facilitate the process, all keywords related to the research topics, such as “advergames”, “persuasive”, “advertising”, “branding”, and “marketing” have been integrated. Several existing advergame-persuasion frameworks from articles and journals were gathered and carefully analyzed to uncover the potential elements for the PAG framework. The framework, published by Roettl et al. (2016), was the closest of the existing frameworks that comprised the mechanism of persuasive advergame. However, there is a limitation regarding the article, as growing research could give more potential for advergames. Therefore, an in-depth analysis is needed to enhance the current framework. The following process involves documenting the identified potential advergames elements into a separate table. Both tables from the selected existing framework and the identified potential elements through the previous study will be rearranged and organised to ease the analysis process in extracting the persuasive advergames element.

The PAG framework proposal continues with the mapping phase, combining the potential elements in the selected research paper and the prior literature study. These potential elements were carefully extracted and will be structured to make the cross-reference and analytical process easier. The arrangement of the extracted potential advergames elements is crucial in ensuring the relevant elements in developing the PAG framework as a persuasive strategy toward the brand. The process of constructing the PAG framework proceeds with extracting the criteria for each element, adapted to create the questionnaire, and needs to be evaluated by the panel of experts. In conclusion, the PAG framework was constructed with the existing theoretical framework from Roettl et al. 2016 and insight gained through content analysis. Hence, it shows that the PAG framework enhances the existing study work in the context of advergames and persuasion. Table 3.2 shows the steps in constructing the PAG framework.

Table 3.2  
Steps Required in Constructing the PAG Framework

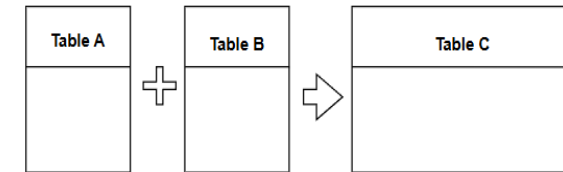
| Process                                                                                                   | Activities                                                                                                                                                                                                                                             | Output                                                                                                                                             |                |                |                           |                          |
|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|---------------------------|--------------------------|
| <b>Process 1</b><br><br>Identify the persuasive advergaming framework.                                    | <ul style="list-style-type: none"><li>Identify the existing framework related to the research purpose</li><li>Identify the limitations of the existing framework</li><li>Select the most relevant framework for the subject study</li></ul>            | The analytical framework (Roettl et al., 2016)                                                                                                     |                |                |                           |                          |
| <b>Process 2</b><br><br>Identify the previous literature review that relates to the advergaming elements. | <ul style="list-style-type: none"><li>Identify the potential advergaming elements through the literature review</li><li>Arrange the selected existing framework into Table A</li><li>Arrange the potential advergaming elements into Table B</li></ul> | <table><tr><td><b>Table A</b></td><td><b>Table B</b></td></tr><tr><td><b>Existing Framework</b></td><td><b>Literature Review</b></td></tr></table> | <b>Table A</b> | <b>Table B</b> | <b>Existing Framework</b> | <b>Literature Review</b> |
| <b>Table A</b>                                                                                            | <b>Table B</b>                                                                                                                                                                                                                                         |                                                                                                                                                    |                |                |                           |                          |
| <b>Existing Framework</b>                                                                                 | <b>Literature Review</b>                                                                                                                                                                                                                               |                                                                                                                                                    |                |                |                           |                          |
| <b>Process 3</b><br><br>Rearrange the potential elements of the PAG framework.                            | <ul style="list-style-type: none"><li>Rearrange the elements from Table A and Table B.</li></ul>                                                                                                                                                       | <table><tr><td><b>Table A</b></td><td><b>Table B</b></td></tr><tr><td><b>Existing Framework</b></td><td><b>Literature Review</b></td></tr></table> | <b>Table A</b> | <b>Table B</b> | <b>Existing Framework</b> | <b>Literature Review</b> |
| <b>Table A</b>                                                                                            | <b>Table B</b>                                                                                                                                                                                                                                         |                                                                                                                                                    |                |                |                           |                          |
| <b>Existing Framework</b>                                                                                 | <b>Literature Review</b>                                                                                                                                                                                                                               |                                                                                                                                                    |                |                |                           |                          |

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**Process 4**

Conducting a mapping process on both tables to produce the PAG framework

- Analyzing the potential elements from Table A and Table B
- Composed the identified element into the new Table C

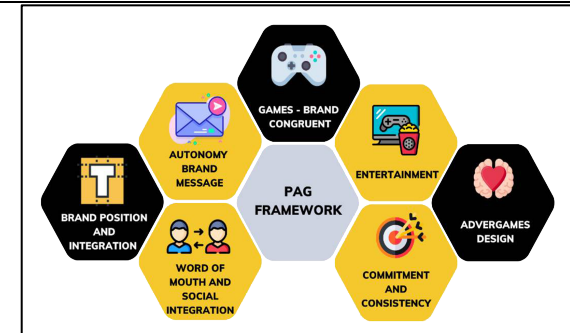


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**Process 5**

The development of the initial PAG framework

- The initial draft consists of the persuasive advergames element



## Process 1: Investigate the advergames element and the persuasive framework

Developing the PAG framework starts with identifying and investigating the advergame elements and the related framework that can be used to persuade users toward the brand. The process involves highlighting specific keywords such as “advergames”, “persuasive”, “advertising”, “branding”, and “marketing” through articles, journals, and proceedings. The gathered data led to selecting the analytical framework from (Roettl et al., 2016) that consists of the persuasive advergames element. The analytical framework was chosen for this research study due to its proximity and relevance to the framework and this area of research. Based on the previous study, several frameworks relate to advergames, but none focus on the elements of advergames that could be used to persuade users. The growing research on this topic is enhancing the existing framework, as more studies are identifying the full potential of the persuasive advergames used over the past decade, providing valuable insights into their effectiveness. Hence, there is a need for a comprehensive framework that clearly defines how to design advergames and provides the necessary support for implementing a persuasive strategy that aligns with the brand in the game to achieve the promised outcome. Figure 3.1 shows the analytical framework by Roettl et al., (2016) that consists of advergames mechanisms.

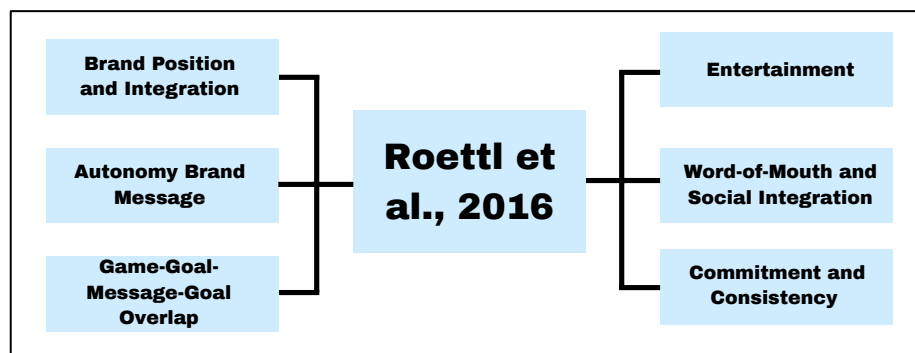


Figure 3.1 The Analytical Framework by Roettl et al., 2016

Process 2: Identify the previous literature review on the persuasive advergame element

The next step is to identify the literature on persuasive advergames elements that can be used to persuade people about the brand. All previous studies and existing models have been analyzed to determine the elements that can be adapted into the PAG framework. Based on the current study, several advergame elements are exceptional in persuading the user through the advergame. The research study shows the success factors of Advergames (Jami Pour et., 2020). This research aims to identify the factors that contribute to the success of the advergame while using the mixed-method approach when conducting the research study. Based on the literature analysis, the output of this research shows that game design factors, brand/product-related factors, player personality-related factors, and technical factors are the factors that contribute to the success of the advergame. Game design factors are one of the success elements (Yu, 2024); this allows users to choose the game's difficulty level, display the player's score, and reward within the game.

Hence, it creates the player's relationship and game as the game's intentions are related to user engagement. Brand/product-related factors also contribute to the success factor (Catalan et al., 2019) of advergame. The game's features are important in creating the player's involvement. The player's personality-related factors are the third success factor of an advergame; the software developer needs to undergo analysis when designing the game. Technical factors such as the ability to play the games, access to the game, and devices are also important in designing a successful advergame. All of these factors play an important role in determining the success of an advergame.

Furthermore, it is shown that the most cited model regarding persuasion theory is the Elaboration Likelihood Model (ELM), which describes the impact of persuasive messages on the recipient about the subject of the messages that can be related to the brand message element. There is also a theory regarding persuasion that occurs through games, which is procedural rhetoric, such that persuasion occurs through rule-based representations and interactions rather than the spoken word, including writing and images (Bogost, 2007). It is essential to fit the message into the rules and aims of the game to show the match between the intended brand message and the goal and story of the game.

Moreover, research on character persuasion affects advergames toward brand trust and product involvement (Choi, 2019). This study aims to identify how the character can produce brand trust in the customer, thus initiating the purchase intentions toward the product. A critical literature review shows that a character or avatar can positively affect brand trust. It allows users to interact with the avatar virtually without complex interactivity (Gura et al., 2018). The character is also important in determining the customer's purchase intention when involving the product. The product involvement in the advergame should be less to achieve higher purchase intentions. The trust propensity can also be related to persuasion and character toward the purchase intention. The higher trust propensity of the consumer is affected by the character's low presence. All gathered elements were organised in the following process.

#### Process 3: Rearrange the advergame elements of the potential PAG Framework

The gathered elements from existing studies (Table A) and the identified persuasive advergame elements (Table B) will be organised to analyse the potential of persuasive advergame elements. The table will compare the elements of Table A and Table B and their functionality in producing the PAG framework. Table 3.3 shows the elements and their description for the selected framework through literature analysis.

Table 3.3  
The Framework from the Existing Study (Table A)

| Elements                                    | Description                                                                                                     |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Brand Position and Integration</b>       | The position of the brand identifier and how well the brand identifier is being integrated into the application |
| <b>Autonomy Brand Message</b>               | The intended message of the brand is being placed in the game.                                                  |
| <b>Game goal message goal overlap</b>       | The game goal matches the intended message of the brand.                                                        |
| <b>Entertainment</b>                        | The pleasurable experience for a player is gained through playing the game.                                     |
| <b>Word of Mouth and Social Integration</b> | The sharing process of a player with others                                                                     |
| <b>Commitment and Consistency</b>           | The activities that encourage the user to commit to the activity or given task in the game.                     |

Table 3.4 shows the advergame elements that have been identified through literature analysis.

Table 3.4  
Findings on Literature Review Related to the Persuasive Advergames (Table B)

| Element                                     | Sources                                                                                      |
|---------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Brand Placement</b>                      | Egger et al., 2022<br>Van Berlo et al., 2023<br>Sung and Lee, 2020                           |
| <b>Autonomy Brand Message</b>               | Munaretto, 2021<br>Catalan et al., 2019<br>Zagni et al., 2025                                |
| <b>Games - Product Congruent</b>            | Sreejesh, Dwivedi, and Ghosh, 2021<br>Toh, Hashim, Aziz, & Ng, 2019<br>Vashisht et al., 2020 |
| <b>Entertainment</b>                        | Waiguny and Terlutter, 2021<br>Abusharieh et al., 2025<br>Munaretto, 2021                    |
| <b>Word of Mouth and Social Integration</b> | Prihatiningsih et al., 2024<br>Mayopu et al., 2024<br>Munaretto, 2021                        |

|                                           |                            |
|-------------------------------------------|----------------------------|
| <b>Commitment and Consistency</b>         | Roetttl et al., 2016       |
|                                           | Munaretto, 2021            |
|                                           | Ibrahim et al., 2013       |
| <b>Persuasive Message</b>                 | Hanbazazah et al., 2022    |
|                                           | Cañete & De la Hera, 2023  |
| <b>Brand Logo</b>                         | Jami Pour, 2020            |
|                                           | Sreejsh & Vashist, 2017    |
|                                           | Hernandez and Minor, 2015  |
| <b>Challenge</b>                          | Zagni et al., 2025         |
| <b>Competition</b>                        | Oppons-Tauiah et al.,2020  |
|                                           | Orji et al., 2019          |
|                                           | Wang et al.,2019           |
| <b>Advergimes Design -Transfer Effect</b> | Wanick et al., 2018        |
|                                           | Jami Pour, 2020            |
|                                           | Munaretto, 2021            |
| <b>Rewards</b>                            | Zagni et al., 2025         |
|                                           | Sezgin and Yuzer, 2020     |
|                                           | Krath & Koeflesh, 2021     |
| <b>Product Involvement</b>                | Choi, 2019                 |
|                                           | Vanwesenbeeck et al., 2017 |
| <b>Game Design Factor</b>                 | Jami Pour,2020             |
|                                           | Yu, 2024                   |
|                                           | Sreejesh & Ghost., 2024    |
| <b>Brand Experience</b>                   | Mishra & Malhotra, 2020    |

#### Process 4: Conducting a mapping process to produce the PAG Framework

The mapping process was conducted to produce the PAG framework. The mapping process is important since the output of this process would be the initial draft of the PAG framework. It involves the cross-check process with the selected analytical framework that needs enhancement with the identified advergimes element that could persuade users through the content analysis process. Eliminating or combining through the mapping process with the identified elements was conducted to avoid redundancy

and similar criteria. The mapping process is crucial in highlighting the most prominent features of advergames.

Table 3.5  
The Mapping Process of the PAG Framework

| Elements                   | Sources            |               |                       |                      |                    |           |            |                 |              |                   |                             |                    |                      |             |                          |                            |                    |                         |                      |                             |                            |                    |                           |                            |                          |
|----------------------------|--------------------|---------------|-----------------------|----------------------|--------------------|-----------|------------|-----------------|--------------|-------------------|-----------------------------|--------------------|----------------------|-------------|--------------------------|----------------------------|--------------------|-------------------------|----------------------|-----------------------------|----------------------------|--------------------|---------------------------|----------------------------|--------------------------|
|                            | Rifon et al., 2014 | Redondo, 2012 | Van Reijmersdal, 2010 | Waiguny et al., 2012 | Wanick et al.,2018 | Jami,2020 | Choi, 2019 | Munaretto, 2021 | Kappen, 2017 | Wise et al., 2013 | Waiguny and Terlutter, 2016 | Krath et al., 2021 | Folkvord et al. 2016 | Petty, 1986 | Kinard and Hartman, 2013 | Sreejesh and Vashisht 2017 | Groen et al., 2023 | Hanbazazah et al., 2022 | Catalan et al., 2019 | Terlutter and Capella, 2013 | Sreejesh and Anusree, 2017 | Zagni et al., 2025 | Hernandez and Minor, 2015 | Joassard and Capelli, 2024 | Peter and Leshener, 2013 |
| Brand Integration          |                    |               |                       |                      |                    | X         |            | X               |              |                   |                             |                    |                      |             | X                        |                            |                    |                         |                      |                             | X                          |                    |                           | X                          |                          |
| Brand Message              |                    |               |                       |                      |                    | X         |            |                 |              |                   |                             |                    | X                    | X           |                          |                            |                    |                         | X                    |                             | X                          |                    |                           |                            |                          |
| Word of Mouth              |                    |               |                       |                      |                    |           |            | X               |              |                   |                             |                    |                      |             |                          |                            |                    |                         |                      |                             |                            |                    |                           |                            |                          |
| Commitment and Consistency |                    |               |                       | X                    |                    |           |            | X               |              |                   |                             |                    |                      |             |                          |                            |                    |                         |                      |                             |                            |                    |                           |                            |                          |
| Games and Brand Congruence |                    |               |                       |                      |                    |           |            | X               |              |                   |                             |                    |                      |             |                          |                            |                    |                         |                      | X                           | X                          |                    |                           | X                          |                          |
| Brand Position             |                    |               | X                     |                      |                    |           |            |                 |              |                   |                             |                    |                      |             |                          |                            |                    | X                       |                      |                             |                            |                    |                           |                            |                          |

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |  |   |  |   |   |   |  |  |   |   |   |  |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|--|---|--|---|---|---|--|--|---|---|---|--|---|
| Advergaming design – transfer effect |   |   |   |   | x | x |   | x |   | x |   |   |  |   |  |   |   | x |  |  |   | x |   |  |   |
| Entertainment                        |   |   |   | x |   |   |   |   |   |   |   |   |  |   |  |   | x |   |  |  |   |   |   |  |   |
| Rewards                              |   |   |   |   |   |   |   |   | x |   |   | x |  |   |  |   |   |   |  |  |   |   |   |  |   |
| Badges                               |   |   |   |   |   |   |   |   |   |   |   | x |  |   |  |   |   |   |  |  |   |   |   |  |   |
| Competition                          |   |   |   |   |   |   |   |   | x |   |   |   |  |   |  |   |   |   |  |  |   |   |   |  |   |
| Brand Location                       |   |   | x |   |   | x |   |   |   |   |   |   |  |   |  |   |   |   |  |  |   |   |   |  |   |
| Character                            |   |   |   |   |   |   |   |   |   |   |   |   |  | x |  |   |   |   |  |  |   |   |   |  |   |
| Product involvement                  |   |   |   |   |   |   | x |   |   |   |   |   |  |   |  |   |   |   |  |  |   |   |   |  |   |
| Challenge                            |   |   |   | x |   |   |   |   |   |   |   |   |  |   |  |   |   |   |  |  | x |   |   |  |   |
| Product placement                    | x | x | x |   |   |   |   |   |   |   |   |   |  |   |  |   |   |   |  |  |   |   |   |  |   |
| Brand Name                           |   |   |   |   |   |   |   |   |   |   |   |   |  |   |  |   |   |   |  |  |   |   | x |  |   |
| Brand Logo                           |   |   |   |   |   |   |   |   |   |   |   |   |  | x |  | x |   |   |  |  |   |   |   |  |   |
| Game-product congruence              | x |   |   |   |   |   |   |   |   |   | x |   |  |   |  |   |   |   |  |  |   | x |   |  | x |

The mapping process helps produce the initial draft of the PAG framework. Table 3.5 illustrates the mapping process of the PAG framework to identify persuasive elements that can persuade users of the promoted brand. The elements that display strong interconnections with each other will also be eliminated before finalising the PAG framework to ensure a cohesive and practical framework. Based on Table 3.5, some of the names of the initial elements have been changed, and some of the elements have been retained based on the name from the existing framework. The changes in the name occurred during content analysis to ensure the element names in the PAG framework are appropriate and follow the objectives of this research study.

The brand location element is being eliminated because it uses a different keyword but serves the same purpose as the brand position. The brand position could refer to the location of the brand identifier within the game, such as the top-right corner. The brand logo element is eliminated because it is interrelated with the brand integration element. Brand integration refers to how well the brand identifier is embedded in the game; however, the brand logo itself is the identifier used to distinguish one brand from another. Hence, this research chose to enhance the element name to brand positioning with integration it into a single element that encompasses the brand's integration and positioning, thereby demonstrating the suitability of the element name.

Next, for the element of autonomy brand message, this research chose to retain the name in accordance with the adapted framework. Based on the findings, the elements of the brand message and the autonomy brand message convey the same meaning and underscore the importance of embedding the brand message in the game to persuade users toward the brand. The game designer needs to analyse how to incorporate the advertisement message into the gameplay without annoying the game.

The game-goal message-goal overlap is the original element of the analytical framework by Roettl et al. (2016). The element remains but is renamed to align with the game's brand, as most research uses the same term, making it easier for others to understand the element's meaning. Both elements convey the same meaning and can be referred to as the match between the intended message and the theme of the game.

Moreover, for the entertainment element, this research chose to retain it in accordance with the adapted framework. Elements like rewards, challenges, badges, and leaderboards were included because they are known as the game element and used to entertain users in the game. It is important to include these elements in the game so that

it achieves the advergame's objective: providing users with enjoyment while conveying brand information. A player's enjoyable experience leads to a more persuasive condition toward the brand.

Furthermore, the author used the term word-of-mouth (WoM) and social integration in his research. WoM and social integration are important for connecting people by facilitating information sharing. The user could share news about the game or share the game itself with peers, acting as a communication tool for connecting with others. These elements are important in persuasion because they use one of the tactics of persuasion, which is likability, which explains that people can be influenced by people's actions based on their liking. However, this research chose to change the element's name to social influence to show that the element is important in influencing others.

In addition, this research chose to retain the element of commitment and consistency, with a slight name change: commitment consistency. The element is important for engaging the user with the task provided in the game. The game designer should provide a simple task for the user to commit to while playing the game, thereby achieving the objective of advergame in delivering the information of the brand.

Finally, the PAG framework employed the existing elements and proposed a new element, namely the *transfer effect*. Persuasion is related to the emotions of the consumers or players, which can nudge their behavioural effects in real-world situations. The transfer effect element relates to the advergame's design features that show the ability to create an emotional relationship between the player and the game through engagement. Based on the research study, the emotional relationship is important in influencing player or consumer behaviour, yet it can persuade them to buy the product. Hence, the transfer element is added as the new element in the PAG framework so that it could be used to persuade players toward the brand through advergames.

#### Process 5: The development of the Initial Draft of the PAG framework

The initial draft of the PAG Framework is only possible after assessing expert opinion through the content validation method. The finalization of the proposed framework is the enhancement based on the expert review through the validation

process. Figure 3.2 shows the model of the PAG framework that consists of the advergames elements, which are Brand Positioning with Integration, Autonomy Brand Message, Games Brand Congruence, Entertainment, Social Influence, Commitment and Consistency, and Transfer Effect that can be used to persuade the user toward the brand.

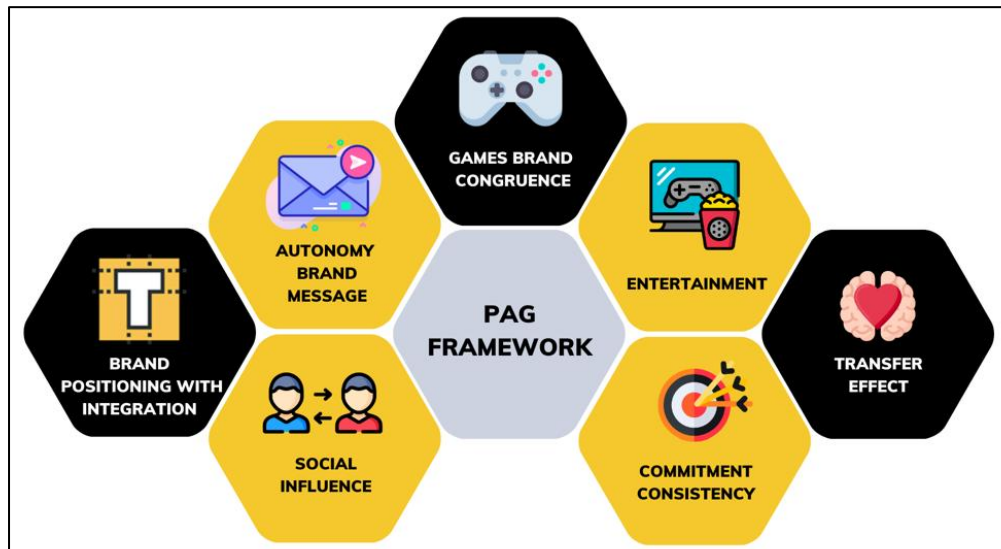


Figure 3.2 The Initial Model of PAG Framework

### Brand Positioning with Integration

Brand position can be defined as the position of the brand that has been embedded in the games (Vashisht & Sreejesh, 2015). Based on the previous findings, the brand location can improve brand memory and preferences (Dens, De Pelsmacker, & Vervellen, 2018). Brand position can be divided into two categories: prominent placement and subtle placement. A prominent placement occurs when the brand is obvious, where the players can recognise the brand by the size or position in the game, while a subtle placement is the outlying brand placed on the background of the game surroundings.

According to the study, the brand position should be prominent and consistent throughout the game to influence users more than subtly placed brands in games (Bogonondo & Artanti, 2019). It is stated that the player could easily remember the brand if it is the game's focus (Gungor, 2020).

It was discovered that there is a positive relationship between the players' attitude toward the advergames and the brand when they are involved in integrated advergames (Nguyen et al., 2021). Brand integration allows players to interact with the brand in the game by clicking, dragging, or moving the product or brand on the game and evokes an imaginary experience toward the player, leading to creating a positive attitude toward the brand (Yang & Battocchio, 2020) resulting in higher involvement with the brand (Onalaja & Otokiti, 2021). The integration of the brand also allows players to learn about a product's unique features and characteristics.

One of the most crucial aspects of introducing a brand or product to a consumer is incorporating products into digital games. The integration of the brand can be in the name of the brand, packaging, logo, or anything related to the brand that allows players to recognise the brand, as the brand's recognition evokes a positive effect, transferring to favourability toward the game. Three types of brand integration could be embedded in the games: associative, illustrative, and demonstrative (Chen and Ringel, 2001). The associative strategy will integrate the brand outside of the gameplay. The difference between illustrative and demonstrative integration is the interaction with the brand of the player in the gameplay. Demonstrative integration allows the player to interact with the brand, while the player cannot directly interact with the brand through illustrative integration. The designer must carefully balance brand elements to promote product trials without being viewed as unnecessary advertising clutter that detracts from the fun of gameplay. The game designer should design a game that allows the player to actively engage with the brand since it positively affects and improves players' attitudes toward the game.

### **Autonomy Brand Message**

Every business has distinct messages it wishes to convey through its brand. The previous studies show the capabilities of advergames to convey messages engagingly to the player. Autonomy brand message in the advergames context can be defined as the game's narrative, which takes the shape of interaction and a self-explanatory storyline that can be used to spread a message across the gameplay (Roettl et al., 2016). It also brings the meaning of self-realisation of the intended messages embedded in the game, without looking at the information outside the game. The intended message could

be in the form of a logo, slogan, or trademark that shows the company's identity, and the messages in the gameplay itself must be suitable for the intended audience.

The information can be aimed at shaping or changing the player's perception through the gameplay narrative. Based on the previous findings, designing a self-explanatory game where the player does not need any additional information to play the game is crucial to reaching a proper level of persuasion (Sreejesh, Anusree, and Abhilash, 2018). The game designer should design the game with an autonomous brand message element by providing a tutorial for the player that eases the player into playing without having to look for information outside the game itself.

### **Games Brand Congruence**

Games and brand congruence are essential persuasive tools that influence one's beliefs. In order to achieve the persuasion attempt through advergames, it is stated that the advergames should mirror the brand's values that align with the brand's messages and objectives. Games and brand congruency can be defined as the degree to which the embedded brand element and the game content match. Congruent in that the brand serves as the game's focal point; lifestyle-wise, the game's style aligns with the brand's; the brand's image enhances the game; and the product category complements the game.

The narrative can be shown through storylines or game simulation (Aliagas et al., 2021). The feature of the game is important and should reflect the representation of promoting the brand so that the player can understand the intended message in a more entertaining way that can lead to increasing the liking of the game and the brand and the interactivity of the players (Zagni et al., 2025). The consistency in the game's message and the narrative offers a greater likelihood of influencing players. Based on the recent findings, the higher matches between the brand and the game theme resulted in better persuasive and positive effects on the memory and the players' attitudes toward the brand (Toh et al., 2019). Hence, it is recommended that the game designer integrate brand items that align with the game's concept, as the player can make a positive attempt toward the brand.

## **Entertainment**

Entertainment is important in the gaming world as it needs to provide enjoyment to the player. In the advergames context, it can be defined as the attempts to use advertising to fulfil player requirements and provide enjoyment (Rana et al., 2020). Entertainment is a crucial key that the advertiser can use to convey the intended message or product information to the youngster (Feijoo, Fernández-Gómez and Sádaba, 2021). It is also stated that the perception of entertainment is a key factor in achieving persuasive effects (Rahmani et al., 2025). Given the latest findings, entertainment shows a positive influence on brand associations, which suggests there might be some influence transmission. Entertainment is the primary driver of brand attitude, which has a better effect than traditional persuasive attempts because the player will have a more challenging time recognizing the persuasion effort, leading to lower reactance of the embedded message in the gameplay.

The entertainment element is important when integrating interactive and digital media as it relates to the flow condition where the player indicates more favourable brand attitudes whenever they feel highly entertained (Wang & Lee, 2020). The flow state is facilitated by tailoring the game design to the player's primary motivation and capacity. It stands on two criteria: the player's capability and the game's difficulty level. Several situations could occur with the criteria of the state of flow. The first scenario occurs when the player's capability is lower than the level of difficulty of the game, leaving the player frustrated and having a negative attitude toward the game. Next, if the game's difficulty does not surpass the player's capabilities, the player with higher capabilities will become disinterested. The last scenario arises when the player's skill level corresponds with the game's difficulty level, leading to a flow state. Therefore, advergames ought to provide players with an enjoyable and engaging setting with just the right amount of difficulty.

According to Bazi et al., (2023), advertising knowledge also affects gamers' brand memory and attitude. Even if they do not consciously perceive the brand, players who find the game entertaining are more likely to have a more favourable opinion. This situation shows when the player with the higher advertising knowledge reflects negative attitudes, as they were aware of the persuasive intent of the advergames and the ulterior motives of placing brands in games. Entertainment and challenges are related, and the game developer could offer challenges for the game players to improve their attitude

toward the brand (Xi & Hamari, 2020). However, creating challenges is tricky for the game developer as the player needs to find the optimal challenge to achieve persuasive attempts throughout the advergames. If the player is over-challenged with the game task, they might not experience the positive feelings of flow, leading to no positive effect transfer from the player toward the brand. There are several options for the developer in creating entertainment criteria for the players throughout the game, such as providing a reward for the player every time they complete a given task.

Additionally, this circumstance encourages the gamer to play the game more frequently. The player should have a sharing function in the game to share their scores with their peers. Hence, the game developer should design the game with entertaining criteria to deliver enjoyment to the player, resulting in the player's persuasion and engagement with the brand.

### **Social Influence**

Connecting people through the digital world is a must in this technological era, as people nowadays mainly connect through social media instead of having face-to-face conversations. Another crucial element of persuasion in advergames is social influence can be defined as communication between the informer of the brand and the receiver of the intended messages. Social influence in an advergames context occurs whenever there is an interaction between one player and their peers by recommending the game through the game (Verheijen et al., 2019). Based on recent studies, researchers have highlighted the positive effect of the invitation to game playing. The recommendations cause their players to be more susceptible to persuasion since they will play the game more frequently and be exposed to the game's persuasive attempts (Groen et al., 2023). WOM and social integration features go one step further as they allow the player to share their own opinions regarding the brand or services; hence, they are essential elements of advergames since they allow the player to interact with others, resulting in persuasive intentions toward the player and increasing the likelihood of advergames.

The game design should provide the player with sociability, including inviting friends, challenging others by publishing results, and rewarding them to encourage interaction. These situations lead to exposure to advertisements or persuasive communication about the brand on various platforms, such as social media platforms, forums, websites, review pages, and more. The game designer could design the game

with multiple players, encouraging social interaction among players and affecting other players' brand opinions whenever they play the same game. Therefore, the game designer tries to connect people by implementing a sharing function in a game, as they play an important role in recommending the game and promoting the brands to others (Prihatiningsih et al., 2024).

### **Commitment Consistency**

Commitment and consistency are related to someone's beliefs, and they can be understood in terms of people having a consistent attitude and beliefs in various circumstances, viewpoints, and preferences (Cialdini, 2007). Based on the research findings, the player is likely to be persuaded by the embedded message if the game designer provides a sense of commitment and consistency element in the game (Roettl et al., 2016). The situation is different with the player, as they will feel the discomfort and look for a method to restructure and find equilibrium in their thoughts if the game is inconsistent.

Advergames should include obstacles inside the game's narratives to encourage the player's sense of commitment. This situation evokes the player to keep playing the game, repeating the persuasive message in the game. Hence, there is a higher chance of persuading the player to have a positive attitude toward the game and the brand (Mishra & Malhotra, 2020). The game designer should design the game with the player's registration involving the actual codes linked with the product, or joining a club function to access special activities where the user can collect points. The commitment and consistency of the player can also be achieved by adding the personalisation of the game, where the player can personalise their character or sign in to the game with their preferred name. Therefore, designing the game content with the integration of commitment and consistency elements in advergames requires attention from the game designers, so the player needs to be committed to the given task. The element is important in leading to significant changes in attitudes toward the brand.

## Transfer Effect

Game design is one of the most important elements in any game genre. However, designing the content or structure of the game that can persuade players toward the brand requires much attention from the marketers and the game developers. The game design that could evoke the transfer effect is an important element in persuading the player, as the affect transfer mechanism illustrates the arousal and transmission of emotions from the game playing into the real-world situation. Based on the research study, the advertisement works best when combining the informative and emotional (Farzinnejad et al., 2024).

The theory of affect transfer was introduced by Fiske (1982), explaining the emotions being transferred from one object to another. Nowadays, the theory is being adopted by researchers, especially in the advertising domain, to describe persuasion-related activities, including Steward et al. (2018), who used it to relate to digital advertising, D'Hooze et al. (2017) used to explain brand placement in TV commercials, Wong et al. (2020) with the celebrity endorser and relate the theory to the consumer's judgement about brand extension and sub-brands.

According to Mishra & Malhotra, (2020), advergaming seeks to elicit an emotional response between the game and the brand it promotes through what researchers refer to as "human-message interaction". The main objectives of advergaming are to deliver embedded messages and engage the player with the product through a game-playing situation by displaying the advertisements in the games' background, which gives the customers a feeling of realism (Martí-Parreño et al., 2013). In previous research, using the actual brand in the game allows the feeling of realism to the game environment, leading to a positive attitude toward the game and the brand. The transfer effect is also related to the brand's players' brand familiarity. This situation occurs when the player, unfamiliar with the brand, is exposed to the persuasive information embedded in the game. The brand's exposure drives the player to process the information, resulting in positive attitudes and emotions towards the brand (Rhee & Jung, 2019). The player with the information about the brand will identify the repeated message in the game as persuasive advertising, leading to less favourable brand attitudes toward the brand and showing that there is no information processing that could transfer the emotion from the player to the real-world environment. The transfer effect is related to the age of the player. According to previous research, children who have more

favourable opinions about an advertisement game may be more likely to be drawn to the promoted brand, which will increase brand requests (Neyens et al., 2017).

### **3.3.2 Expert Review**

Evaluating expert opinion is crucial in establishing the reliability of this research study. Two expert validations are conducted for this research study: the face validation of the instrument, the validation for the initial draft of the PAG framework, and the advergame prototype. Each validation plays an important role in supporting the credibility of this research study.

Face validation can be understood as the initial step in the research study in ensuring the credibility of the research study (Yusoff, 2019). Face validation is important in identifying the appropriateness of the instrument that needs to be validated by a panel of experts through content validity. The correct usage of grammar, language and other items that have been guided by (Oluwatayo, 2012), will ease the validation process by the panel expert.

Validation of the initial draft through content validation is essential for proving the research study's relevance and clarity. Both academic and industrial experts will validate the initial draft of the PAG framework to ensure the reliability of the identified elements. The initial draft will be distributed to academic experts and industrial panels based on their knowledge and expertise. The experts were contacted to review and provide insight into the proposed framework. Implementing modifications in line with the panel experts' suggestions and based on their insights guarantees that the research study is valid and relevant. Any modification to the initial draft of the PAG Framework will be made to meet the research objectives.

#### **3.3.2.1 Face Validation**

Face validation is often overlooked (Zhang & Garcia, 2023) by the researcher despite its importance in ensuring the credibility of an instrument. Face validation can be understood as the idea of the instrument appearing the same through the expert validation process. It refers to the degree to which a test measures the intended outcome (Krabbe, 2017). Face validity focuses on the relevance and appropriateness of an instrument. It is important since it is the first step in measuring the overall validity

process (Yusoff, 2019) and what it means to measure in the research study. A good face validity should be relevant to the research measures and appropriate for the participant.

Overall, the face validation helps measure the instrument's effectiveness and reliability in the research study. In this research study, face validation is the method to verify the instrument for the PAG framework, which is important to evaluate its relevance and ensure its accuracy. According to Zamanzadeh et al., (2015), the face validity is an unstandardized approach and recommends quantifying responses by calculating the percentage of agreement. The percentage for individual questions and overall agreement are calculated using equations 1 and 2, based on Table 3.6.

Table 3.6  
Calculation of the Face Validation Agreement

| Equations | Equation 1, | <b><math display="block">\frac{\text{No of agreed rates per question}}{\text{Total number of raters per question}} \times 100\%</math></b> |
|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|           | Equation 2  | $\frac{\text{Sum of \% of all questions}}{\text{Total number of questions}}$                                                               |

Source: (Patel & Dasai, 2020)

Table 3.7 shows the guidelines for defining the face validation agreement. It can be used as a guide for retaining, redefining, or restructuring the areas covered by each question and the overall instrument. The percentage below 80 shows poor agreement per question and requires restructuring of questions to improve the quality of the instrument. The instrument needs to be revised if the agreement reaches between 80% to 90% as the strength of agreement is substantial. Ultimately, the instrument should retain the questions since it achieves a complete agreement score of 90% to 100%. The full score of agreement shows that the instrument is appropriate and accurately fulfils the validation objective.

Table 3.7  
Guidelines for Defining the Face Validation Agreement

| <b>% of Agreement</b> | <b>Strength of Agreement per question or overall</b> | <b>Action for each Question/entire Instrument</b> |
|-----------------------|------------------------------------------------------|---------------------------------------------------|
| <80                   | Poor                                                 | Restructure                                       |
| 80-90                 | Substantial                                          | Revise                                            |
| 90 - 100              | Full                                                 | Retain                                            |

Source: (Patel & Dasai, 2020)

## The Procedures

The procedure of face validation starts with the identification of the panel expert who fulfils the requirements of face validation (Lynn, 1986). Once the panel expert has been identified, they will receive an invitation email with the purpose of the survey, details on the research study, evaluation link, and the appointment letter as the panel expert. The panel expert will review the instrument of the PAG framework and rate it in the last section of the evaluation form to identify the relevance of the instrument. The completed evaluation must be shared with the researcher before proceeding with the face evaluation analysis. They were also asked to give their insight regarding the instrument of the PAG framework in the open section provided in the form. The appointed panel expert is selected based on their expertise to ensure the questionnaire is more reliable for the research study. Below are the criteria that the panel expert must fulfil.

- a) A full-time lecturer
- b) Have at least 10 years of teaching experience in Computer Science.
- c) Have a qualification that the Ministry of Higher Education recognises.

Two panels have been invited to evaluate the instrument thoroughly. The panels are selected based on their expertise background to ensure the instrument's relevance for this research study. Table 3.8 shows the details of the appointed panel expert for face validity evaluation.

Table 3.8  
Expert in Face Validation

| Expert | Name                                  | Expertise                                                                    | Position                                        | Experience         |
|--------|---------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------|--------------------|
| 1      | Ts. Dr Ismassabah<br>Binti Ismail     | Multimedia,<br>Quantitative<br>Game-Based<br>Digital<br>Heuristic Evaluation | IT &<br>Sciences,<br>Learning,<br>Storytelling, | Senior<br>Lecturer |
| 2      | Ts Dr Siti Rahayu<br>Binti Abdul Aziz | Computer Technology and<br>Networking                                        | Senior<br>Lecturer                              | 20 Years           |

### Face Validation Forms

There are two (2) sections to be completed in the face validation form: **Section A** is the demographic details, while **Section B** is the face validation instrument itself. The panel must fill out their details in **Section A** and select **(Yes)** or **(No)** in **Section B** to verify the instrument and ensure the questionnaire fits the validation of the initial draft of the research study. The panels could share their insights on the instrument in the comment section to improve the quality of the instruments for this research study. Figure 3.3 shows the instrument that have been distributed to the panel expert. The structure of the instrument that needs to be analysed by the panel, following the list of criteria that have been outlined by Oluwatayo (2012), including:

- a) Use of correct and appropriate grammar.
- b) Adjusted use of appropriate language.
- c) Use of correct spelling.
- d) Appropriate writing size
- e) Appropriate format
- f) Appropriate content

**SECTION B: FACE VALIDATION INSTRUMENT**

**INSTRUCTIONS :**

1. The expert needs to assess the extent to which the instrument (that was explored previously) meets the criteria for a good research instrument by checking the column (YES / NO).
2. Suggestions and feedback are encouraged to improve the instrument.
3. The face validation criteria are based on a study by Oluwatayo (2012)

Thank you for your cooperation.

---

\*

|                                        | Yes                   | No                    |
|----------------------------------------|-----------------------|-----------------------|
| Use of correct and appropriate grammar | <input type="radio"/> | <input type="radio"/> |
| Adjusted use of appropriate language   | <input type="radio"/> | <input type="radio"/> |
| Use of correct spelling                | <input type="radio"/> | <input type="radio"/> |
| Correct sentence structure             | <input type="radio"/> | <input type="radio"/> |
| Appropriate writing size               | <input type="radio"/> | <input type="radio"/> |
| Appropriate format                     | <input type="radio"/> | <input type="radio"/> |
| Appropriate content                    | <input type="radio"/> | <input type="radio"/> |

Figure 3.3 Face Validation Instrument

### 3.3.2.2 Content Validation

Validity is critical in producing a reliable instrument for a research study. It can be defined as the instrument's capacity to properly evaluate what it is intended to measure (Clark & Watson, 2019). The validation process aims to identify whether the element and the criteria are acceptable in the PAG framework. Content validity is essential to support the reliability and validity of the measurement tools (Rodrigues et al., 2017), such as a questionnaire for the research study. Content validation can refer to the extent to which elements of the assessment instrument are relevant for the research purpose. The relevance of an assessment tool, such as a questionnaire, can be referred to by the suitability of its elements and the purpose of the assessment in the research study. Figure 3.4 shows the steps required to access the expert validation.

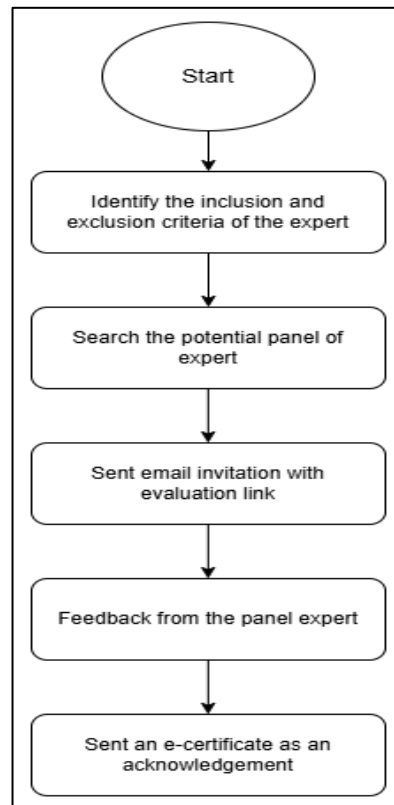


Figure 3.4 Steps Required to Assess Expert Validation

The content validation followed the intended steps to ensure the smoothness of the validation process. The content validation process starts with identifying the inclusion and exclusion criteria for the panel expert. Both panel experts from academia and industry were expected to fulfil the criteria to be considered as participants. Below are the inclusion and exclusion criteria for the panel of experts to meet to validate the PAG framework.

#### Inclusion Criteria

The expert among academicians was required to fulfil these criteria:

- a) A full-time lecturer.
- b) Have at least 10 years of teaching experience.
- c) Have at least one year of experience in advertising, designing or developing games.
- d) Have a qualification that the Ministry of Higher Education recognizes.

The expert among the panel industry was required to fulfil these criteria:

- a) A manufacturer knowledgeable about both conventional technology and the new technology being advanced by the program, market issues associated with advertising options, and any research, development, and commercial application of the technology domestically and internationally.
- b) An end user of the technology, possibly a builder or utility representative, can provide a user's perspective.
- c) An expert in the technology being reviewed, who could come from industry, academia, or a National Laboratory.

#### Exclusion Criteria

- a) Participants whose data are incomplete will not be included in the research process.
- b) Participants who did not consent to the questionnaire do not have the right to participate in this research.

The steps in expert validation proceed with the search for the potential panel of experts for the validation process. Once the potential expert from academia and industry has been identified, the researcher will send an email invitation comprising the research introduction, the purpose of the research, and the evaluation link through their email. The panel expert who gives their consent can validate the PAG framework by clicking the link in the email. The email contains the study's purpose, the instrument's description, and the researcher's contact information. The email invitation will describe the research study's background and the purpose of validation. Moreover, the email invitation includes the researcher's contact information, should the panel expert wish to inquire about the validation process. The panel expert was asked to complete their feedback within two weeks, and a follow-up email will be sent in cases of no response given by the initial deadline. They will also be given an e-certificate as a token of gratitude for spending their precious time evaluating the PAG framework. The certificate is available in the Appendix section of this report. Table 3.9 shows an example of the content of the email invitation for the panel expert.

Table 3.9  
The Content of the Email Invitation for the Panel Expert

| Paragraph                             | Sample Text                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>State the purpose of the study</b> | I am contacting you to get your insightful thoughts, ideas, or comments to review and validate the Advergaming Framework as a Persuasive Strategy Toward Brands (PAG Framework).                                                                                                                                                                                                                     |
| <b>Description of the instrument</b>  | As an expert in the field, your input and feedback would be greatly appreciated. I would be very grateful for your comments and assistance in validating this framework. I would appreciate your opinion on the relevance and clarity of each item so that I may enhance the proposed framework.                                                                                                     |
| <b>Contribution to the study</b>      | I look forward to receiving your feedback. Kindly provide feedback on the form at your earliest convenience, preferably within two weeks, by <b>21 June 2023</b> . You can confirm your participation in this study and start the review process by referring to this link: <a href="#">Expert Review Form</a> .                                                                                     |
| <b>Contact information</b>            | Your cooperation, time, and assistance are greatly appreciated. I have also attached a letter of appointment as an expert reviewer for your reference. Once again, thank you in advance for your time and effort in making this research successful. If you have any questions, feel free to contact me at <a href="mailto:ilhamsyafeqah96@gmail.com">ilhamsyafeqah96@gmail.com</a> (011-3681 1521). |

Source: (Hidayah Mat Zain et al., 2016)

The prepared assessment form must be precise so the panel experts understand the evaluation process. Figure 3.5 illustrates the evaluation form of the PAG framework, which requires validation by the panel of experts. All information regarding the research study is provided to help the panel expert understand the purpose of the research and evaluation.

Figure 3.6 shows the instrument of the evaluation form with the four-point ordinal scales. The panel expert needs to evaluate the identified elements according to the rating scale provided. The evaluation of elements was rated in relevance and clarity to determine the reliability of the proposed framework. They are also welcome to provide their insights in the open section that has been provided, as all suggestions are considered for any necessary modifications in validating the PAG framework. The panel experts were expected to submit their responses to the researcher once they had completed reviewing the instrument tool of the PAG framework.



## EXPERT REVIEW: THE ADVERGAMES FRAMEWORK AS A PERSUASIVE STRATEGY TOWARD BRAND

Assalamualaikum and a very good day 🌞. My name is Nur Ilham Syafeqah binti Rosli, and I am a Master's student from the College of Computing, Informatics and Media, UiTM Shah Alam.

Looking at your rich background in academic, research, and industrial expertise, I would like to humbly solicit your opinions, suggestions, or recommendations to review and validate my initial framework: The Advergimes Framework as a Persuasive Strategy Toward Brands (PAG Framework).

ilhamsyafeqah96@gmail.com [Switch account](#)

\* Indicates required question

Email \*

Your email

### SECTION A : RESEARCH INFO

#### ETHICS APPROVAL

This research study has obtained ethics committee approval from UiTM Research Ethics Committee with reference number REC/12/2021 (MR/959). The approval of this project is conditional upon continuing compliance with these guidelines and

Figure 3.5 Example of the Evaluation for the Panel Expert

### SECTION D: VALIDATION OF INSTRUMENT (LEVEL OF RELEVANCY)

Dear experts,

This study need your expert judgement on the degree of relevancy of each item to measure the elements of PAG Framework. Please be as objective and constructive as possible in your review and use the following rating scale:

1 = Not relevant  
2 = Item need some revision  
3 = Relevant but need minor revision  
4 = Very relevant

#### Brand Position and Integration \*

|                          | 1                     | 2                     | 3                     | 4                     |
|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I can receive the in...  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can choose an av...    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can locate the loc...  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can interact with t... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can recognize the...   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

General comments about the item:

Long answer text

Figure 3.6 Example of the Evaluation Form with Rating Scale

The criteria of the PAG framework were extracted from and adapted to develop the instrument for the PAG framework following the evaluation by the expert reviewer. The panel experts need to rate based on four ordinal points scales for validating the Relevant element which are “1 = Not Relevant”, “2 = Element needs some revisions”, “3 = Relevant but needs minor revision” and “4 = Highly relevant” and the Clarity element which are “1 = Not clear”, “2 = Element needs some revision”, “3 = Clear but needs minor revision” and “4 = Highly clear” shows that the element has an impact on the framework (Zain et al., 2022) . Table 3.10 shows the initial instrument of the PAG framework.

Table 3.10  
The Initial Instrument of the PAG Framework

| Elements                             | Instrument                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brand Position and Integration       | <ul style="list-style-type: none"> <li>• I can receive the information of the product</li> <li>• I can choose an avatar or a character</li> <li>• I can identify the location of the brand logo</li> <li>• I can interact with the product in the game</li> <li>• I can recognize the brand component in the gameplay</li> </ul>                                                                           |
| Autonomy Brand Message               | <ul style="list-style-type: none"> <li>• I can understand the information about the brand features</li> <li>• I can identify the brand-related message in the game</li> <li>• I can identify the integration of the brand in the game</li> <li>• I can understand the brand concept and narration of the game</li> <li>• I can identify the message within the storyline</li> </ul>                        |
| Games Brand Congruent                | <ul style="list-style-type: none"> <li>• I can understand the message of the brand in the gameplay</li> <li>• I can interact with the product or brand in the game</li> <li>• I can identify the brand feature and the game theme within the game</li> <li>• I can identify the intended message and goal of the game</li> <li>• I can understand the matches of the game content and the brand</li> </ul> |
| Entertainment                        | <ul style="list-style-type: none"> <li>• I can choose a different level of challenge</li> <li>• I can obtain a badge as a reward</li> <li>• I can choose a character in the game</li> <li>• I can refer to ranking on the leaderboard</li> <li>• I can feel a sense of accomplishment with the game task</li> </ul>                                                                                        |
| Word of Mouth and Social Integration | <ul style="list-style-type: none"> <li>• I can recommend a game to other</li> <li>• I can invite friends to play the game</li> <li>• I can publish the results after playing the game</li> <li>• I can earn an extra point for a recommendation</li> <li>• I can challenge others by publishing the result</li> </ul>                                                                                      |
| Commitment and Consistency           | <ul style="list-style-type: none"> <li>• I can identify the brand information in the game</li> <li>• I can sign in to play the game</li> <li>• I can understand the theme of the game and brand in the gameplay</li> <li>• I feel challenged by the narrative of the game</li> <li>• I can choose my own character to play within personalization of game</li> </ul>                                       |

|                 |                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transfer Effect | <ul style="list-style-type: none"> <li>• I can understand the game context within the brand</li> <li>• I can identify the brand information in the game</li> <li>• I can interact with the product within the game</li> <li>• I can understand the message through the storyline</li> <li>• I can recognize the brand component in the game</li> </ul> |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

A total of 25 panel members, including 14 experts from academia and 11 experts from the industry who have experience in advertising and marketing, have participated in reviewing the PAG framework's elements regarding relevance and clarity. Table 3.11 shows the details of the experts who participated in the validation of the PAG framework.

Table 3.11  
Expert Details in Content Validation

| No  | Name                                     | Position            | Company              |
|-----|------------------------------------------|---------------------|----------------------|
| 1.  | Dr Azlin Zanariah Binti Bahtar           | Senior Lecturer     | UiTM                 |
| 2.  | Dr Cynthia @ Annamaria Robert Dawayan    | Senior Lecturer     | UiTM                 |
| 3.  | Dr Hasnawati Binti Guliling              | Senior Lecturer     | UiTM                 |
| 4.  | Dr. Mohd Syarqawy Bin Hamzah             | Assistant Professor | IIUM                 |
| 5.  | Dr. Mozard Bin Mohtar                    | Senior Lecturer     | UM                   |
| 6.  | Dr. Nurazlin Binti Zainal Azmi           | Assistant Professor | IIUM                 |
| 7.  | Dr. Sharifah Nurafizah Binti Syed Annuar | Dr                  | UiTM                 |
| 8.  | Dr. Yusri Bin Abdullah                   | Dr                  | UPSI                 |
| 9.  | Mr. Afizan Bin Amer                      | Senior Lecturer     | UiTM                 |
| 10. | Ts. Mohamad Razeef Shah Mohmad Rafik     | Senior Lecturer     | UiTM                 |
| 11. | Pm Dr. Roslina Ibrahim                   | Prof Madya. Dr      | UTM                  |
| 12. | Ts Dr Hasiyah Mohamed @ Omar             | Senior Lecturer     | UiTM                 |
| 13. | Ts Dr Siti Nurul Mahfuzah Binti Mohamad  | Senior Lecturer     | UTEM                 |
| 14. | Ts. Dr. Ibrahim Ahmad                    | Senior Lecturer     | UTEM                 |
| 15. | Mr Fareez Shafiq Hussain                 | Lead Game Designer  | Todak Studio Sdn Bhd |
| 16. | Mr Ikmal Hakim                           | Game Programmer     | Todak Studio Sdn Bhd |

|     |                                     |                     |                          |
|-----|-------------------------------------|---------------------|--------------------------|
| 17. | Mr Ikhwan Mat Zain                  | Game Development    | Sigma Info Analytic Data |
| 18. | Mr Tze Chian Teoh                   | Game Programmer     | Double11 Malaysia        |
| 19. | Mr Syafiq Shuhaimi                  | Executive           | Audi Glenmarie           |
| 20. | Mrs Azizah Nazaruddin               | Marketing Executive | IKIM                     |
| 21. | Mr Mohamad Fauzi Ab Hamid           | Marketing Executive | IKIM                     |
| 22. | Mr Ahmad Zuriyad Ahmad Zukiman      | Marketing Executive | IKIM                     |
| 23. | Mrs Zuraidah                        | Marketing Executive | IKIM                     |
| 24. | Mr Muhammad Syarifuddin Sa'ari      | Developer           | Maybank                  |
| 25. | Mr Muhamad Nazrin Izat Abdul Rahman | Team Lead           | Kretivco Mediaworks      |

The content validity for the PAG framework was carried out and can be represented by the content validity ratio (CVR) and content validity index (CVI). CVI refers to the total sum of the agreement scores of all items on the expert scales, where the relevance rating must be recorded as 1 with the relevance scale for 3 or 4, and 0 with the relevance scale for 1 or 2. CVI can be calculated using the item validity index (I-CVI) and scale validity index (S-CVI). The interpretation values range from I-CVI 0 to 1, where  $I-CVI > 0.79$  shows the item is relevant, the value between 0.70 and 0.79 shows the item needs revisions, and if the value is below 0.70, the item will be eliminated.

There are two methods to calculate (S-CVI): the first method is calculated through  $(S-CVI/AV)$ , which refers to the average of the (I-CVI) scores, and the second method is calculated with  $(S-CVI/UA)$ , which refers to the agreement among the experts. The calculations can be added with the modified kappa statistic that offers the degree of agreement beyond chance by using the formula of  $K = (I-CVI - PC) / (1 - PC)$ , where  $P_c$  (probability of chance agreement) can be calculated by the following formula:  $P_c = [N! / (N_e! (N-A)!)] * 0.5^N$ . Table 3.12 shows the formula for calculating the content validity; the results and analysis are discussed in the next chapter.

Table 3.12  
The Formula for Calculating Content Validity

| Item                                                                       | Formula                                                                |
|----------------------------------------------------------------------------|------------------------------------------------------------------------|
| N                                                                          | Total number of experts                                                |
| Ne                                                                         | Number of experts agreeing on a rating 3 or 4                          |
| Content Validity Ratio (CVR)                                               | $= (Ne - \frac{N}{2}) / (\frac{N}{2})$                                 |
| Content Validity (CVI)                                                     | $= (\frac{Ne}{N})$                                                     |
| I-CVI (Item content validity for individual item)                          | (Number of experts providing a rating of 3 or 4) / (Number of experts) |
| S-CVI/Ave (Scale level content validity index based on the average method) | (Sum of CVI scores) / (Number of items)                                |
| Pc (Probability of chance agreement)                                       | $= \left[ \frac{N!}{Ne!(N-A)!} \right] * 0.5^N$                        |
| Kappa (K)                                                                  | $(I-CVI - Pc) / (1 - Pc)$                                              |

Source: (Zain et al., 2022 )

The instrument that has been validated and calculated for its Content Validity Ratio (CVR) based on the rated items by the number of experts. However, the number of experts participating in the validation plays an important role in determining the critical value of CVR. The instrument will be calculated for its CVR value using the formula  $CVR = (Ne - N/2) / (N/2)$ , where Ne is the number of experts who rated the item as relevant, and N is the total number of experts. The results of the CVR were referred to with the Lawshe Table to identify the critical CVR values. The elements are considered valid content if the calculated CVR values are equal to the critical value.

According to Romero et al. (2023), the Lawshe method is one of the methods to quantify the content validity of items in a questionnaire. The Lawshe table was used to indicate the minimum CVR value for the elements considered content valid. The method is widely used in developing the instrument, as it is important in assessing the content validity of an instrument in determining whether the identified elements and items are relevant (Lawshe,1975). Table 3.13 shows the Lawshe table used to quantify the minimum value.

Table 3.13  
The Minimum Values of CVR

| No of expert | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 20   | 25   |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Min Value    | 0.99 | 0.99 | 0.99 | 0.75 | 0.78 | 0.62 | 0.59 | 0.56 | 0.54 | 0.51 | 0.49 | 0.42 | 0.37 |

Source: (Lawshe, 1975)

### 3.4 Phase 3: Framework Evaluation

Validation of research development is important as it significantly contributes to the quality of the research. Framework evaluation, as the third phase in this research methodology, involves evaluation by the user through a prototype demonstration based on the implementation of the PAG framework into an advergaming prototype. Therefore, the expected outcome for this phase would be the user validation of the advergaming application.

#### 3.4.1 Rapid Development (RAD) Methodology for Prototype Development

Rapid development (RAD) is one of the approaches used in software development since the traditional method relies on strict planning, processing, and documenting, compared to RAD. The approach focuses on reducing the planning time and emphasizing prototype iteration since it is beneficial when the project development is faster and produces quality products. The RAD methodology comprises requirements, user design, testing, and the cutover phase. The flexibility of the approach in software development, in adopting the changes of requirements at any stage and reducing the overhead cost made the software reusable for other purposes, and the top choice for the developer in selecting a project development approach. This research adopts the RAD approach as the methodology due to its suitability in completing the research process. This research consists of several processes, starting with the requirement that all information needed for the advergaming application has been gathered to ease planning, including the game engine suitable for games that incorporate the brand information, with the aim of delivering the brand information to the user. The steps in developing the advergaming application proceed with the user design, which serves as the guideline for the construction process. Once the user design is completed, the steps will proceed with the construction phase. The characteristics of RAD that

facilitate iteration ease the application development process, as changes can be made in response to evolving requirements. The last step is the cutover phase, during which the developed advergame application will be tested with the intended target user, within the research scope. All the steps are important for making the journey of developing the advergame application easier. Figure 3.7 shows the stages of the rapid application development (RAD) methodology.

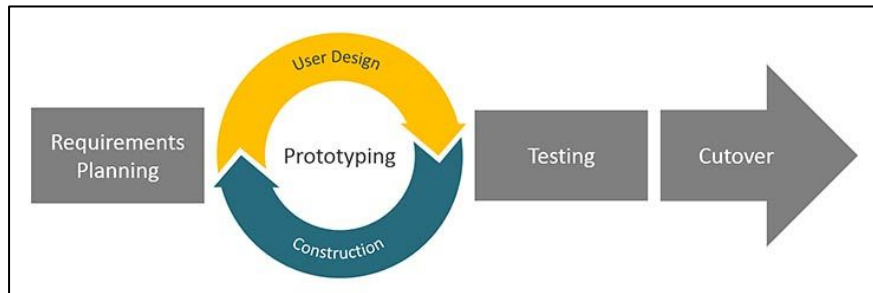


Figure 3.7 Rapid Application Development Methodology

#### ***3.4.1.1 Requirement Planning Phase***

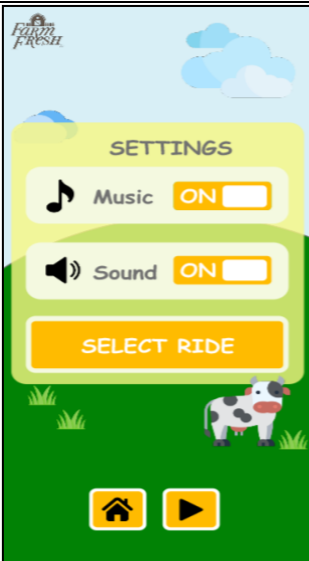
The first step in developing any application is the requirements planning phase. This phase is crucial as most of the decisions regarding the application are made during this time. The game developer should identify the goals, expected outcomes from the project, and the potential issues that may occur during the game development. In addition, the requirements, including the software application and game engine, should be decided to ensure efficiency in project development. Hence, it shows that the requirement phase is critical in deciding an application's success.

#### ***3.4.1.2 User Design Phase***

The next phase of the Rapid Application Development (RAD) approach focuses on the development of user design through iterative prototyping. Each prototype will be tested during this phase to meet the client's expectations. The user design phase starts with designing a storyboard that will aid the game developer before proceeding with the development of an application. The storyboard is a crucial tool as it is the guideline for developers when developing an application. For this research study, Adobe XD was chosen as the software application for sketching the design of the Advergames

prototype, which will persuade users toward the promoted brand. The storyboard will help the game developer understand the flow and process of the application. The application process development should be continued when the design process is completed, so that the details are in place. The programming language in the Unity 3d game engine utilizes C# as the programming language to complete the development of the advergames prototype. A storyboard is important in any development since it is a game developer's reference. Table 3.14 shows the storyboard of the advergames prototype application.

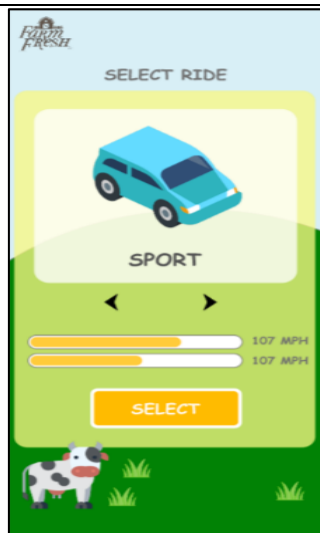
Table 3.14  
The Storyboard of the Advergame Application

| Interface                                                                           | Features                                                                                                                                                                                                                                                                                                                                                                       | Element                                                                                                                                             |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>This is the main page of the advergame application. It will be designed with a theme that aligns with the brand's product. The advergame application will display the brand logo at the centre of the application. Moreover, the main page also provides the sharing function by clicking the “f” button, directing them to their social media to share about the game.</p> | <ul style="list-style-type: none"> <li>• Brand Positioning with Integration</li> <li>• Game Brand Congruence</li> <li>• Social Influence</li> </ul> |
|  | <p>The storyboard's settings page allows users to adjust their preferences for the music and sound functions. The user is given the “Select Ride” function as their character in the game.</p>                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Brand Positioning with Integration</li> <li>• Games Brand Congruence</li> </ul>                            |



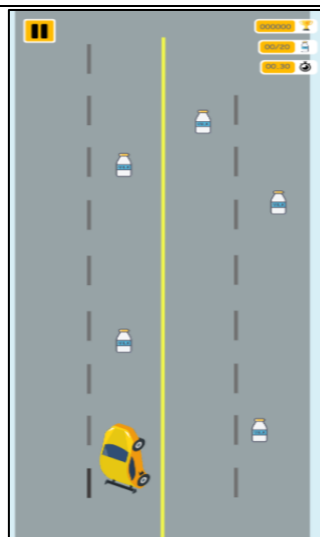
The user must enter their name in the prompt and click the arrow sign to proceed with the next step.

- Brand Positioning with Integration
- Games Brand Congruence
- Commitment Consistency



The users can choose their ride by clicking the left and right buttons. The selected ride will be saved by clicking the select button, and the user will move to the next scene.

- Brand Positioning with Integration
- Games Brand Congruence
- Entertainment



The scene shows a game-playing situation where the user needs to collect milk bottles to represent the promoted brand. The collected score will be displayed on the top right of the application. The user can pause the game if they wish by clicking the pause button on the left side of the application.

- Entertainment
- Games Brand Congruence
- Autonomy Brand Message



The scene shows the completed task of the given mission. It will display the total score accomplished by the user. The user also provided three buttons (Home Button, Replay Button and Continue Button) with their function.

- Brand Positioning with Integration
- Games Brand Congruence
- Commitment Consistency
- Transfer effect

### 3.4.1.3 Construction Phase

The subsequent phase in RAD methodology is the construction phase, which is correlated with developing an application from the system design phase into a tangible application. The construction phase encompasses several crucial processes, including the coding of a program, unit integration, system testing, and development of the final working model with functional capabilities of an application. The construction phase in RAD methodology is a fast-moving development since the potential and complexities have been solved during the design phase, leading to a swifter development process. The programming language in the Unity 3D game engine utilizes C# as the programming language to complete the development of the advergaming prototype. The development of the advergaming application will implement the elements of the PAG framework identified in the previous phase, aiming to deliver entertainment to the player while conveying the information of a promoted brand within the game. Figure 3.8 shows the image of developing the advergaming prototype “Farm Fresh Adventure” in the Unity 3D game engine.

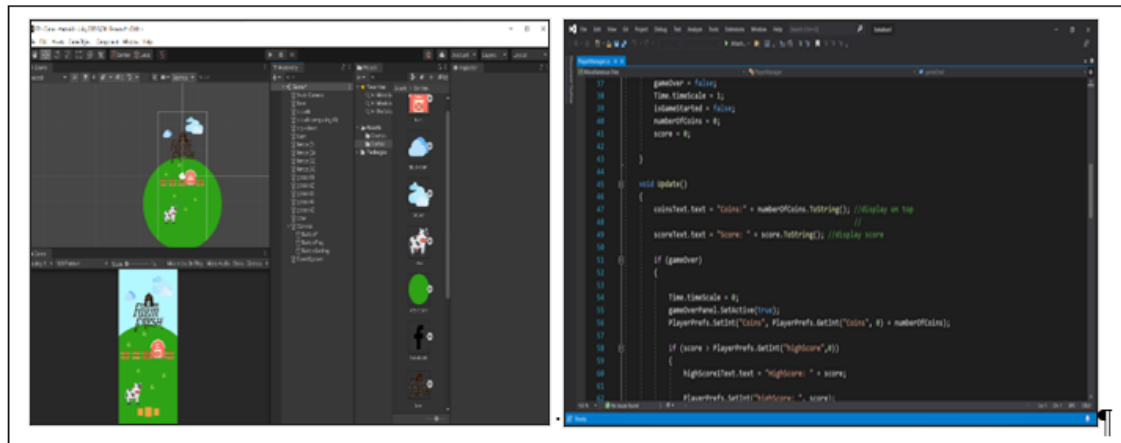


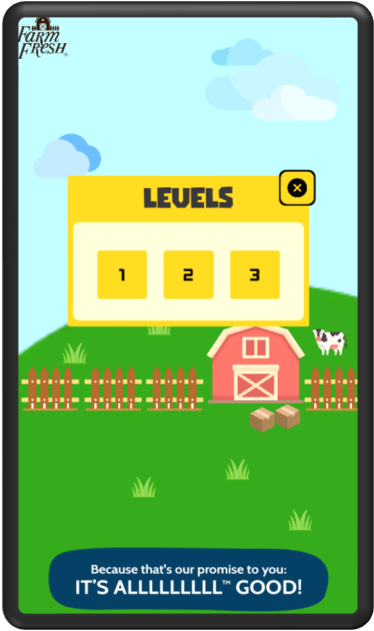
Figure 3.8 Source Code for the Advergimes Application

The implementation of elements can only proceed once the panel experts have finalised and validated the PAG framework. All elements of the PAG framework, as well as brand positioning with integration, autonomy brand message, games brand congruence, entertainment, social influence, commitment and consistency, and transfer effect, were implemented in the advergimes prototype developed explicitly for this research study. The advergimes prototype needs to be evaluated by the intended target user to ensure the reliability of the research study. Several processes are involved in completing the advergimes prototype. Below are the details on how the element is integrated into the advergence application.

### Implementation of Brand Positioning with Integration Element

Table 3.15 represents the advergimes prototype that integrates the elements of brand position and integration of the PAG framework. The brand's logo will serve as the brand identifier in the game. Based on the research study, the prominent brand placement is more effective in persuading the player toward the brand. The enormous size of the brand will capture the player's attention, hence reinforcing the integration of the brand. Furthermore, the main page of the "Farm Fresh Adventure" included the brand feature of the actual product so that the player can recognize it in real-life contexts and be persuaded into the brand.

Table 3.15  
The Implementation of Brand Positioning with Integration Element

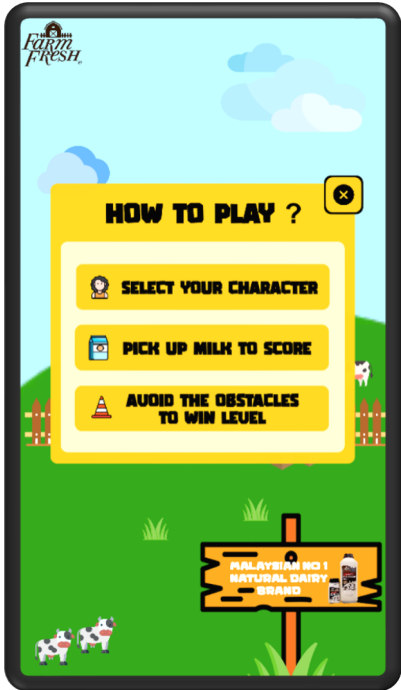
| Interface                                                                          | Features                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>The main page of this application used the brand logo as the brand identifier and placed it at the center of the game, aiming to present an advergence for the Farm Fresh brand. It also includes several functional buttons that direct the player to their specific page.</p>    |
|  | <p>The interface shows the “Levels” page of the advergence application. The user must complete the first level before proceeding with the next level. These interfaces implement the brand position and integration by placing the brand logo on the top left of the application.</p> |

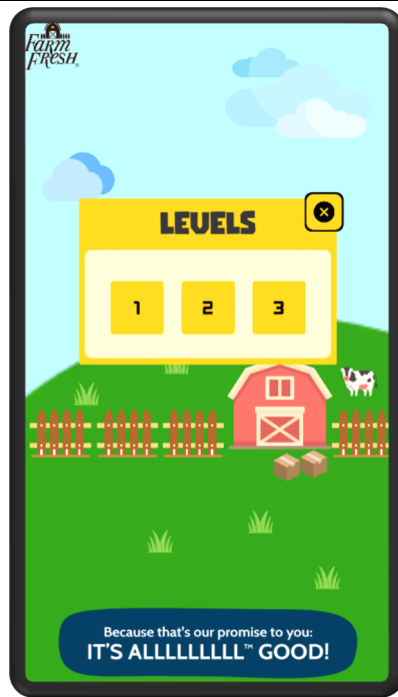
### Implementation of Autonomy Brand Message Element

The autonomy brand message refers to the players’ understanding of how to play the game without needing external information to engage with the game. The figure below is the “Instruction” page of the application, which is designed to convey the steps to play the game and complete the given tasks. The information on the real product of

the brand is integrated at the bottom right of the application, along with the product image of the brand. Furthermore, the slogan “It’s All Good” will act as a brand identifier and be integrated at the bottom into the advergames application on the “Level” page. The advergence application provided three levels (1=Easy, 2=Intermediate, and 3=Hard) for the player to feel different challenges for each level. In conclusion, the Farm Fresh Adventure incorporates the element of the autonomy brand message throughout the advergence prototype. Table 3.16 shows the implementation of the autonomy brand message element in the advergences application.

Table 3.16  
The Implementation of Autonomy Brand Message Element

| Interface                                                                          | Features                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The image shows the instruction page from the advergence application that shows the player how to play the game, having to search for the information outside the game. At the bottom of the application, the product's brand message is intended to deliver the brand information to the player.</p> |



The image shows a selection of the level page of the advergaming application. The company's cue at the bottom of the application shows the real logo of the brand to deliver information about the company.

### Implementation of the Games Brand Congruence Element

The Farm Fresh Adventure integrates the element of games and brand congruence by designing a theme that aligns with the brand to show that the game adheres to the brand's theme in persuading the player toward the promoted brand. In the advergaming application, the "milk" in the gameplay serves as the object that connects the brand and the game theme. The promoted brand is a company that chose dairy as its main product. Hence, it shows that the promoted brand is associated with dairy products. Including the cow's sprite and the green environment shows the consistency of the game environment with the brand identity. In addition, the brand logo is featured at the centre of the gameplay, which reveals that the players are participating with Farm Fresh products. The player must collect the milk while avoiding obstacles to complete the task. Table 3.17 shows the page of the advergaming prototype that has implemented the games and brand congruence.

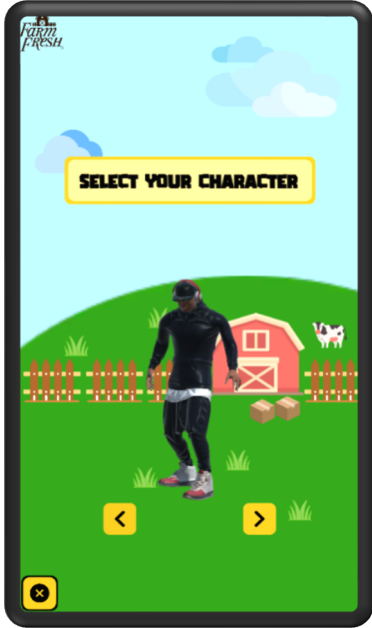
Table 3.17  
The Games Brand Congruence Element

| Interface                                                                          | Features                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>This is the first level of the advergame application. The user's current level is at the application's top left. The user needs to tap to start the level and the collected score will be shown at the top of the application. The game environment is designed to align with the theme of the promoted brand.</p> |

Implementation of Entertainment Element

Table 3.18 shows the advergame prototype features that allow the player to choose their character. According to the research findings, allowing users to choose their character can persuade them toward the brand while boosting their entertainment experience. Several characters are available for the player to choose from when completing their tasks. The player needs to click the “Player” button on the main page of the advergames application, and they will be directed to the “Character” page to choose their preferred character. The player can navigate left and right to select the character, and the exit button allows the player to leave the current page. Based on the research study, displaying the player’s score or having a leaderboard function in a game gives pleasure to the player, which contributes to the player’s entertainment. The figure below shows the selection of characters and leaderboard interfaces for the advergames application.

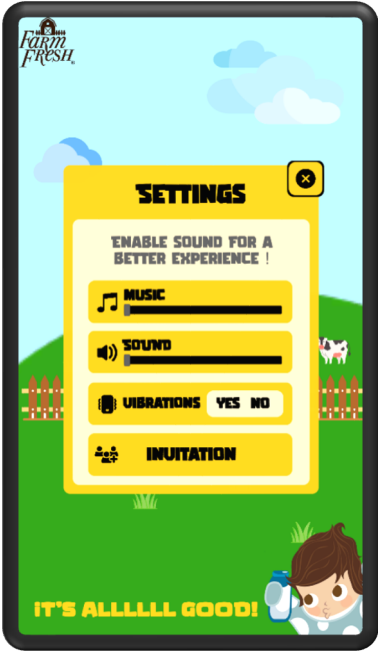
Table 3.18  
The Entertainment Element

| Interface                                                                         | Features                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>This is the character selection page of the adventure game. The user can select their character according to their preference. Once they have chosen their character, they need to click the return button to move to the next page of the application.</p> |

### Implementation of Social Influence Element

Table 3.19 shows the main page of the Farm Fresh Application, which provides the player with a sharing function with their friends and peers through the Facebook button at the bottom of the application. The button will direct the player to their Facebook account to share about the game with others. Next, the player is also provided with an invitation function on the “Settings” page. The sharing function in the advergaming application harnesses the power of word-of-mouth. It incorporates social integration, which allows players to engage with others through the advergaming application.

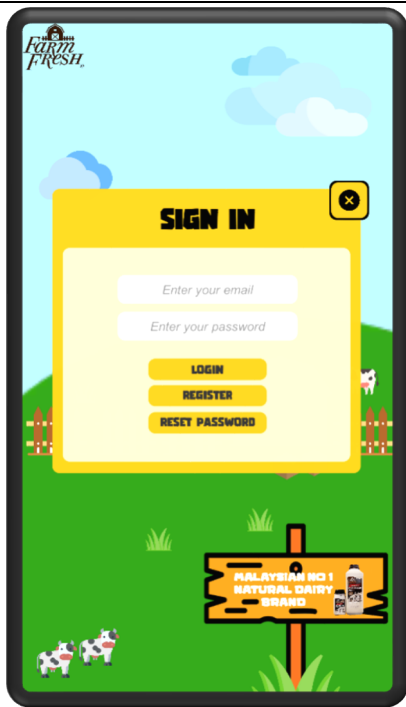
Table 3.19  
The Implementation of Social Influence Element

| Interface                                                                          | Features                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>The interface shows the main page of the Farm Fresh Adventure application. The user is provided with several buttons that display their functionality. This interface implements the social influence element by providing the sharing function through Facebook's " F " button. The application allows users to share about the game through social media, which encourages connecting with others.</p> |
|  | <p>The interface consists of the invitation function toward others, where the user must click the button to invite others to play the game.</p>                                                                                                                                                                                                                                                             |

## Implementation of Commitment Consistency Element

Table 3.20 shows the interface that implements the commitment consistency element that enhances players' commitment to play the advergames application. Based on the research study, the sign-in feature in the game encourages the player to participate and commit to the game. This application allows the player to create their account by clicking the “Register” button. Once registered, players can log into their account by entering their credentials, including their email address and password, which have been saved during the registration process. Additionally, the advergames application offers a password reset option by clicking the “Reset Password” button if the player forgets their password. The button will guide the player through the necessary steps to regain access to their account.

Table 3.20  
The Implementation of Commitment Consistency Element

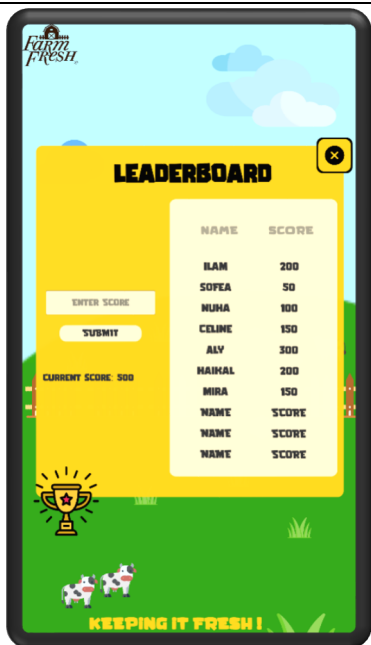
| Interface                                                                           | Features                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | The interface shows the sign-in page of the advergame application. If the user has never used the application before, they must register so that their info will be saved in the game. If they have already logged out, they can log back into their account by entering their email and password. The user is also given the “Reset Password” if they forgot their password. |

## Implementation of Transfer Effect Element

Table 3.21 is the representation of the advergames prototype that integrates the transfer effect that has been outlined in the PAG framework. The elements will

stimulate the emotion from an engaging gaming experience to the real world through a compelling storyline that promotes the targeted brand. Based on the research findings, understanding the game context within the brand and identifying the brand information in the game contribute to transferring player emotions from the game environment to real-life situations. It is important to translate the player's emotions from the gaming world into real-life contexts that will evoke the authentic feeling that ensures the player is not only engaged with the game or the features of the advergames but also persuaded by the intended promoted brand.

Table 3.21  
The Implementation of the Transfer Effect Element

| Interface                                                                          | Features                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The leaderboard page of the application shows the score that the player has accumulated. The player must submit their score and click the " Submit " button to display their score on the leaderboard.</p> |

#### 3.4.1.4 Cutover Phase

The final phase of the Rapid Application Development (RAD) methodology is the cutover phase. This phase is important since the complete prototype will be launched and tested by the targeted participants. The participant will provide feedback based on their experience playing the advergame application through the instrument derived from the PAG framework questionnaire. Therefore, the process is crucial to ensure the third research objective is achievable.

### 3.4.2 Evaluation of Prototype

Evaluating an advergame prototype, “Farm Fresh Adventure”, is critical, and it must be reviewed in terms of player persuasion to guarantee the research study’s objectives are met. The advergames prototype was prepared specifically for research purposes with the implementation of the elements of the PAG framework, including brand position and integration, autonomy of brand message, games and brand congruence, entertainment, word of mouth, commitment and consistency, and advergames design. Several procedures need to be followed by the participants to ensure smoothness in the evaluation process of the advergames prototype “Farm Fresh Adventure” with the implementation of the PAG framework. The participant will evaluate the prototype using the prepared self-questionnaire, and the collected data will be appropriately documented. Diagram 3.1 shows the evaluation for the “Farm Fresh Adventure” prototype.

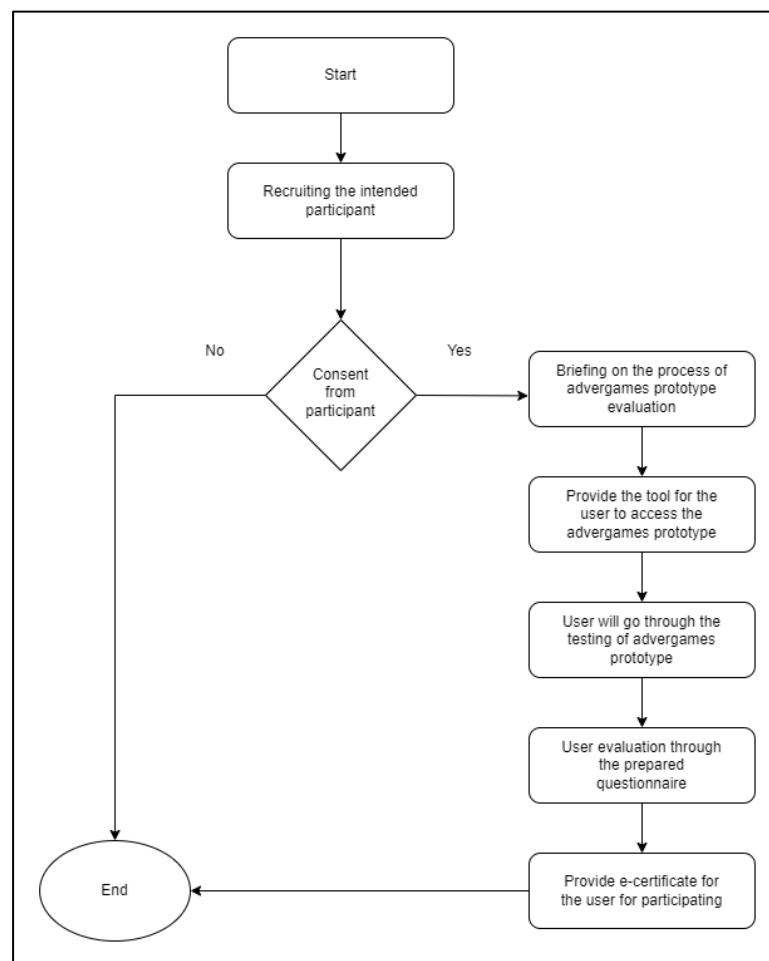


Plate 3.1 The Process of Prototype Demonstration

#### **3.4.2.1 Procedures**

Evaluation of advergame prototypes starts with acquiring the intended target participants for the young adult. The participant will be contacted earlier to schedule a briefing session on the advergame prototype evaluation process to ensure its smoothness. The participants are provided with information about the research study and the purpose of the evaluation. All participants must provide consent to proceed with the advergame evaluation. The participant will also be given the link to download the .apk file for the *Farm Fresh Adventure* application and the link to the evaluation form. Contact details for technical assistance, including contact information such as the researcher's email addresses and phone numbers, to assist participants with technical issues or inquiries regarding app installation and use. Once the participant has downloaded the application, they can review application features with embedded elements of the PAG framework, including brand position and integration, autonomy brand message, games and brand congruence, entertainment, word of mouth, commitment and consistency, and advergames design, and continue playing the game for the evaluation process.

The participant should evaluate the application using the given evaluation form and submit their responses through Google Forms. The feedback acquired from the participants is vital for future improvements in this field of research. The participants who completed the evaluation process will be provided with an e-certificate as a gesture of appreciation for their contributions to the evaluation of the Farm Fresh Adventure prototype demonstration. The involvement of participants in the prototype demonstration is significant because it acted as data collection in this research study, thereby improving knowledge in the advergames field.

#### **3.4.2.2 Instruments**

The "Farm Fresh Adventure" application was evaluated using a questionnaire to validate the PAG framework. The prepared questionnaire comprises seven key elements: brand positioning with integration, autonomy of brand message, games brand congruence, entertainment, social influence, commitment and consistency, and transfer effect, totalling 35 items. The evaluation form link was emailed to each participant, who must submit their responses through Google Forms. The participants were requested to

fill out their demographic information in the first section of the assessment form, which contributed to determining the participants' backgrounds and experiences with the application. The evaluation form requires participants to evaluate seven parts of the PAG framework for relevance and clarity. Each element has numerous items and can take several minutes to complete. They were also invited to submit a comment in the open-ended part since any suggestion is valuable in improving the application's functioning. Figure 3.9 shows an example of the evaluation of the advergAMES application.

SECTION B: EVALUATION OF ADVERGAMES APPLICATION

Dear respondent,

Please mark all the question given based on your experience while playing the advergAMES application. You may refer the following rating scale in your evaluation:

1 = Strongly Disagree  
2 = Disagree  
3 = Neutral  
4 = Agree  
5 = Strongly Agree

**Brand Position and Integration \***

|                                                     | 1                     | 2                     | 3                     | 4                     | 5                     |
|-----------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I can receive the information of product            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can choose an avatar or character                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can locate the location of the brand logo         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can interact with the product in the game         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I can recognize the brand component in the gameplay | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Figure 3.9 Example of the PAG Framework Instrument

Table 3.22

The Prototype Evaluation's Questionnaire is Based on the PAG Framework

| Element                         | Code | Criteria                                                              |
|---------------------------------|------|-----------------------------------------------------------------------|
| Brand Position with Integration | BP1  | I can receive the information about the product                       |
|                                 | BP2  | I can choose an avatar or character                                   |
|                                 | BP3  | I can identify the location of the brand logo                         |
|                                 | BP4  | I can interact with the product in the game                           |
|                                 | BP5  | I can recognize the brand component in the gameplay                   |
| Autonomy Brand Message          | BM1  | I can understand the information about the brand features             |
|                                 | BM2  | I can identify the brand-related message in the game                  |
|                                 | BM3  | I can identify the integration of the brand in the game               |
|                                 | BM4  | I can understand the brand concept and narration of the game          |
|                                 | BM5  | I can identify the message within the storyline                       |
| Games Brand Congruence          | GB1  | I can understand the message of the brand in the gameplay             |
|                                 | GB2  | I can identify the intended message and goal of the game              |
|                                 | GB3  | I can interact with the product or brand in the game                  |
|                                 | GB4  | I can identify the brand feature and the game theme within the game   |
|                                 | GB5  | I can understand the matches of the game content and the brand        |
| Entertainment                   | EN1  | I can choose a different level of challenge                           |
|                                 | EN2  | I can obtain a badge as a reward                                      |
|                                 | EN3  | I can choose a character in the game                                  |
|                                 | EN4  | I can refer to the ranking on the leaderboard                         |
|                                 | EN5  | I can feel a sense of accomplishment with the game task               |
| Social Influence                | WM1  | I can recommend a game to others                                      |
|                                 | WM2  | I can invite friends to play the game                                 |
|                                 | WM3  | I can earn an extra point for a recommendation                        |
|                                 | WM4  | I can publish the results after playing the game                      |
|                                 | WM5  | I can challenge others by publishing the result                       |
| Commitment Consistency          | CC1  | I can identify the brand information in the game                      |
|                                 | CC2  | I can sign in to play the game                                        |
|                                 | CC3  | I can understand the theme of the game and brand in the gameplay      |
|                                 | CC4  | I feel challenged by the narrative of the game                        |
|                                 | CC5  | I can choose my own character to play within personalization of game. |
| Transfer Effect                 | AD1  | I can understand the game context within the brand                    |

|  |     |                                                    |
|--|-----|----------------------------------------------------|
|  | AD2 | I can identify the brand information in the game   |
|  | AD3 | I can interact with the product within the game    |
|  | AD4 | I can understand the message through the storyline |
|  | AD5 | I can recognize the brand component in the game    |

Table 3.22 shows the initial prototype evaluation questionnaire that has not been validated, while Table 3.23 shows the prototype evaluation questionnaire that has been validated by the panel experts.

Table 3.23  
The Validated of Prototype Evaluation's Questionnaire

| Element                         | Code | Criteria                                                          |
|---------------------------------|------|-------------------------------------------------------------------|
| Brand Position with Integration | BP1  | I can receive the information about the product                   |
|                                 | BP2  | I can choose an avatar/character                                  |
|                                 | BP3  | I can identify the location of the brand logo                     |
|                                 | BP4  | I can interact with the product in the game                       |
|                                 | BP5  | I can recognize the brand elements within the gameplay            |
| Autonomy Brand Message          | BM1  | I can identify the brand-related message about the brand features |
|                                 | BM2  | I can identify the integration of the brand in the game           |
|                                 | BM3  | I can grasp the brand concept conveyed in the game's narrative    |
|                                 | BM4  | I can identify the brand's message within the storyline           |
| Games Brand Congruence          | GB1  | I can understand the message through the gameplay                 |
|                                 | GB2  | I can engage with the product within the game                     |
|                                 | GB3  | I can identify the brand feature within the game                  |
|                                 | GB4  | I can understand how the game content matches the brand           |
| Entertainment                   | EN1  | I can choose a different level of challenge                       |
|                                 | EN2  | I can obtain a badge as a reward                                  |
|                                 | EN3  | I can check the ranking on the leaderboard                        |
|                                 | EN4  | I can feel a sense of accomplishment with the game task           |
| Social Influence                | WM1  | I can recommend a game to others                                  |
|                                 | WM2  | I can earn an extra point for a recommendation                    |
|                                 | WM3  | I can challenge others by publishing the result                   |
| Commitment Consistency          | CC1  | I can identify the brand information in the game                  |
|                                 | CC2  | I can sign in to play the game                                    |

|                 |     |                                                    |
|-----------------|-----|----------------------------------------------------|
|                 | CC3 | I can understand the brand's theme in the gameplay |
|                 | CC4 | I feel challenged by the narrative of the game     |
|                 | CC5 | I can choose my own character to play              |
| Transfer Effect | AD1 | I can understand the brand context within the game |
|                 | AD2 | I can identify the brand information in the game   |
|                 | AD3 | I can interact with the product within the game    |
|                 | AD4 | I can understand the message through the storyline |
|                 | AD5 | I can recognize the brand elements in the game     |

### 3.5 Phase 4: Documentation

Documentation is the last phase in proposing the PAG Framework as a strategy to persuade players toward the brands. All collected data, findings, procedures, and information related to the research development would be thoroughly documented in a report form, making it easier to trace the research sources and share the research. Thus, the proper report forms of documentation would be the expected outcome of this phase.

### 3.6 Summary

This study aims to identify the advergames element that can be used to persuade players toward the brand, develop the PAG framework, and evaluate the persuasiveness of the PAG framework through advergames application. Hence, this chapter proposes the PAG Framework for advergames as an effective persuasive strategy toward the brand through games. Four phases of methodologies, including problem investigation, framework development, framework evaluation, and documentation, have been carried out to complete the PAG framework. The phase in this research study initiates with the robust problem investigation of existing literature, including journals, articles, and proceedings, that allows the pinpointing of the current issue, the identification of gaps in the research, the viable solutions to overcome the issue, and the significance to the broader community. The process continues with the development phase through a content analysis method that needs to be rigorously validated by the panel of experts to ensure relevancy and applicability. Furthermore, the research methodology advances with the user's evaluation of the advergames prototype. Expert and prototype validations are important to ensure the relevance and clarity of this research study. To sum up, the last phase of this research study is documentation, where the data collected

from the preceding phases are documented in a comprehensive report. Figure 3.1 shows the research framework for proposing the PAG framework as a guideline in designing advergames with a persuasive strategy toward brands through games.

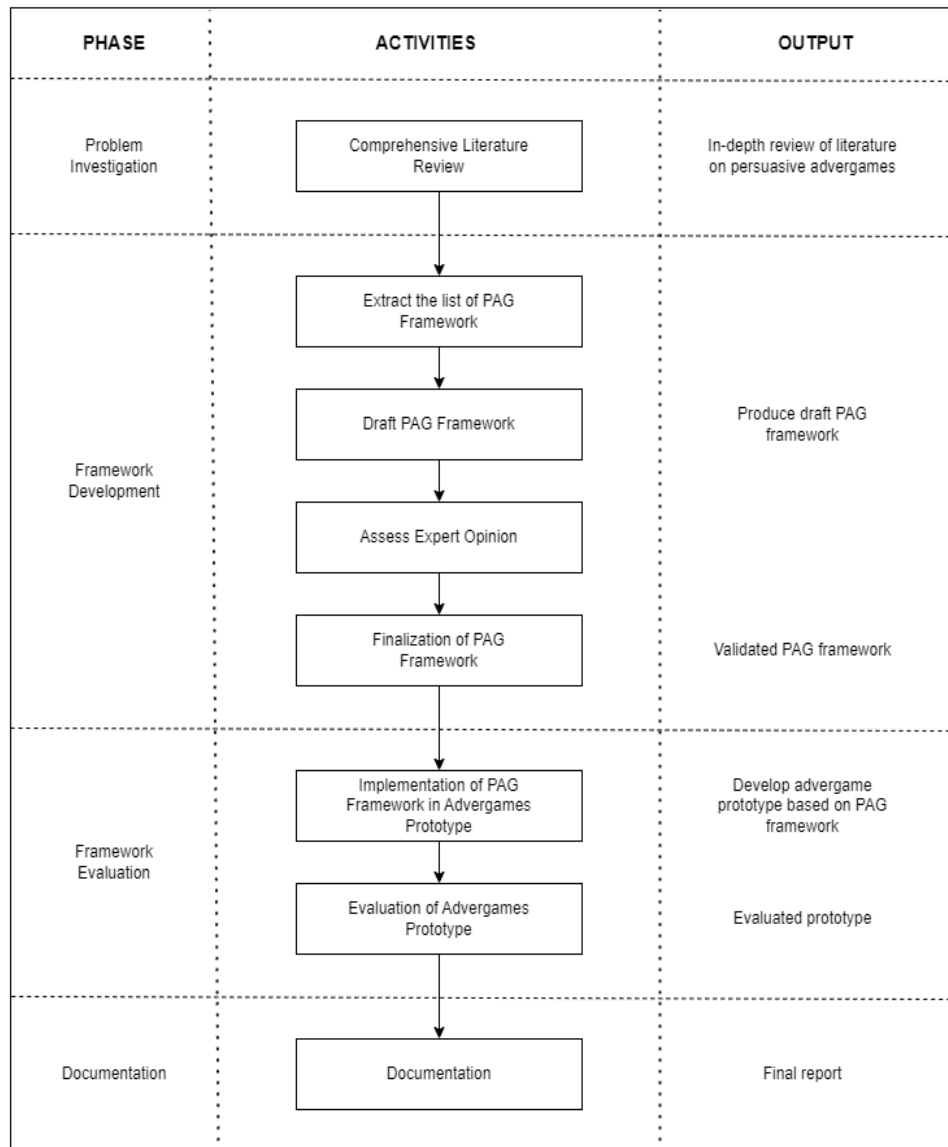


Figure 3.10 Research Framework

## **CHAPTER 4**

### **RESULT AND ANALYSIS**

#### **4.1 Introduction**

This chapter presents the findings based on the evaluation of the PAG framework. Three validations have been carried out, including the face validation of the survey, the validation of elements in the PAG framework by the panel experts, and the validation of the advergaming prototype. All data from the validation process are expressed in this chapter.

#### **4.2 Findings of Phase 1: Problem Investigation**

Phase 1, or problem investigation, starts with a comprehensive research study. The analysis involves utilizing the relevant keywords that are related to the topic of the research study, such as “advergame”, “persuasion”, “advertising”, “branding”, and “marketing” through articles, journals, and proceedings. The gap in the research has been identified by completing the objectives of the research study. This phase also provides the significance of the study and research scope for this research. Therefore, this phase is crucial as the starting point of development, as it involves investigating the vital point of this research.

#### **4.3 Findings of Phase 2: Framework Development**

The findings from the development phase involved two expert validations, such as face validity and content validity. Both validations are crucial to determine the research study's validity, clarity, and reliability. Face validity, as part of the instrument validation, shows the starting point in validating the overall validity. Face validity concentrates on the appropriateness of the instrument, especially in the suitable wording and the correct spelling used for the instrument. Hence, it shows that face validation is important in measuring what it is intended to measure so that the instrument is suitable and relevant for the overall validation.

The next findings are the content validation from the panel of experts. A total of 25, including 14 panels from academia and 11 from industry, have validated the PAG framework through a content validity process to demonstrate its relevance and clarity. The panel experts were asked to evaluate the elements and each item in the PAG framework using the four-point scale regarding relevance and clarity. For **Relevance** (1 = Not Relevant”, “2 = Element needs some revisions”, “3 = Relevant but needs minor revision” and “4 = Highly relevant” and the **Clarity** element which are “1 = Not clear”, “2 = Element needs some revision”, “3 = Clear but needs minor revision” and “4 = Highly clear” shows that the element has an impact on the framework. Content validation is essential to any research study to ensure the credibility of the results. Both of the validation is important is ensuring the relevancy of the research. Each finding has been calculated and adequately documented.

#### **4.3.1 Face Validations Findings**

Face validation is the initial step in establishing the credibility and the acceptance of the instrument in the research study. The face validation instrument needs to be evaluated by an expert to decide whether the instrument is suitable for validating the initial draft of the PAG framework, since it should appear to measure what it is supposed to measure. The panel experts have been identified according to their expertise and contacted to participate in the face validation process. A total of 2 panel experts agreed to participate in the face validation and were encouraged to give their insight regarding the appropriateness of the instrument.

Based on the findings, both panel experts agreed with the first criterion, “Use of correct and appropriate grammar”, for the questionnaire of the PAG framework. Next, the second criterion, which is “Adjusted use of appropriate language”, where both panel experts agreed that the questionnaire is using the appropriate language for the targeted audience, since it is important to use the appropriate language so that it is easier to communicate without misunderstanding the intended meaning of some term.

However, one of the panels disagrees with the third criterion, “Correct sentence structure”. The researcher is advised to revise the sentence structure to avoid a misleading understanding, since some of the terms may be jargon for the reviewer. The panel also does not agree with the fourth criterion, since the expert detects a misspelling under the criterion of “Use of correct spelling” for item 1 under the advergaming design

element in terms of clarity, where the brand was spelt as “bran” instead of “brand”. The instrument has been corrected before being distributed to the user through the demonstration of the prototype.

In addition, both panel experts agreed that the self-prepared questionnaire uses the “Appropriate writing size” with Roboto font, a size of 12 for the text, and a size of 24 for the header of the questionnaire. Moreover, both panels agreed that the questionnaire uses the “Appropriate format” and “Appropriate content” to make it easier for the participants to understand the content when evaluating the survey. Based on the results of the face validation survey, it can be concluded that the questionnaire is suitable for an evaluation instrument. Table 4.1 shows the results from the evaluation for the face validation from two total experts.

Table 4.1  
The Result from the Face Validity

| Evaluation Criteria                    | Expert 1 | Expert 2 |
|----------------------------------------|----------|----------|
| Use of correct and appropriate grammar | /        | /        |
| Adjusted use of appropriate language   | /        | /        |
| Use of correct spelling                | -        | /        |
| Correct sentence structures            | -        | /        |
| Appropriate writing size               | /        | /        |
| Appropriate format                     | /        | /        |
| Appropriate content                    | /        | /        |
| Total of Agreement                     | 5/7      | 7/7      |
| Percentage of Agreement                | 71%      | 100%     |
| Average Percentage of Agreement        | 85.5%    |          |

Based on the evaluation from two panel experts, the average percentage of agreement shows a percentage of 85.5%. The result shows that the instrument uses the appropriate grammar and language usage in validating the proposed framework. The correct usage of grammar and language will make the participant measure what it is supposed to measure without having the problem of understanding the instrument's content. The appropriate usage of writing size, the instrument format and the content will ease the validation process. Hence, it shows that face validity is important as the

initial step to prove the credibility of the instrument and is important to ensure the appropriateness of the instrument for the research study. The validated instrument was used in the content validity process, where the panel of experts will rate the elements and the items of the PAG framework in terms of relevance and clarity. Table 4.2 shows the details of the appointed panel expert for face validity evaluation who have been identified based on their expertise.

Table 4.2  
Expert in Face Validation

| Expert | Name                                  | Expertise                                                                    | Position                                        | Experience                     |
|--------|---------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------|
| 1      | Ts Dr Ismassabah<br>Binti Ismail      | Multimedia,<br>Quantitative<br>Game-Based<br>Digital<br>Heuristic Evaluation | IT &<br>Sciences,<br>Learning,<br>Storytelling, | Senior<br>Lecturer<br>26 Years |
| 2      | Ts Dr Siti Rahayu<br>Binti Abdul Aziz | Computer Technology and<br>Networking                                        | Senior<br>Lecturer                              | 20 Years                       |

#### 4.3.2 Content Validity Findings

The initial draft of the PAG framework, which consists of the advergAMES element that can be persuaded, was evaluated to prove its relevancy and clarity through the content validity method. Seven elements and 35 criteria that have been identified need to be validated by the panel of experts as a verification process in the framework development phases. Table 4.3 shows the item and the formula used throughout the content validity process.

Table 4.3  
The Item and Formula in Calculating the Content Validity

| Item                         | Formula                                       |
|------------------------------|-----------------------------------------------|
| N                            | Total number of experts                       |
| Ne                           | Number of experts agreeing on a rating 3 or 4 |
| Content Validity Ratio (CVR) | $= (Ne - \frac{N}{2}) / (\frac{N}{2})$        |
| Content Validity (CVI)       | $= (\frac{Ne}{N})$                            |

|                                                                            |                                                                       |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------|
| I-CVI (Item content validity for individual item)                          | (Number of experts providing a rating of 3 or 4)/ (Number of experts) |
| S-CVI/Ave (Scale level content validity index based on the average method) | (Sum of CVI scores)/ (Number of items)                                |
| Pc (Probability of chance agreement)                                       | $= \left[ \frac{N!}{Ne!(N-A)!} \right] * 0.5^N$                       |
| Kappa (K)                                                                  | $(I-CVI - Pc) / (I - Pc)$                                             |

Source: (Zain et al., 2022)

The elements of the PAG framework need to be validated in terms of relevance to ensure the objective of the research study is achieved. CVR is important to measure the reliability of the research study. The Lawshe table has been widely used for research purposes. It will act as a guideline in determining the minimum values of CVR in the content validity calculations. The calculated CVR value will refer to the Lawshe table to identify the minimum value from the expert validation. Table 4.4 shows the Lawshe table as a guideline for measuring the minimum value of CVR.

Table 4.4  
The Lawshe Table for Minimum Values of CVR

| No of expert | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 20   | 25   |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Min Value    | 0.99 | 0.99 | 0.99 | 0.75 | 0.78 | 0.62 | 0.59 | 0.56 | 0.54 | 0.51 | 0.49 | 0.42 | 0.37 |

### 4.3.3 Findings of Element Relevancy

A panel of experts from academia and industry conducted content validation to assess the relevance of the elements. The results demonstrate that the elements of the PAG framework are pertinent to this research, particularly the advergames elements that facilitate user persuasion toward a brand through gameplay. Table 4.5 summarizes the panel experts' findings on element relevance.

Table 4.5  
The Findings of Element Relevancy

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| BP                    | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| BM                    | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| GB                    | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| EN                    | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| WM                    | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| CC                    | 25 | 23 | 0.84             | 0.92               | 0.000000894069716 | 0.91999928         | ****                    |
| AD                    | 25 | 23 | 0.84             | 0.92               | 0.000000894069716 | 0.91999928         | ****                    |
| <b>S-CVI/AV</b>       |    |    |                  |                    |                   |                    | <b>0.948</b>            |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI $\geq$ 0.78 and Kappa $>$ 0.74 (\*\*\*\*); good validity=I-CVI $<$ 0.78 and  $\geq$ 0.60 and Kappa  $\leq$  0.74 (\*\*\*); fair validity = I-CVI  $<$ 0.6 and  $\geq$ 0.40 and Kappa  $\leq$ 0.59 (\*\*); and poor validity= I-CVI $<$ 0.4 and Kappa  $<$ 0.40 (\*)

All components, including Brand Positioning with Integration, Autonomy Brand Message, Games Brand Congruence, Entertainment, Social Influence, Commitment Consistency, and Transfer Effect, were validated and demonstrated a high level of agreement with the score of 0.948. Based on the validation by the panel expert, most of the elements showed element relevancy in this research since the CVR values for these elements ranged from 0.84 to 0.92, suggesting that each aspect of the PAG framework is pertinent to persuading users toward the brand through advergames. In conclusion, the elements of the PAG framework are validated and shown to be relevant in this research to achieve the research objectives, which are to investigate elements of the PAG Framework for advergames as a persuasive strategy toward brand.

#### 4.3.4 Findings in Terms of Relevance

The elements of the PAG framework need to be validated in terms of relevance to ensure that the research study achieves the desired relevance. This research chose to

approach panel experts from academia and industry to validate the items for each element of the PAG framework to ensure the relevancy of this research. Below are the details of the findings for each element of the PAG framework, based on the panel experts' content validation.

#### **4.3.4.1 Brand Positioning with Integration**

Table 4.6 presents the findings regarding the content validity of the *Brand Positioning with Integration* item regarding relevancy. According to the expert panel, the items for BP1, BP3, BP4, and BP5 show excellent validity with the range of I-CVI  $> 0.79$ . However, item BP2 shows that the item is relevant but needs minor revision as the value is between 0.70 and 0.79. The S-CVI/AV (Scale Content Validity Index/Average) value for the items of brand position and integration is 0.88, indicating a higher level of validity.

Based on the expert rating, all brand positioning with integration element items is relevant for this research study. The items for the element, such as BP1=I can receive the information about the product, BP2 = I can choose an avatar or character, BP3 = I can identify the location of the brand logo, BP4 = I can interact with the product in the game, and BP5 = I can recognize the brand component in the gameplay have been agreed by the expert with its relevancy in the advergame prototype. It can be concluded that brand positioning with integration are important elements in advergame as a persuasive element. However, the item from BP2 needs a minor revision for the brand position and integration element. The items are revised according to the suggestions from the panel of experts to achieve highest relevancy of this research. In conclusion, the Brand Positioning with Integration element is relevant through the content validation, and it is important to be included in the advergame application so that the user is able to identify the information of the brand through the position and integration of the brand identifier, leading to persuading the user while delivering the information of the brand through the game situation.

Table 4.6  
The Findings of *Brand Positioning with Integration* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| BP1                   | 25 | 23 | 0.84             | 0.92               | 0.000000894069716 | 0.91999928         | ****                    |
| BP2                   | 25 | 19 | 0.52             | 0.76               | 0.005277991294861 | 0.75872656         | ***                     |
| BP3                   | 25 | 22 | 0.76             | 0.88               | 0.000068545341492 | 0.87999177         | ****                    |
| BP4                   | 25 | 22 | 0.76             | 0.88               | 0.000068545341492 | 0.87999177         | ****                    |
| BP5                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
|                       |    |    |                  |                    |                   | <b>S-CVI/AV</b>    | <b>0.88</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.4.2 Autonomy Brand Message

The results in Table 4.7 refer to the content validity of the items for the *Autonomy Brand Message* element in the PAG framework. The panel of experts agreed that all items show a highly relevant validity, as the range of I-CVI > 0.79. The value of S-CVI/AV for the autonomy brand message is 0.90, indicating excellent validity for the items. Consequently, none of the items needed to be revised based on the scored values by the panel expert.

Based on the expert rating, all the panel experts agreed that items for the autonomy brand message are relevant for this research study. Most of the panel experts agreed that items for the autonomy brand message element, such as BM1 = I can understand the information about the brand features, BM2 = I can identify the brand-related message in the game, BM3 = I can identify the integration of the brand in the game, BM4 = I can understand the brand concept and narration of the game, and BM5 = I can identify the message within the storyline shows its relevancy in the context of persuasive advergames. All the items for the Autonomy Brand Message are relevant for this study according to the expert rating. The integration of the intended brand message

needs to be carefully designed so that the user can understand it throughout the game. Hence, it shows that the autonomy brand message is an essential element for the player in receiving the brand message while enjoying the branded game content.

Table 4.7  
The Findings of *Autonomy Brand Message* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| BM1                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| BM2                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| BM3                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| BM4                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| BM5                   | 25 | 21 | 0.68             | 0.84               | 0.000376999378204 | 0.83993965         | ****                    |
| S-CVI/AV              |    |    |                  |                    |                   |                    | 0.90                    |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/(I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.4.3 Games Brand Congruence

Table 4.8 describes the findings of the content validity of the *Games Brand Congruence* element. The expert review panel regarded the items for games brand congruent as highly relevant, with I-CVI and Kappa values ranging from 0.88 to 1.00. The value of S-CVI is 0.90, indicating a higher level of validity for the items. All the panel experts agreed that the items for the games brand congruence are very relevant.

All the panel experts agreed that items for the games brand congruence are relevant for this research study. Most panel experts rated the items of the games and brand congruence such as GB1 = I can understand the message of the brand in the gameplay, GB2 = I can identify the intended message and goal of the game, GB3 = I can interact with the product or brand in the game, GB4 = I can identify the brand feature and the game theme within the game, and GB5 = I can understand the matches of the game content and the brand with the highest scale, which shows its relevance in

the context of persuasive advergame. Game Brand Congruence elements are essential because alignment between the game theme and brand message enables users to recognize the brand's message within the game context. This alignment demonstrates the relevance of game and brand congruence elements as persuasive components in advergames.

Table 4.8  
The Findings of *Games Brand Congruence* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| GB1                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| GB2                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| GB3                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| GB4                   | 25 | 22 | 0.76             | 0.88               | 0.000068545341492 | 0.87999177         | ****                    |
| GB5                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| S-CVI/AV              |    |    |                  |                    |                   |                    | 0.94                    |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.4.4 Entertainment

Table 4.9 shows the content validity of the criterion for the *Entertainment* element. The panel experts agreed that the items EN1, EN2, EN3, and EN4 have excellent validity in the range of 0.92, while the I-CVI for item EN5 is 0.88. The value of S-CVI/AV is 0.91, which denotes a higher level of validity, allowing for the entertainment item to remain based on the score values rated by the experts.

Based on the value of S-CVI/AV, which is 0.91, all the panel experts agreed that entertainment items are relevant for this research study. All items for the element, such as EN1 = I can choose a different level of challenge, EN2 = I can obtain a badge as a reward, EN3 = I can choose a character in the game, EN4 = I can refer to the ranking

on the leaderboard and EN5 = I can feel a sense of accomplishment with the game task are relevant items in persuasive advergames. The entertainment element is crucial in the PAG framework, enabling enjoyable gameplay and improving brand information delivery. A panel of experts confirmed all items in this element as valid and relevant. In summary, the entertainment element is important for persuading players toward the brand through advergames and for providing an enjoyable user experience.

Table 4.9  
The Findings of the *Entertainment* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| EN1                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| EN2                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| EN3                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| EN4                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| EN5                   | 25 | 22 | 0.76             | 0.88               | 0.000068545341492 | 0.87999177         | ****                    |
| <b>S-CVI/AV</b>       |    |    |                  |                    |                   |                    | <b>0.91</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (1-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.4.5 Social Influence

Table 4.10 depicts the findings of the content validity of *Social Influence*. The expert review panel rated items WM1, WM2, and WM5 with a complete score of 1.00 for I-CVI regarding relevancy, indicating that they were highly relevant. The SCI/AV for social influence is 0.98, with excellent content validity. In conclusion, all five items needed no modification or revision based on the score from the expert panel.

Based on the expert rating, all items for the element, such as WM1 = I can recommend a game to others, WM2 = I can invite friends to play the game, WM3 = I can earn an extra point for a recommendation, WM4 = I can publish the results after playing the game and WM5 = I can challenge others by publishing the result have been

agreed by the panel experts in terms of its relevancy. The social influence element is important for engaging users with their peers, enabling the sharing of brand information and thereby increasing the brand's persuasive impact on others as a recognized persuasion tactic. Most panel experts assigned the highest value to these items, concluding that social influence is relevant within the PAG framework and essential for persuasive advergame elements.

Table 4.10

The Findings of the *Social Influence* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| WM1                   | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| WM2                   | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| WM3                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| WM4                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| WM5                   | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| <b>S-CVI/AV</b>       |    |    |                  |                    |                   |                    | <b>0.98</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.4.6 Commitment Consistency

Table 4.11 highlights the content validity of the *Commitment Consistency* element regarding relevancy. All the panel experts agreed that the item is highly relevant within the I-CVI range of 0.84 to 1.00. Item CC1 obtained the full score of 1.00, which is relevant for the commitment consistency element. The value of S-CVI/AV is 0.90, indicating a higher level of validity for the items.

Based on the value of S-CVI/AV through the expert rating, it can be concluded that all the panel experts agreed that items for the commitment and consistency such as CC1 = I can identify the brand information in the game, CC2 = I can sign in to play the

game, CC3 = I can understand the theme of the game and brand in the gameplay, CC4 = I feel challenged by the narrative of the game, and CC5 = I can choose my character to play within personalization of game are relevant for this research study. The panel expert agreed that the items in the commitment consistency element are relevant to the PAG framework, as they require the user to commit to the game, thereby enhancing the user's persuasion toward brand. It is supported by panel expert evaluation, which shows that commitment consistency items are relevant to a persuasive advergame.

Table 4.11  
The Findings of the *Commitment Consistency* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| CC1                   | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| CC2                   | 25 | 21 | 0.68             | 0.84               | 0.000376999378204 | 0.83993965         | ****                    |
| CC3                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| CC4                   | 25 | 22 | 0.76             | 0.88               | 0.000068545341492 | 0.87999177         | ****                    |
| CC5                   | 25 | 21 | 0.68             | 0.84               | 0.000376999378204 | 0.83993965         | ****                    |
|                       |    |    |                  |                    |                   | <b>S-CVI/AV</b>    | <b>0.90</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.4.7 Transfer Effect

Table 4.12 shows the findings regarding the validity of the item's content for the *Transfer Effect*. Experts on the panel concluded that items AD2 and AD5 are highly relevant, with a score of 1.00. AD1, AD3, and AD4 show the relevancy of the item as the I-CVI value is in the range of 0.92 to 0.96. The value of S-CVI/AV is 0.97, which shows that the advergame design is highly relevant and can be used to persuade players toward the brand. In conclusion, all the items remained based on the score values by the panel expert.

All the panel experts agreed that items for the transfer effect are relevant for this research study. All items for the element, such as AD1 = I can understand the game context within the brand, AD2 = I can identify the brand information in the game, AD3 = I can interact with the product within the game, AD4 = I can understand the message through the storyline and AD5 = I can recognize the brand component in the game shows its relevancy in the context of persuasive advergames through the expert validation. The transfer effect is an element incorporated into the PAG framework from the adapted analytical framework. The expert panel's evaluation indicated that this element is both important and relevant for inclusion in the PAG framework as a means to persuade users through the game. All identified items have been integrated into the advergame application to ensure that the research objectives are achieved. Therefore, it shows that the transfer effect element is a relevant persuasive advergame since the value of S-CVI/AV is 0.97, which was scored a highly relevant by the panel expert.

Table 4.12  
The Findings of the *Transfer Effect* Element

| Relevance of the item |    |    |                  |                    |                   |                    |                         |
|-----------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                  | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| AD1                   | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| AD2                   | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| AD3                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| AD4                   | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| AD5                   | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| <b>S-CVI/AV</b>       |    |    |                  |                    |                   |                    | <b>0.97</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

### 4.3.5 Findings in Terms of Clarity

The elements of the PAG framework need to be validated in terms of clarity to ensure that the research study achieves the desired outcomes. Validation is important to ensure the element and the item are clear and have a positive impact on the research. Below are the details of the findings, organised by each element of the PAG framework.

#### 4.3.5.1 *Brand Positioning with Integration*

Table 4.13 shows the findings regarding the content validity of the *Brand Positioning with Integration* regarding clarity. BP4 achieved a perfect score of 1.00 for I-CVI and shows that the item is apparent as well as another item since the range of I-CVI is between 0.84 and 0.96. The value of S-CVI/AV is 0.94, indicating a higher validity level for the items. According to the expert panel's rating, the brand positioning with integration items requires no changes or revisions.

Based on the expert rating, all the panel experts agreed that items for the brand positioning with integration are proven for clarity in this research study. All items for the element, such as BP1=I can receive the information about the product, BP2 = I can choose an avatar or character, BP3 = I can identify the location of the brand logo, BP4 = I can interact with the product in the game, and BP5 = I can recognize the brand component in the gameplay have been agreed by the panel experts on their clarity on the persuasive advergame element. The clarity of Brand Positioning with the Integration element is important so that the user can identify the embedded message while playing. All items are indeed validated with clarity, as indicated by the panel experts' content validation, with an S-CVI/AV of 0.94, indicating a high level of validity. Hence, it shows that the items for brand position with integration have ensured their clarity in the PAG framework.

Table 4.13  
The Findings of *Brand Positioning with Integration Element*

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| BP1                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| BP2                 | 25 | 21 | 0.68             | 0.84               | 0.000376999378204 | 0.83993965         | ****                    |
| BP3                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| BP4                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| BP5                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| S-CVI/AV            |    |    |                  |                    |                   |                    | 0.94                    |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.5.2 Autonomy Brand Message

Table 4.14 highlights the content validation of the *autonomy brand message* in terms of clarity. Based on the panel expert evaluation, they agreed that the item is apparent with the values of I-CVI and Kappa in the range of 0.92 to 0.96. The content validity is outstanding, as indicated by the S-CVI/AV value 0.95. All the items in the autonomy brand message were retained based on the score values rated by the expert.

Based on the expert rating, all the panel experts agreed that items for the autonomy brand message indicate higher validity. All items for the element, such as BM1 = I can understand the information about the brand features, BM2 = I can identify the brand-related message in the game, BM3 = I can identify the integration of the brand in the game, BM4 = I can understand the brand concept and narration of the game, and BM5 = I can identify the message within the storyline have been agreed by the panel experts by the higher value of the S-CVI/AV, which is 0.95. All the items in the autonomy brand message have been validated and their clarity demonstrated through content validation by a panel of experts. All items that received higher evaluations showed the cruciality and clarity of the items in the PAG framework. Therefore, it

shows that the autonomy brand message achieved greater clarity as an element of a persuasive advergame.

Table 4.14  
The Findings of *Autonomy Brand Message* Element

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| BM1                 | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| BM2                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| BM3                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| BM4                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| BM5                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| <b>S-CVI/AV</b>     |    |    |                  |                    |                   |                    | <b>0.95</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.5.3 Games Brand Congruence

Table 4.15 displays the results of the content validity of *Games Brand Congruence*. All items were considered very clear, with the I-CVI and Kappa values ranging from 0.92 to 1.00. The panel experts agreed with GB3 and GB5 items with CVR, I-CVI, and Kappa value, obtaining a full score of 1.00 regarding clarity. The S-CVI/AV for games brand congruence is 0.97, indicating excellent validity.

Based on the value S-CVI/AV for games brand congruence, all the panel experts agreed that items for games brand congruence have a higher value of validity. All items for the element, such as GB1 = I can understand the message of the brand in the gameplay, GB2 = I can identify the intended message and goal of the game, GB3 = I can interact with the product or brand in the game, GB4 = I can identify the brand feature and the game theme within the game, and GB5 = I can understand the matches of the game content and the brand. the item in the games brand congruence are proven clear through the content validation by the panel expert. The embedded brand message

should align with the game context to ensure that users clearly understand the intended message. The panel evaluation indicates that the items of this element demonstrate clarity and confirm its significance within the PAG framework.

Table 4.15  
The Findings of *Games and Brand Congruence* Element

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| GB1                 | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| GB2                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| GB3                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| GB4                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| GB5                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| <b>S-CVI/AV</b>     |    |    |                  |                    |                   |                    | <b>0.97</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc) / (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI $\geq$ 0.78 and Kappa $>$ 0.74 (\*\*\*\*); good validity=I-CVI $<$ 0.78 and  $\geq$ 0.60 and Kappa  $\leq$  0.74 (\*\*\*); fair validity = I-CVI  $<$ 0.6 and  $\geq$ 0.40 and Kappa  $\leq$ 0.59 (\*\*); and poor validity= I-CVI $<$ 0.4 and Kappa  $<$ 0.40 (\*)

#### 4.3.5.4 Entertainment

Table 4.16 represents the result of content validation for the entertainment element. All the panel experts agreed that the EN5 item is apparent with CVR, I-CVI, and Kappa values, which scored 1.00. EN1, EN2, EN3, and EN4 items also show excellent validity, with the I-CVI score in the range of 0.84 to 0.96. Every item remained, indicating no revisions are necessary because the S-CVI/AV value is 0.94.

All the panel experts agreed that items for entertainment element such as EN1 = I can choose a different level of challenge, EN2 = I can obtain a badge as a reward, EN3 = I can choose a character in the game, EN4 = I can refer to the ranking on the leaderboard and EN5 = I can feel a sense of accomplishment with the game task achieved the higher level of validity based on the S-CVI/AV value, which is 0.94. Therefore, it can be concluded that the items from the entertainment element have

proven their clarity in this research study and show their importance as the persuasive advergame element in the PAG framework.

Table 4.16  
The Findings of the *Entertainment* Element

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| EN1                 | 25 | 21 | 0.68             | 0.84               | 0.000376999378204 | 0.83993965         | ****                    |
| EN2                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| EN3                 | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| EN4                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| EN5                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
|                     |    |    |                  |                    |                   | <b>S-CVI/AV</b>    | <b>0.94</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/(I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.5.5 Social Influence

Table 4.17 demonstrates the result of content validation of *Social Influence*. The panel agreed that items WM2 and WM5 are very clear, with the score of 1.00 for the I-CVI, CVR and Kappa values. Another item for word of social influence also indicates excellent validity since the value of I-CVI ranges from 0.92 to 0.96. Based on panel feedback, no items are needed for revision as the value of S-CVI/AV is 0.97, which shows a higher level of validity.

Based on the expert rating, all the panel experts agreed that items for the autonomy brand message are clear for this research study. All items for the element, such as WM1 = I can recommend a game to others, WM2 = I can invite friends to play the game, WM3 = I can earn an extra point for a recommendation, WM4 = I can publish the results after playing the game and WM5 = I can challenge others by publishing the result achieved a higher level value of validity through the expert evaluation. The

findings indicate that social influence items are clear and significant element of the PAG framework for persuasive advergAMES, as demonstrated by the panel of experts' content validation.

Table 4.17  
The Findings of the *Social Influence* Element

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| WM1                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| WM2                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| WM3                 | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| WM4                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| WM5                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
|                     |    |    |                  |                    |                   | S-CVI/AV           | 0.97                    |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.3.5.6 Commitment Consistency

Table 4.18 shows the content validity of the findings on *Commitment and Consistency*. The panel of experts agreed that all items show a high level of validity within the range of I-CVI from 0.92 to 0.96. Item CC3 shows excellent validity for CVI, CVR and Kappa with a full score of 1.00. Hence, all items for commitment and consistency remained as the value of S-CVI/AV is 0.95, indicating a higher validity level.

Table 4.18  
The Findings of the *Commitment Consistency* Element

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| CC1                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| CC2                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| CC3                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| CC4                 | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
| CC5                 | 25 | 23 | 0.84             | 0.92               | 0.000008940696716 | 0.91999928         | ****                    |
|                     |    |    |                  |                    |                   | S-CVI/AV           | 0.95                    |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤ 0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

Based on the expert rating, all the panel experts agreed that items for commitment consistency are clear for this research study. All items for the element, such as CC1 = I can identify the brand information in the game, CC2 = I can sign in to play the game, CC3 = I can understand the theme of the game and brand in the gameplay, CC4 =I feel challenged by the narrative of the game, and CC5 = I can choose my character to play within personalization of game have been proven their clarity and shows the a higher value of validity through the expert evaluation. The commitment consistency element showed their clarity based on the value S-CVI/AV is 0.95. In conclusion, the items for commitment and consistency have demonstrated clarity through the panel of experts' evaluation and can be considered an important persuasive advergame element in the PAG framework.

#### 4.3.5.7 Transfer Effect

Table 4.19 represents the content validity of the *Transfer Effect* element. All the panel members agreed that items AD2, AD4, and AD5 show excellent validity, with the full score of 1.00 for CVI, CVR, and Kappa. Items for AD1 and AD3 are also obvious,

with the range of I-CVI in the range of 0.88 to 0.96. The value of S-CVI/AV 0.97 indicates a higher level of validity for the items. Based on panel feedback, no items are needed for modifications, including rephrasing words.

All the panel experts agreed that items for the transfer effect such as AD1 = I can understand the game context within the brand, AD2 = I can identify the brand information in the game, AD3 = I can interact with the product within the game, AD4 = I can understand the message through the storyline and AD5 = I can recognize the brand component in the game shows their clarity in the context of persuasive advergames through the expert validation. The evaluation indicates that the items demonstrate higher validity within the context of persuasive advergame elements. This finding underscores their significance in the PAG framework and affirms the clarity of each item, as validated by the panel of experts.

Table 4.19  
The Findings of the *Transfer Effect* Element

| Clarity of the item |    |    |                  |                    |                   |                    |                         |
|---------------------|----|----|------------------|--------------------|-------------------|--------------------|-------------------------|
| Code                | N  | Ne | CVR <sup>a</sup> | I-CVI <sup>b</sup> | Pc <sup>c</sup>   | Kappa <sup>d</sup> | Evaluation <sup>e</sup> |
| AD1                 | 25 | 22 | 0.76             | 0.88               | 0.000068545341492 | 0.87999177         | ****                    |
| AD2                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| AD3                 | 25 | 24 | 0.92             | 0.96               | 0.000000745058060 | 0.95999997         | ****                    |
| AD4                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| AD5                 | 25 | 25 | 1.00             | 1.00               | 0.000000029802322 | 1                  | ****                    |
| <b>S-CVI/AV</b>     |    |    |                  |                    |                   |                    | <b>0.97</b>             |

<sup>a</sup>Content Validity Ratio (CVR)=(Ne-N/2)/(N/2)

<sup>b</sup>Content validity for individual item (I-CVI) = number of experts providing a rating of 3 or 4 / number of experts

<sup>c</sup>Probability of chance occurrence (PC)= [N!/Ne(N-A)!]\*0.5<sup>N</sup>

<sup>d</sup>Kappa (K) = (I-CVI-Pc)/ (I-Pc)

<sup>e</sup>Evaluation criteria for the level of content validity: the relationship between I-CVI and Kappa; excellent validity=I-CVI≥0.78 and Kappa>0.74 (\*\*\*\*); good validity=I-CVI<0.78 and ≥0.60 and Kappa ≤0.74 (\*\*\*); fair validity = I-CVI <0.6 and ≥0.40 and Kappa ≤0.59 (\*\*); and poor validity= I-CVI<0.4 and Kappa <0.40 (\*)

#### 4.4 Panel Expert Comments and Recommendations

In the open-ended survey, the panel experts provided several suggestions for the instrument. The insights and comments from academia and industrial experts will be considered, and necessary enhancements will be made to make the research study more

practical. Expert 1 commented in the open section that the gaming content needs to reflect the product branding strategy to persuade the player to buy into the brand. The expert also stated that the game needs to consistently send the right cue to the audience under the commitment and consistency element. Next, expert 2 recommends that the instrument's point scales be between 5 and 7 instead of 1 to 4 in the rating evaluation element of the PAG framework.

Moreover, the expert comments that the game should deliver the most convincing message for the brand if it can be done without intruding on the game and the brand's congruent elements. Lastly, the expert also advises providing the element of surprise in the game, which should elevate commitment and the game's platform as an element that should be added to the PAG framework. Expert 3 suggests adding positive reinforcement as the element that can persuade toward the brand. The expert comments that the placement of the brand is important throughout the gameplay, but it depends on the type of game, genre, and how it is integrated through the story or visual representation in the game (product placement). The expert also expresses that the brand message is highly relevant but should be enforced throughout the game through positive reinforcement or embedded through the story or visual representation. Entertainment as a form of escapism, commitment and consistency are important elements in persuasion as they are needed for the player to be engaged in completing the game's objectives.

In addition, Expert 4 advised changing to another specific wording under the element of Commitment and Consistency for item three, "I can understand the theme of the game and brand in the gameplay". At the same time, Expert 5 recommends that the survey be available in both English and Bahasa Melayu, as this will make it easier for the assessor to evaluate terms that might be jargon to others. The expert also advised rechecking the use of the word "can" at the beginning of the sentences, as some of them may be more suitable to use "will" or "shall". Lastly, the expert suggests adding items to reflect the fun aspect of the game. Expert 6 suggests considering changing the element of "Commitment and Consistency" to "Consistency and Commitment" and changing the term on item 1 under the Brand Position and Integration element from "I can receive the information of the product" to "I can recognize the brand logo" or "I can recall the product of the brand".

Moreover, expert 7 advised reconsidering the order of item 1, “I can receive the information of the product,” to be put as the last order item for the brand position and integration element. The expert also suggests finding a suitable word for integration under the autonomy brand message. Not all may understand the meaning of integration in the context of advergames for item 3, “I can identify the integration of the brand in the game”. Expert 9 comments on the unclear operational definition of the word of mouth and social integration element and highlights that the commitment and consistency element may not be so relevant, as the definition refers to a task that players must complete. It may influence the entertainment factor of playing games. They also remark on the item of brand position and integration that seems incomplete, item one, “I can receive the information of the product”. Expert 10 comments that the brand’s location must be subtle and not overshadow the game experience. The gameplay should be simple enough for the player to understand. The expert mentions that it is important to balance the game and the promotion of the brand, including providing tangible rewards, as it can deliver enjoyment for the player.

Expert 11 suggested identifying the target market the business hopes to reach to make it simpler to customize game messaging. The expert also stated that the game design and brand items must be creatively blended into the storyline under game and brand congruency. Clear and consistent advertising messaging can improve the target audience’s values, advantages, and personality, encouraging them to recommend the games to others, as pointed out by the expert, through word of mouth and social integration elements. Finally, the expert advised on the ‘double-barrel questions’ and the ‘redundancy’ and overlapping items to make the survey more reliable.

Expert 12 highlighted that the brand position and integration must be prominent to influence the player through the game. The expert also recommended that games incorporate the brand into the story and have fun gameplay to keep players from getting bored after playing for too long. The consistency of the game task and the leaderboard game feature should be provided in the game so that the player can share or publish, which is recommended by the expert, to persuade the player toward the brand. However, the expert states that the Advergames design element is the least significant, as the primary goal should be to pique their interest and encourage them to support the brand and not play the game.

Expert 13 stated that information about the brand needs to be conveyed explicitly and implicitly through clear and straightforward game storylines, and gamification elements such as tokens should be provided for the player to increase their commitment. The expert also expressed concern for personality, culture, gender, age, and academic background under the brand position and integration element. The player will feel disappointed, as they cannot set an avatar that depicts their authentic self. The experts have highlighted recommendations, invitations, and publishing via social media or the online gaming community as important word-of-mouth and social integration elements. To conclude, the expert suggests adding a motivation element that includes intrinsic and extrinsic elements that could persuade players toward the brand.

Expert 14 emphasises that the integration of the brand and the brand message element should be seamlessly incorporated into the game's mechanics, either overt or subtle, but not excessively used so that it becomes annoying to the players. The expert also stated that the design must be user-friendly and have some kind of reward feature for players to continue playing the game. Hence, the players will spend more time interacting with the game and the brand. Another important element the expert suggests being added to the PAG framework is multiple platforms, so it could target a wider audience, thus enhancing its potential for viral sharing. The experts also express an opinion for item 2 for brand position and integration elements, such as choosing one's character, which does not contribute to the brand integration unless it is already targeting loyal consumers for further engagement with the brand. A direct interaction with the brand as part of the gameplay was not necessary, as pointed out by the expert under the items of games and brand congruency elements. Moreover, the expert suggests the personalization of characters to increase player engagement with the game. Lastly, the expert mentioned the redundancy in the items when defining the message and goal of the game and the item that needs to be rephrased, item 5 under the games and brand congruency, "I can understand the matches of the game content and the brand".

Expert 20 stated that the task given should not be consistent with other tasks and the task itself should be kept simple as different players have different perspectives while playing the game, expert 22 suggests looking at other factors and market research and making sure the connection between entertainment and social components can be measurable as this research study aims to use games on advertising products and expert

25 comments on the operational definition of brand position and integration where it needs a more precise definition of interaction and location and clarification on the depth of integration. Overall, the elements of the PAG framework and its criteria have been validated by the panel experts in terms of relevancy and clarity; most of the elements have been agreed upon for their purpose, while some of the elements have been reviewed and need modification. Table 4.20 shows the latest result of the PAG framework after some modifications from the expert review.

Table 4.20  
The Final Instrument of the PAG framework

| <b>Instrument Before</b>                                                                                                                                                                                                                                                                                                                                                            | <b>Instrument After</b>                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Brand Position and Integration</b>                                                                                                                                                                                                                                                                                                                                               | <b>Brand Positioning with Integration</b>                                                                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• I can receive the information about the product</li> <li>• I can choose an avatar or character</li> <li>• I can identify the location of the brand logo</li> <li>• I can interact with the product in the game</li> <li>• I can recognize the brand component in the gameplay</li> </ul>                                                   | <ul style="list-style-type: none"> <li>• I can receive the information about the product</li> <li>• I can choose an avatar/character</li> <li>• I can identify the location of the brand logo.</li> <li>• I can interact with the product in the game</li> <li>• I can recognize the brand elements within the gameplay.</li> </ul>   |
| <b>Autonomy Brand Message</b>                                                                                                                                                                                                                                                                                                                                                       | <b>Autonomy Brand Message</b>                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• I can understand the information about the brand features</li> <li>• I can identify the brand-related message in the game</li> <li>• I can identify the integration of the brand in the game</li> <li>• I can understand the brand concept and narration of the game</li> <li>• I can identify the message within the storyline</li> </ul> | <ul style="list-style-type: none"> <li>• I can identify the brand-related message about the brand features</li> <li>• I can identify the integration of the brand in the game</li> <li>• I can grasp the brand concept conveyed in the game's narrative</li> <li>• I can identify the brand's message within the storyline</li> </ul> |
| <b>Games and Brand Congruence</b>                                                                                                                                                                                                                                                                                                                                                   | <b>Games Brand Congruence</b>                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• I can understand the message of the brand in the gameplay</li> <li>• I can identify the intended message and goal of the game</li> <li>• I can interact with the product or brand in the game</li> </ul>                                                                                                                                   | <ul style="list-style-type: none"> <li>• I can understand the message through the gameplay.</li> <li>• I can engage with the product within the game.</li> <li>• I can identify the brand features within the game.</li> </ul>                                                                                                        |

|                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• I can identify the brand feature and the game theme within the game</li> <li>• I can understand the matches of the game content and the brand</li> </ul>                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• I can understand how the game content matches the brand.</li> </ul>                                                                                                                                                                                                                                            |
| <b>Entertainment</b>                                                                                                                                                                                                                                                                                                                                                  | <b>Entertainment</b>                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• I can choose a different level of challenge</li> <li>• I can obtain a badge as a reward</li> <li>• I can choose a character in the game</li> <li>• I can refer to the ranking on the leaderboard</li> <li>• I can feel a sense of accomplishment with the game task</li> </ul>                                               | <ul style="list-style-type: none"> <li>• I can choose a different level of challenge</li> <li>• I can obtain a badge as a reward</li> <li>• I can check the ranking on the leaderboard</li> <li>• I can feel a sense of accomplishment with the game task</li> </ul>                                                                                    |
| <b>Word of Mouth and Social Integration</b>                                                                                                                                                                                                                                                                                                                           | <b>Social Influence</b>                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• I can recommend a game to others</li> <li>• I can invite friends to play the game</li> <li>• I can earn an extra point for a recommendation</li> <li>• I can publish the results after playing the game</li> <li>• I can challenge others by publishing the result</li> </ul>                                                | <ul style="list-style-type: none"> <li>• I can recommend a game to others.</li> <li>• I can earn an extra point for a recommendation.</li> <li>• I can challenge others by publishing the result.</li> </ul>                                                                                                                                            |
| <b>Commitment and Consistency</b>                                                                                                                                                                                                                                                                                                                                     | <b>Commitment Consistency</b>                                                                                                                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>• I can identify the brand information in the game</li> <li>• I can sign in to play the game</li> <li>• I can understand the theme of the game and brand in the gameplay</li> <li>• I feel challenged by the narrative of the game</li> <li>• I can choose my own character to play within personalization of game.</li> </ul> | <ul style="list-style-type: none"> <li>• I can identify the brand information in the game</li> <li>• I can sign in to play the game</li> <li>• I can understand the brand's theme in the gameplay</li> <li>• I feel challenged by the narrative of the game</li> <li>• I can choose my own character to play</li> </ul>                                 |
| <b>Transfer Effect</b>                                                                                                                                                                                                                                                                                                                                                | <b>Transfer Effect</b>                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• I can understand the game context within the brand</li> <li>• I can identify the brand information in the game</li> <li>• I can interact with the product within the game</li> <li>• I can understand the message through the storyline</li> <li>• I can recognize the brand component in the game</li> </ul>                | <ul style="list-style-type: none"> <li>• I can understand the brand context within the game.</li> <li>• I can identify the brand information in the game</li> <li>• I can interact with the product within the game</li> <li>• I can understand the message through the storyline</li> <li>• I can recognize the brand component in the game</li> </ul> |

Based on the comments and recommendations from the panel experts, some of the items have been revised to ensure the credibility of the research study. Some of the items are removed and combined to avoid the redundancy of the exact meaning of an item. The revised instrument was also used for the user evaluation by demonstrating the prototype.

Moreover, this research study prepared a model of the PAG framework that can ease the visualisation of the framework. Figure 4.1 shows the model of the PAG framework that consists of the advergames elements that can be used to persuade the player toward a promoted brand, including Brand Position with Integration, Autonomy Brand Message, Games Brand Congruence, Entertainment, Social Influence, Commitment Consistency, and Transfer Effects that can be used to persuade the user toward the brand.

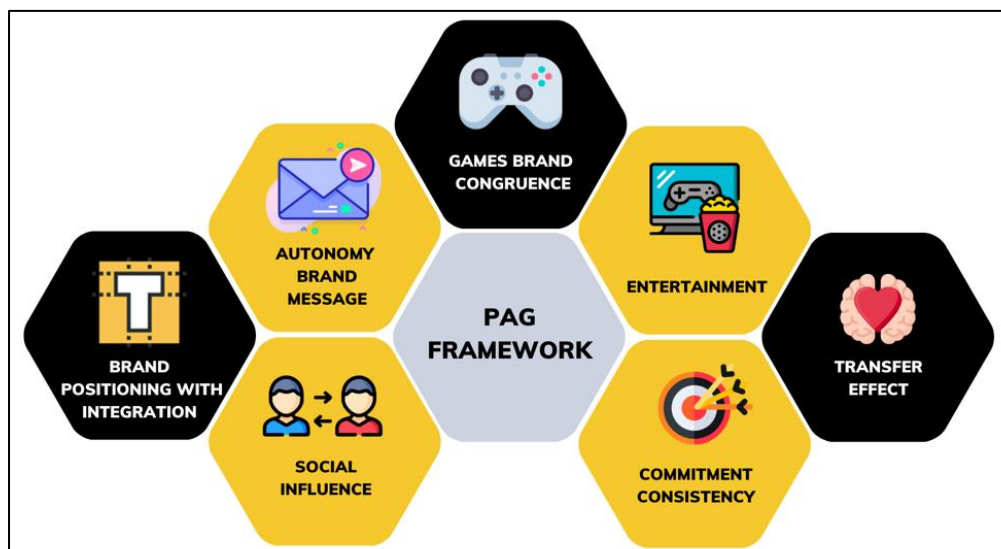


Figure 4.1 The Model of PAG Framework

#### 4.5 Findings of Phase 3: Framework Evaluation

The validation of the PAG framework continues with the user's prototype validation. The advergame prototype are designed specifically for this research purpose and will implement the elements of the PAG framework. The Farm Fresh Adventure requires the player to complete the task while getting information on the brand and product. The respondent is required to complete two sections in the evaluation form. Section A collects demographic information, including the age group, education level,

and experience playing the advergimes application. At the same time, Section B focuses on evaluating the items related to the elements in the PAG framework.

The user validation of the advergimes prototype shows that most respondents were female, with 11 out of 20 total respondents responsible for 55% female and 45% male. Over half of the respondents (50%) were between 18 and 23, totalling nine individuals, while 45% were aged 24 to 28, and 5% fell within the 30 to 35 age range. The educational backgrounds of the respondents show that the majority, 11 out of 20, hold certificates or diplomas in their respective fields, representing 55% of the total. Those with a bachelor's degree comprise the smallest group, making up only 10% of the participants in evaluating this advergence prototype. In conclusion, half of the respondents played an Advergimes application at least once. Table 4.21 shows the demographic results from the user validation through the advergimes prototype.

Table 4.21  
The Findings on Prototype Evaluation

| Question                                            | Category             | Frequency (n) | Percentage (%) |
|-----------------------------------------------------|----------------------|---------------|----------------|
| Gender                                              | Male                 | 9             | 45%            |
|                                                     | Female               | 11            | 55%            |
| Age                                                 | 18-23                | 10            | 50%            |
|                                                     | 24-29                | 9             | 45%            |
|                                                     | 30-35                | 1             | 5%             |
| Education Level                                     | Certificates/Diploma | 11            | 55%            |
|                                                     | Bachelor's Degree    | 2             | 10%            |
|                                                     | Master's Degree      | -             | -              |
|                                                     | Doctoral Degree      | -             | -              |
|                                                     | Others               | 7             | 35%            |
| Have you ever played an adventure game application? | Yes                  | 10            | 50%            |
|                                                     | No                   | 10            | 50%            |

In Section B of the evaluation, respondents are required to rate the items for each element in the PAG framework. The respondent was asked to evaluate each item in the PAG framework using a scale from 1 to 5. In this scale, 1 represents "Strongly Disagree," 2 stands for "Disagree," 3 indicates "Neutral," 4 corresponds to "Agree,"

and five signifies “Strongly Agree.” Each component of the PAG framework consists of five items that must be assessed to achieve the third research objective. Presented below are the compelling results from the evaluation of the advergames prototype.

#### ***4.5.1.1 Findings on Brand Positioning with Integration Element***

Figure 4.2 presents the results of the respondents’ evaluations of the five items that comprise the brand position and integration element. Most respondents strongly agreed with the first item, accounting for 75%. On the other hand, 25% of the respondents agreed that they could receive information on the product available on the advergames application. In the survey, 90% of respondents strongly agreed, and 10% agreed with the second item (BP2 = I can choose an avatar/character). The results suggest that selecting an avatar related to brand integration can effectively influence game players.

Additionally, 70% strongly agreed that they could identify the brand’s logo that had been embedded while playing the game, while 30% of the respondents agreed with the item. Hence, the placement of the brand feature is essential when designing the advergames to capture the player’s attention within the game. Furthermore, 60% of respondents strongly agreed with the fourth item (BP4: I can interact with the product in the game), that they can interact with the brand product while playing the game, 35% of respondents agreed, and 5% remained neutral with the item. Lastly, most respondents rated the last item (BP5 = I can recognise the brand elements within the gameplay) positively, with 65% stating “Strongly Agree” and the remaining 35% agreeing with the statement.

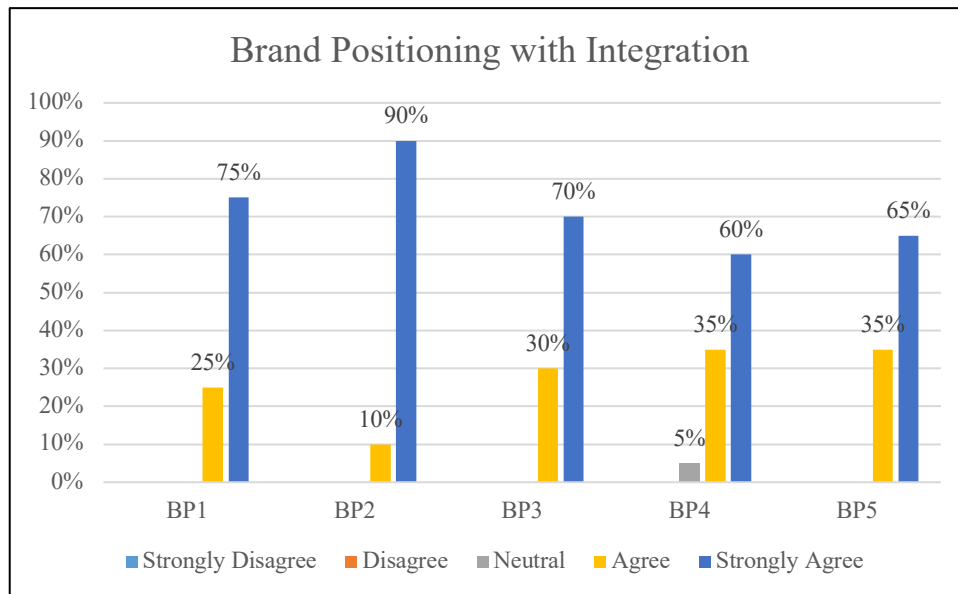


Figure 4.2 Graph for Brand Positioning and Integration Validation

Table 4.22 illustrates the evaluation scores based on the brand positioning and integration elements. It also provides the calculated mean and standard deviation for these items according to the rated scale by the respondent. The findings show that the items of the brand positioning with integration are crucial in the advergaming application in persuading players toward brand with the total mean of 4.71.

Table 4.22  
The Brand Positioning with Integration Findings

| Code       | SD | D | N | A | SA | Mean | Std. Dev |
|------------|----|---|---|---|----|------|----------|
| BP1        | 0  | 0 | 0 | 5 | 15 | 4.75 | .444     |
| BP2        | 0  | 0 | 0 | 2 | 18 | 4.90 | .308     |
| BP3        | 0  | 0 | 0 | 6 | 14 | 4.70 | .470     |
| BP4        | 0  | 0 | 1 | 7 | 12 | 4.55 | .605     |
| BP5        | 0  | 0 | 0 | 7 | 13 | 4.65 | .489     |
| Total Mean |    |   |   |   |    | 4.71 |          |

Brand positioning with integration is linked with user perceptions with the brand, where the increased level of brand integration in the game negatively influenced the players' attitude toward the game since the players recognized the persuasion attempt. Limiting the number of brand features and providing more entertainment

experiences should provoke enjoyable responses from players and a positive effect transfer, resulting in favourable results for the game. Therefore, the game designer should manage the integration of brand identifier with attention to influencing behavioural intention so that players would not assume the game is the advertising agent to persuade them into a brand or product rather than an entertaining tool.

Based on the evaluations, all items of the brand positioning with the integration of brand play important roles in ensuring that players are persuaded toward the brand. Most of the respondents strongly agreed with the item in the element of brand positioning with the integration. The Farm Fresh Adventure application embedded the brand logo at the center of the main page to deliver brand information to users. The application also provided character selection, allowing users to choose their preferred character. Additionally, the brand logo and product were subtly incorporated, accurately reflecting the brand positioning through integration and demonstrating its research relevance. User evaluation indicates that all items are essential in the advergame application, as they facilitate the delivery of brand information and influence user behavior and preferences toward the brand.

#### ***4.5.1.2 Findings on Autonomy Brand Message Element***

The respondents' evaluation of the elements in the autonomy brand message is presented in the bar chart below. For the item (BM1 = I can identify the brand-related message about the brand features), 50% of respondents strongly agreed that they could recognise the intended brand message, while 45% agreed, and the remaining 5% felt neutral with the item for the autonomy brand message. Moreover, 60% of the respondents strongly agreed that they could distinguish the integration of the brand within the game under the item BM2, "I can identify the integration of the brand in the game", in contrast with 40% of the respondents who only agreed with the second item.

Additionally, the respondents revealed that they could understand the brand concept narrated in the game, where 70% of respondents strongly agreed with item BM3, "I can grasp the brand concept conveyed in the game's narrative," while 30% agreed. Finally, for item BM4, which states "I can identify the brand's message within the storyline," 80% of respondents strongly agreed that they could recognise the storyline of the game and the intended message conveyed within it, while the remaining 20% agreed with this item regarding the autonomy of the brand message element.

Figure 4.3 shows the evaluation data of the items for autonomy brand message elements that the respondents have rated.

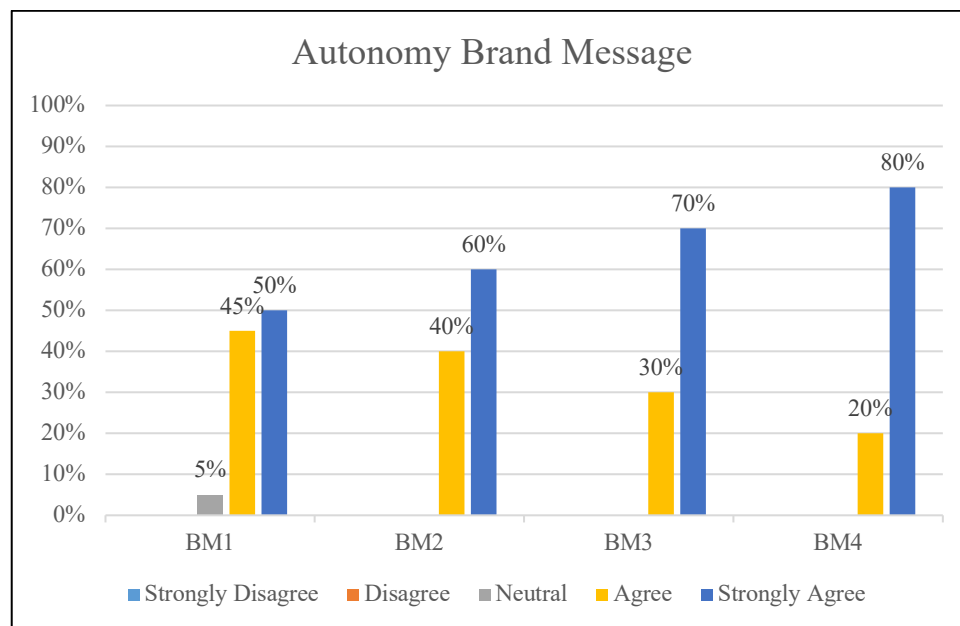


Figure 4.3 Graph for Autonomy Brand Message Validation

Based on Figure 4.3, the respondent agreed that the autonomy brand message is important in persuading players toward the brand while gaining information about the brand from playing the game. The importance of the element was reflected in the total mean of the findings from Table 4.23, which is 4.63. Farm Fresh Adventure application implemented four elements of the Autonomy Brand Message by locating brand features that help users identify the brand's intended messages. The application also includes brand-related information, such as the product image, so the user can grasp the brand concept conveyed throughout the game. It can be concluded that all items for the autonomy brand message are crucial to delivering the brand message through the game, as they serve as a persuasive strategy for the target player.

Table 4.23  
The Autonomy Brand Message Findings

| Code       | SD | D | N | A | SA | Mean | Std. Dev |
|------------|----|---|---|---|----|------|----------|
| BM1        | 0  | 0 | 1 | 9 | 10 | 4.45 | .605     |
| BM2        | 0  | 0 | 0 | 8 | 12 | 4.60 | .503     |
| BM3        | 0  | 0 | 0 | 6 | 14 | 4.70 | .470     |
| BM4        | 0  | 0 | 0 | 4 | 16 | 4.80 | .410     |
| Total Mean |    |   |   |   |    | 4.63 |          |

#### 4.5.1.3 Findings on Games Brand Congruence Element

Figure 4.4 shows the respondents' evaluation of the games brand congruence element. Most respondents, with 70% strongly agreed with the first item (GB1 = I can understand the message through the gameplay). Therefore, it shows the importance of the goal alignment of the game theme and the brand features when designing an advergame application. Moreover, 80% of respondents strongly agreed that they can engage more with the product within the game. 55% of the respondents assert that they can identify the brand's features within the game, which strongly agrees with the third item. Based on the user evaluation, 75% of the respondents highlighted that they understood the matches between the game content and the brand, with a strongly agree rating. In comparison, the remaining 25% agreed with the item.

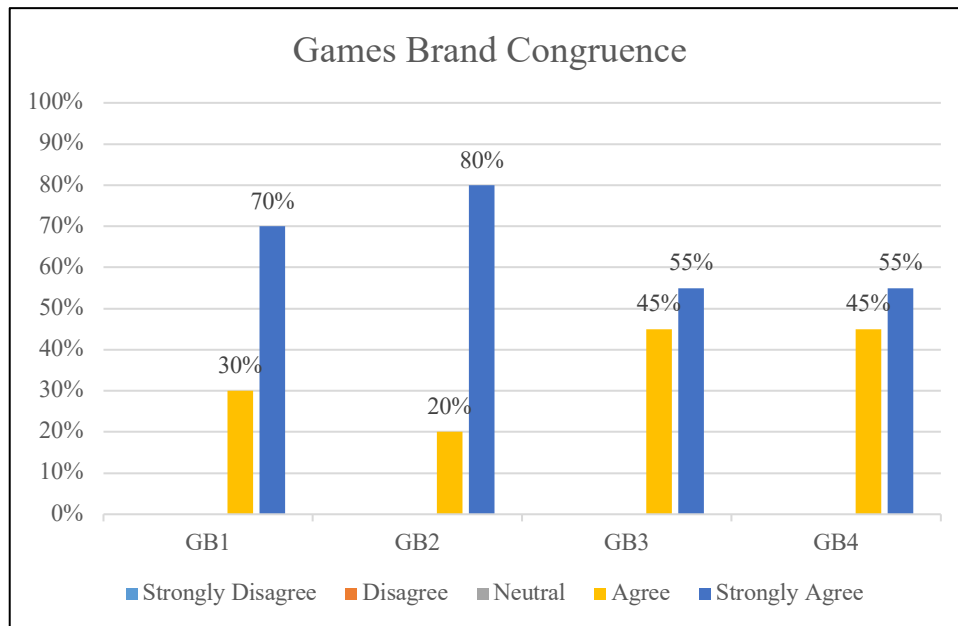


Figure 4.4 Graph for Games Brand Congruence Validation

Table 4.24 shows the findings of the games brands congruence. Based on the user evaluation, the total mean of the element is 4.70 shows that the user agreed that the brand congruence is an important element in advergame application. The perception of the match between the brand's theme and game content shows the brand's persuasive tactic toward the player. The application should have a storyline that aligns with the promoted brand's theme so that users can grasp the game's intended message. The Farm Fresh Adventure application is designed to align with the brand theme that represents the promoted dairy product. In conclusion, aligning the message, brand feature, and the game theme is crucial for the game designer since it impacts the player's persuasion.

Table 4.24

The Games Brand Congruence Findings

| Code              | SD | D | N | A | SA | Mean        | Std. Dev |
|-------------------|----|---|---|---|----|-------------|----------|
| GB1               | 0  | 0 | 0 | 6 | 14 | 4.70        | .470     |
| GB2               | 0  | 0 | 0 | 4 | 16 | 4.80        | .410     |
| GB3               | 0  | 0 | 0 | 9 | 11 | 4.55        | .510     |
| GB4               | 0  | 0 | 0 | 5 | 15 | 4.75        | .444     |
| <b>Total Mean</b> |    |   |   |   |    | <b>4.70</b> |          |

#### 4.5.1.4 Findings on Entertainment Element

Figure 4.5 shows how respondents rated the five entertainment items in the evaluation survey. 20% of respondents agreed that the first item, EN1, “I can choose a different level of challenge”, contributes to their enjoyment while playing the game. In comparison, 80% strongly agreed that selecting different challenge levels enhances player entertainment. The game designer should provide varying difficulty levels that make the player feel a sense of challenge, which could lead to a satisfying experience. 85% of respondents strongly agree that the ability to earn badges as a reward can fulfil their entertainment while playing the game. 40% of respondents strongly agreed with the third item as they find entertainment through the leaderboard rankings.

The rankings on the leaderboard could be the source of enjoyment since they can compare and improve their scores in future gaming sessions. These situations highlight the engagement and motivation of the players to enhance their gaming skills. Finally, all respondents agreed that they feel a sense of accomplishment whenever they complete the mission, while the remaining strongly agreed that completing these tasks enhances their entertainment experience.

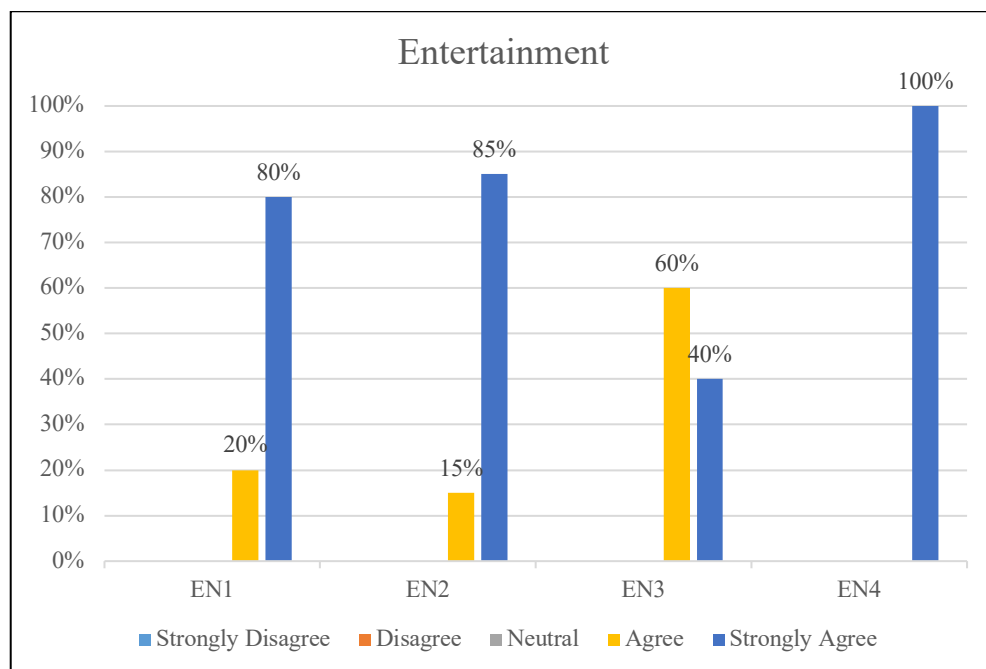


Figure 4.5 Graph for Entertainment Validation

Table 4.25 shows the findings of the entertainment element through the user evaluation. The entertainment elements gained the highest score, indicating the essential persuasive element in the advergame in persuading players toward the brand. The total mean score of 4.76 from the user evaluation shows the highest finding compared to other elements. The advergame application features game elements, including rewards, challenges, and selection levels, to provide users with enjoyment. It is important to include an entertainment element in the game so that users have an enjoyable experience while receiving brand information, without recognising the persuasion attempt in the game through the advertisement. Based on respondents' ratings, entertainment is a crucial element of an advergame, enabling players to enjoy an enjoyable experience while gaining information.

Table 4.25  
The Entertainment Findings

| Code              | SD | D | N | A  | SA | Mean        | Std. Dev |
|-------------------|----|---|---|----|----|-------------|----------|
| EN1               | 0  | 0 | 0 | 4  | 16 | 4.80        | .410     |
| EN2               | 0  | 0 | 0 | 3  | 17 | 4.85        | .366     |
| EN3               | 0  | 0 | 0 | 12 | 8  | 4.40        | .503     |
| EN4               | 0  | 0 | 0 | 0  | 20 | 5.00        | .000     |
| <b>Total Mean</b> |    |   |   |    |    | <b>4.76</b> |          |

#### *4.5.1.5 Findings on Social Influence Element*

Figure 4.6 highlights the respondents' evaluation of word-of-mouth and social integration elements. Most respondents strongly agree with the first item (WM1 = I can recommend the game to others), which is persuasive in fostering social integration throughout the game. Allowing players to invite is crucial in developing peer social integration through the game's functions. It shows that inviting others to participate in the game is important in creating social interaction among others. Furthermore, 60% of respondents strongly agree with the second item, WM2 = I can earn extra points for a recommendation highlighting its potential to enhance engagement and encourage players to share their experiences. In conclusion, 60% of respondents strongly agree that they feel challenged by the score-publishing feature in the game. In comparison, 5% of respondents feel neutral about the third item, WM3 = I can challenge others by

publishing the results. Incorporating a sharing function into the game would significantly enhance its appeal, allowing players to share their experiences with peers easily. This feature would also increase visibility for the promoted brand, making it more recognisable in the gaming community.

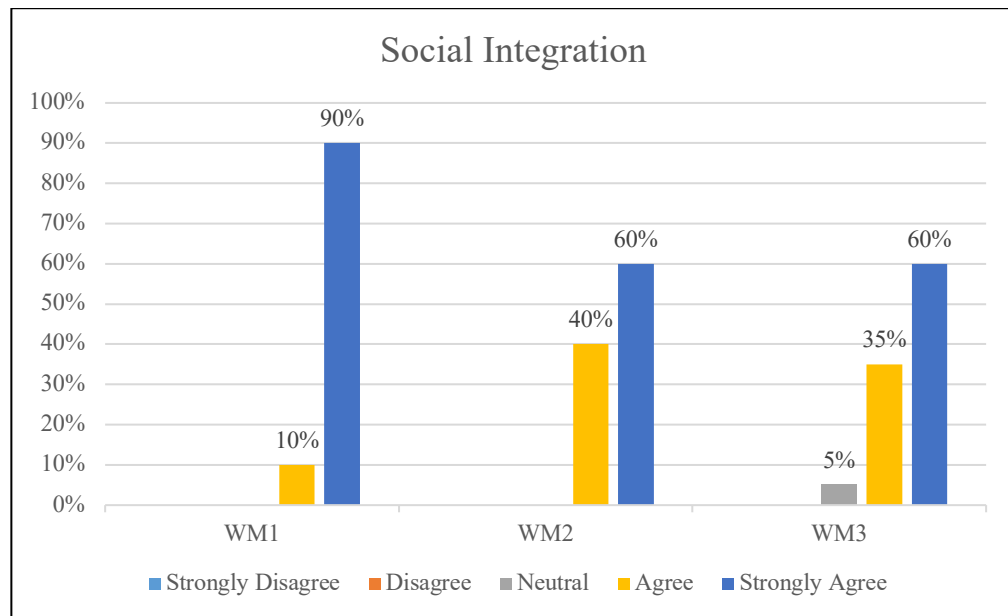


Figure 4.6 Graph for Social Influence Validation

Table 4.26 shows the evaluation results for the social influence elements. All three items from the social influence element are important since the total mean of the findings through the user evaluation is 4.68. Social influence is an important factor in persuading one another, as it is one of the persuasion tactics. The advergame application should include a sharing function that enable users to connect with their peers and share information about the brand and the game. Therefore, it shows that the social influence element is important to include in any application and has been agreed upon by the player that items from this element can be used to persuade the player toward the brand by offering a function that allows them to connect with others.

Table 4.26

## The Social Influence Findings

| Code              | SD | D | N | A | SA | Mean        | Std. Dev |
|-------------------|----|---|---|---|----|-------------|----------|
| WM1               | 0  | 0 | 0 | 2 | 18 | 4.90        | .308     |
| WM2               | 0  | 0 | 0 | 8 | 12 | 4.60        | .503     |
| WM3               | 0  | 0 | 1 | 7 | 12 | 4.55        | .605     |
| <b>Total Mean</b> |    |   |   |   |    | <b>4.68</b> |          |

*4.5.1.6 Findings on Commitment Consistency Element*

Figure 4.7 illustrates the evaluation of the elements of commitment and consistency within the PAG framework, providing valuable insights into their perspectives. 90% of respondents reveal that they strongly agree with their ability to identify the brand information presented in the game, as highlighted in the first item (CC1 = I can identify the brand information in the game). Additionally, 5% of respondents agree that they feel a sense of commitment to the game, particularly regarding their ability to sign in. That means 95% strongly agree with the statement (CC2: “I can sign in to play the game”). This situation shows that the game's sign-in function makes the player feel more committed to the game.

Moreover, the third item has been evaluated by all respondents with strong agreement, which suggests that they can recognise the game’s theme with the promoted brand embedded in the game. Half of the respondents, who account for 50% agree that they feel challenged by the game’s narrative, while 45% strongly agree with the commitment in the game, and 5% responded neutrally to the item. Finally, regarding the last item concerning the ability to choose a character for personalisation in the game, 65% of respondents strongly agree that having the option to personalise their character enhances their commitment and consistency in playing the game.

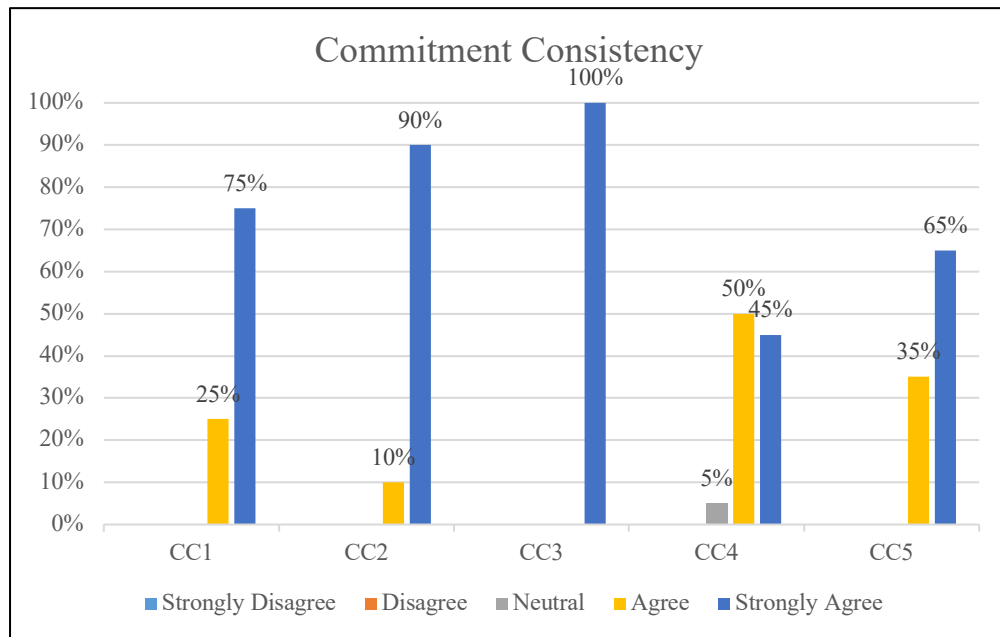


Figure 4.7 Graph for Commitment Consistency Validation

Table 4.27 depicts the data evaluation on the commitment and consistency items. The total mean of the items scored with the value of 4.68 showed that the task that requires the user to commit to the game is an important element of a persuasive advergame. Commitment and consistency items have been implemented in the advergame application because they are important factors in persuading users toward the brand. Providing a task in the game and the sign-in function require the user to commit to and be consistent with the game. Based on user evaluations during a prototype demonstration, all items in the commitment and consistency element are important for persuading players toward the brand in the advergame.

Table 4.27  
The Commitment Consistency Findings

| Code              | SD | D | N | A  | SA | Mean        | Std. Dev |
|-------------------|----|---|---|----|----|-------------|----------|
| CC1               | 0  | 0 | 0 | 5  | 15 | 4.44        | .444     |
| CC2               | 0  | 0 | 0 | 2  | 18 | 4.90        | .308     |
| CC3               | 0  | 0 | 0 | 0  | 20 | 5.00        | .000     |
| CC4               | 0  | 0 | 1 | 10 | 9  | 4.40        | .598     |
| CC5               | 0  | 0 | 0 | 7  | 13 | 4.65        | .489     |
| <b>Total Mean</b> |    |   |   |    |    | <b>4.68</b> |          |

#### 4.5.1.7 Findings on Transfer Effect Element

Figure 4.8 shows the items that have been rated by the respondents on the element for advergames design that focuses on the transfer effects on the player in real-life situations. 65% of respondents strongly agree that they understand the brand context embedded within the game. Furthermore, 80% strongly agree with the second statement (AD2 = I can identify the brand information in the game), highlighting the importance of advergames' design in persuading players toward the brand. Additionally, approximately 60% of respondents strongly agreed that they can interact with the product throughout the game, while the remaining 40% agreed. Understanding the message conveyed through the game's storyline is also vital, with 90% of participants agreeing strongly. Finally, while 15% of respondents feel they can recognise the brand elements embedded in the game, an impressive 85% strongly agree with the last statement of advergames design (AD5 = I can recognize the brand elements in the game). In contrast, the remaining respondents agree with the last item for the advergames design element. Therefore, designing an advergame application is crucial so that the purpose of delivering the intended message reaches the target audience.

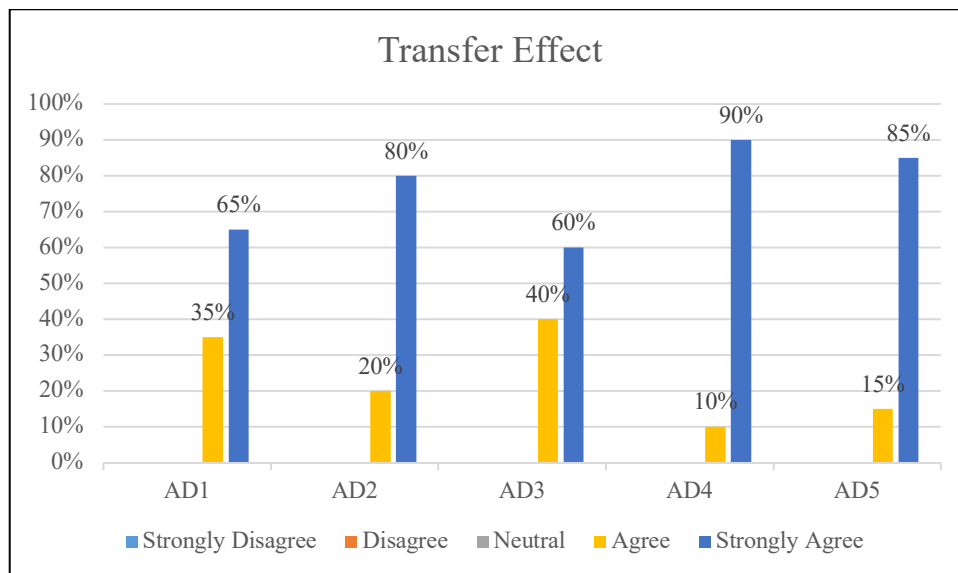


Figure 4.8 Graph for Transfer Effect Validation

Table 4.28 presents the results of the respondents completed evaluation for the item of transfer effect. Most of the respondent agreed that the items are essential to persuade them through the game playing situation since the total mean of the evaluation is 4.76. The Farm Fresh Adventure application implemented all items from the Transfer

Effect element by integrating the Farm Fresh brand's features. Integrating brand features helps users identify brand information and understand the intended messages through the game's context and storyline. Based on the user evaluation findings, users agreed that the items in the Transfer Effect element are crucial for persuasion. Hence, it shows that all the items in the transfer effect element are important and should be included in the advergame to persuade players toward the brand.

Table 4.28

The Transfer Effect Findings

| Code       | SD | D | N | A | SA | Mean | Std. Dev |
|------------|----|---|---|---|----|------|----------|
| AD1        | 0  | 0 | 0 | 7 | 13 | 4.65 | .489     |
| AD2        | 0  | 0 | 0 | 4 | 16 | 4.80 | .410     |
| AD3        | 0  | 0 | 0 | 8 | 12 | 4.60 | .503     |
| AD4        | 0  | 0 | 0 | 2 | 18 | 4.90 | .308     |
| AD5        | 0  | 0 | 0 | 3 | 17 | 4.85 | .366     |
| Total Mean |    |   |   |   |    | 4.76 |          |

#### 4.5.1.8 Summary of User's Prototype Evaluation

The user evaluation is important in this research study, as the third objective is to evaluate the PAG framework through a persuasive advergame application. The respondent will be playing the developed advergame application that has implemented the element of the PAG framework and is required to evaluate it based on the instrument of the PAG framework.

Table 4.27 shows the total mean average for each element identified through the user's prototype evaluation. According to the table, the "Entertainment" element gained the highest mean with a score of 4.76, indicating that the element is important in the Farm Fresh Adventure application. However, the lowest evaluation for the advergame application falls on the element of the autonomy brand message, with a score of 4.63. The evaluation shows that the autonomy brand message element is slightly more critical than other PAG framework elements. The remaining elements of the PAG framework score a total mean of 4.68 to 4.71. Based on Table 4.29, the overall mean from the user evaluation is 4.71, indicating a 94.2% level of persuasiveness through prototype

demonstration. In conclusion, the user evaluation shows that the respondents agree with the elements of the PAG framework. Each element consists of several items and have their own importance and indicates that these elements have a persuasive effect on the player toward the brand while playing the advergame application.

Table 4.29  
The Total Mean for each Element

| Elements                           | Total Mean Average |
|------------------------------------|--------------------|
| Brand Positioning with Integration | 4.71               |
| Autonomy Brand Message             | 4.63               |
| Games Brand Congruence             | 4.70               |
| Entertainment                      | 4.76               |
| Social Integration                 | 4.74               |
| Commitment Consistency             | 4.68               |
| Transfer Effect                    | 4.76               |
| <b>Overall Mean</b>                | <b>4.71</b>        |

#### 4.6 Findings of Phase 4: Documentation

The final phase of this research study is documenting all the findings gathered through the earlier processes until the last process proposing the PAG framework. The documentation phase starts with the investigation phase, where all the crucial information of the research study is documented for easier reference. Next, all the processes involved in the development process in developing the PAG framework, including extracting the persuasive advergame element, mapping process to construct the proposed framework, have been tabulated in a table form; also, the development process in developing the advergames framework has been documented. Moreover, all the data and findings from the evaluation process, including face validation, expert validation, and user evaluation, have been calculated and tabulated in a proper table and report form. Therefore, it shows that all the processes involved in developing the PAG framework are important and need to be documented in a proper report format.

#### **4.7 Summary**

The chapter provides the findings of this research study based on the PAG framework. The finding comprises the validation and feedback from the panel experts through content validation, face validation, and user evaluation. Content validation is important to ensure that the identified element is suitable and crucial to the research objective. Content validation is also important in ensuring the identified element is relevant and clear. Based on the panel expert's content validation, all elements and items are relevant in persuading the user toward the brand through the game situation. Face validation is important to ensure the evaluation instruments are appropriate and suitable for this research. The final evaluation of this research showed that all items of the PAG framework are important for persuasion through advergames, as the user evaluation scored 94.2% persuasiveness through a demonstration of application. Each validation is crucial to ensure the credibility and reliability of this research study. All findings from the evaluation process have been gathered and show that all the processes involved are important in determining the relevance and clarity of the PAG framework.

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Introduction**

Chapter five elaborates on the conclusion for developing the persuasive advergaming framework (PAG Framework) to persuade players toward the brand through gamified applications. The PAG framework includes aspects that can influence the player's brand perceptions and preferences for the brand. The process of proposing the framework starts by identifying the gaps in the research study. Expert validation through expert review from two professional backgrounds, including academic and industrial. Moreover, user validation through the Farm Fresh Adventure application was conducted to achieve the objectives of this research study. Furthermore, this chapter thoroughly explores the issue that occurred and the research's limitations and implications, providing detailed insights into potential improvements for future recommendations that advance our understanding of the full potential of advergaming in persuasion.

#### **5.2 Project Summary**

The research outcomes summarize the research study's findings, proposing the PAG framework from its initial to final stages. Several phases have been emphasized, including Problem Investigation, Framework Development, Framework Evaluation, and Documentation, which were conducted to ensure this research study met its objectives. The phase and process involved in proposing the PAG framework will be summarized by chapter to represent the outcomes for each phase.

Chapter 1 is the foundation of this research study. The development of the framework starts with the problem investigation, which analyzes the issue of the topic, the gap in the research, and the solution to overcome the arising issue through a comprehensive literature review. Furthermore, this chapter elaborates on the significance of this research study towards advertisers, marketing practitioners, and users. The Research scope, the limitations of the research study, and the thesis outline that summarizes every chapter in the report. Chapter 2 provides a comprehensive literature review that focuses on the items related to the topic of the research study. This

chapter aims to understand the connection between one element and others. This chapter also provides the theory and the theoretical foundations related to the topic of the research study. All content analysis through literature review is important to develop the relevant framework.

Chapter 3 elaborates on the methodology used in developing the PAG framework. Several processes are involved in constructing the PAG framework, starting with the problem investigation, framework development, framework evaluation, and documentation phases. Consists of expert validation, face validation, and user validation. In conclusion, this chapter elaborates on developing the PAG framework.

Chapter 4 concentrates on the validity of the PAG framework, focusing on the calculations and the findings that have been carried out through content and user validation. The feedback from the panel expert was analyzed to evaluate the relevance and the clarity of this research study. The instrument of the PAG framework was evaluated through the face validation process to ensure that the instrument is suitable for the validation process. Moreover, this chapter also deals with user validation findings through the prototype evaluation process. The last part of this chapter will cover the feedback and comments from the expert validation, which have been analyzed to enhance the instrument and the purpose of the research study.

### **5.3 Research Questions and Objectives Revisited**

This research study was completed through several processes, including answering the research question to meet its objectives; the detailed processes are elaborated below.

#### **5.3.1 First Research Question and Objective**

The first research question in this research study is, “What are the key elements for advergames as a persuasive strategy toward the brand?” To address this question, investigate the advergames element that could induce a persuasive factor in the user toward the brand. The investigation through a comprehensive literature analysis has been conducted using the keywords “advergame”, “persuasive”, “advertising”, “branding” and “marketing” from articles, journals, and proceedings in identifying the relevant advergame elements. Moreover, the existing framework related to the study

area was analysed to identify the research gaps. In summary, the initial process in proposing the PAG framework led to achieving the first research objective: *"To identify the key elements for advergimes as a persuasive strategy toward the brand"*.

### **5.3.2 Second Research Question and Objective**

The second research question is *"How can the identified key elements for advergimes be developed as a persuasive strategy toward the brand?"* To resolve this question, a relevant theoretical framework was identified when proposing the PAG Framework to enhance the existing framework. As the chosen material for developing the PAG framework, the theoretical framework from Roettl et al. (2016) shows the potential of persuading users towards the brand through the advergimes application. A mapping process was performed between the existing theoretical framework and the literature review on persuasive advergimes to ensure the identified criteria align with the objectives of the research study. Therefore, the procedure shows that this study's second objective, *"To develop a persuasive advergimes framework (PAG framework) as a persuasive strategy toward brands"*, was addressed efficiently.

### **5.3.3 Third Research Question and Objectives**

The final research question of this research study is, *"How is the PAG Framework acceptable for advergimes as a persuasive strategy toward the brand?"* To address this question, the PAG framework has been validated through expert and user validation. The initial draft of the PAG Framework was distributed to the panel of experts from academia and industry to solicit their feedback and comments regarding the PAG Framework. Furthermore, the advergimes prototype application *Farm Fresh Adventure* was validated through user evaluation to measure the application's persuasiveness toward the user's brand. Hence, it shows that expert and user validations are crucial, leading to solving the third research question and completing the last objective of this research study, *"To evaluate PAG framework through a persuasive advergimes application."*

## 5.4 Research Contribution

The main objective of this research study is to identify the elements of advergames that can sway players' brand preferences through gamified advergames. There are several contributions of this research study, which are the development of the PAG framework, the development of the instrument to measure the level of persuasiveness, the development of the prototype advergame application.

The first contribution of this research is the PAG Framework. It can serve as an outline for marketers and game designers looking to improve their persuasive brand-persuasion tactics through games. Marketers and advertising practitioners may apply this framework to effectively persuade their target consumers to engage with their brand or product. The PAG framework consists of advergames elements that can persuade the player, including brand positioning with integration, autonomy of brand message, entertainment, games brand congruence, social influence, and transfer effect. Every element has its own criteria to achieve the level of persuasiveness. The academia and industrial experts panel has validated the PAG framework to ensure the elements' reliability, relevance, and clarity. Based on the expert evaluation, all the panel experts agreed that the identified advergames elements are reliable and relevant in persuading the player toward the brand through the digital games. Figure 5.2 shows the model of the PAG framework that has been validated by the panel experts.

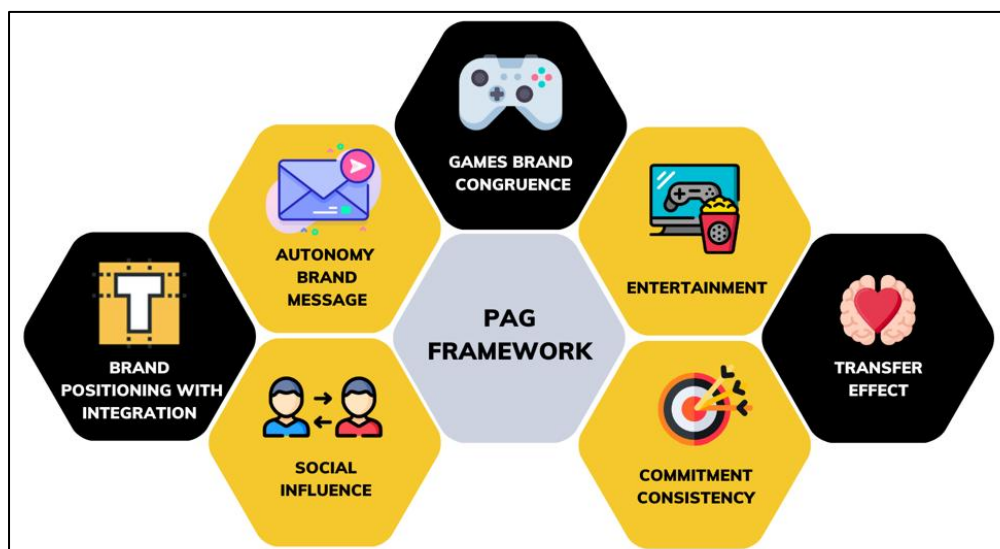


Figure 5.1 The Model of PAG Framework

Moreover, contribution is the development of the advergame prototype called the *Farm Fresh Adventure*. The advergame application implemented the validated PAG framework that consists of elements that can persuade players toward the brand. The elements in the advergames include the brand position with integration, autonomy of brand message, games brand congruence, entertainment, social influence, commitment consistency, and transfer effect. The application contains information about the brand and the company, as the main objective of advergames is to deliver messages or information about the promoted brand. The advergames prototype allows players to interact with the brand-provided interaction in the games while getting information about the product, as the main objective of advergames is delivering the messages or information. The development of advergames applications was conducted to investigate whether the elements of the PAG framework are persuasive to the player toward the brand. Figure 5.3 shows the main page of the prototype advergame application that implemented the elements of the PAG framework, namely Farm Fresh Adventure.



Figure 5.2 The Main Page of Farm Fresh Application

Furthermore, the contribution of this research is the development of the instrument to measure the level of persuasiveness. The instrument has been validated by the panel experts to ensure its credibility and the relevance of the research study. Researchers could adopt the validated instrument to measure the level of persuasiveness in their research study. Table 5.1 shows the instruments that have been validated by the panel expert.

Table 5.1  
The Validated of Prototype Evaluation's Questionnaire for the PAG framework

| Element                         | Code | Criteria                                                          |
|---------------------------------|------|-------------------------------------------------------------------|
| Brand Position with Integration | BP1  | I can receive the information about the product                   |
|                                 | BP2  | I can choose an avatar/character                                  |
|                                 | BP3  | I can identify the location of the brand logo                     |
|                                 | BP4  | I can interact with the product in the game                       |
|                                 | BP5  | I can recognize the brand elements within the gameplay            |
| Autonomy Brand Message          | BM1  | I can identify the brand-related message about the brand features |
|                                 | BM2  | I can identify the integration of the brand in the game           |
|                                 | BM3  | I can grasp the brand concept conveyed in the game's narrative    |
|                                 | BM4  | I can identify the brand's message within the storyline           |
| Games Brand Congruence          | GB1  | I can understand the message through the gameplay                 |
|                                 | GB2  | I can engage with the product within the game                     |
|                                 | GB3  | I can identify the brand feature within the game                  |
|                                 | GB4  | I can understand how the game content matches the brand           |
| Entertainment                   | EN1  | I can choose a different level of challenge                       |
|                                 | EN2  | I can obtain a badge as a reward                                  |
|                                 | EN3  | I can check the ranking on the leaderboard                        |
|                                 | EN4  | I can feel a sense of accomplishment with the game task           |
| Social Influence                | WM1  | I can recommend a game to others                                  |
|                                 | WM2  | I can earn an extra point for a recommendation                    |
|                                 | WM3  | I can challenge others by publishing the result                   |
| Commitment Consistency          | CC1  | I can identify the brand information in the game                  |
|                                 | CC2  | I can sign in to play the game                                    |
|                                 | CC3  | I can understand the brand's theme in the gameplay                |
|                                 | CC4  | I feel challenged by the narrative of the game                    |
|                                 | CC5  | I can choose my own character to play                             |
| Transfer Effect                 | AD1  | I can understand the brand context within the game                |
|                                 | AD2  | I can identify the brand information in the game                  |
|                                 | AD3  | I can interact with the product within the game                   |
|                                 | AD4  | I can understand the message through the storyline                |
|                                 | AD5  | I can recognize the brand elements in the game                    |

Furthermore, this research study contributes to the existing body of knowledge on persuasive advergames. As interest in this topic continues to grow, it is important to establish a consensus among researchers. This study may serve as a reference for future research, supporting the advancement of literature on gamification advertising and its persuasive effects on players through advergames.

Finally, the contribution of this research study is the development of the research framework that involves several phases: *Problem Investigation Phase*, *Framework Development Phase*, *Framework Evaluation Phase* and *Documentation Phase*. The problem investigation phase includes identifying the issues that arise in the topic of the research study and how to solve the problem. Framework development is the second phase in the research methodology. It contains several steps in proposing the PAG framework, including extracting the list of potential advergames elements and assessing the expert opinion on the initial draft of the proposed framework. The third phase is framework evaluation, which shows the experts' validation requirements in both the games and the marketing areas. This research study also provides an advergames prototype solely for the user evaluation proposed. Documenting all the findings in a proper report form will be the last phase of the research framework in this study. All phases must be completed before proceeding to the next phase, as it is important to ensure this research achieves its target, which is to provide a persuasive framework for players toward the brand.

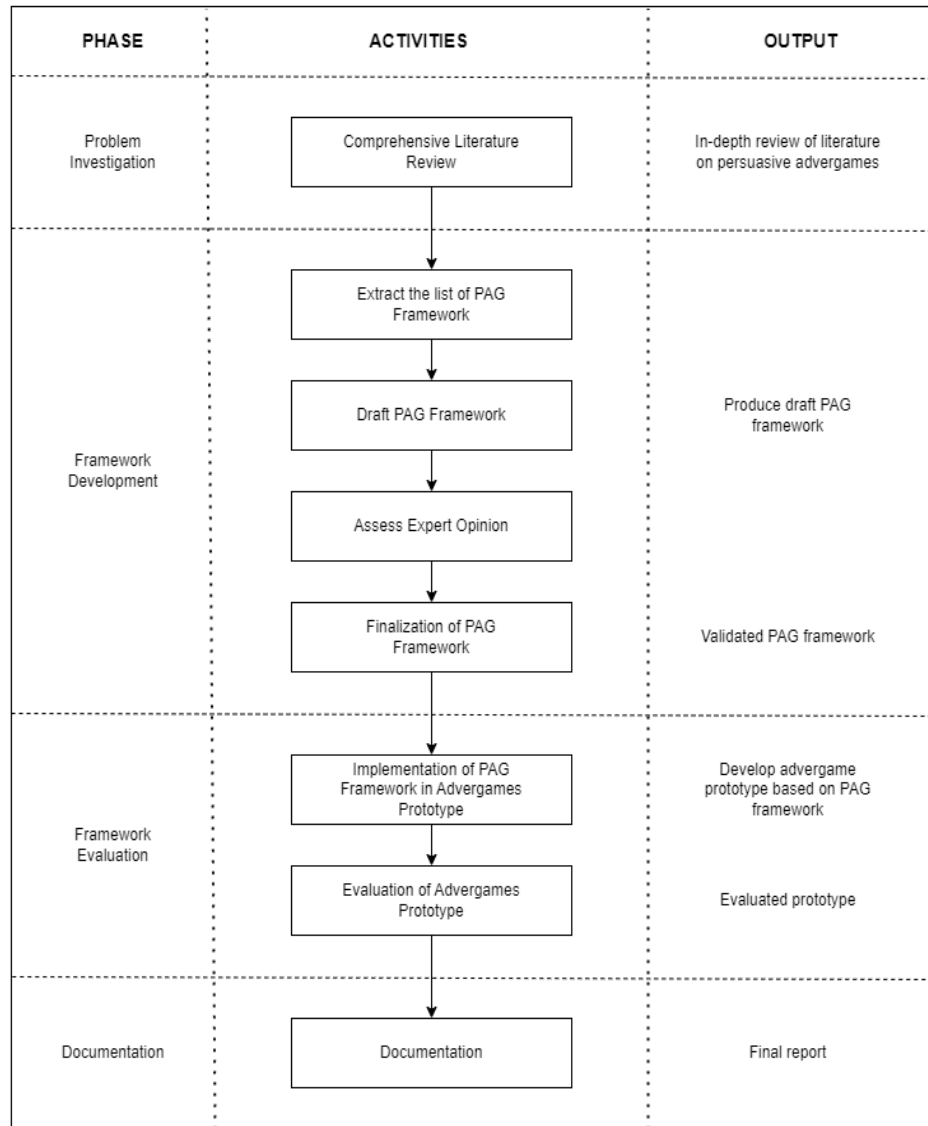


Figure 5.3 The Research Framework of the PAG Framework

## 5.5 Limitations of Research and Future Recommendations

There are some limitations to the current study that could be improved in the future by advertising and game design researchers to enhance their knowledge in this field. The first limitation of this research study would be the sample size of player evaluation, which plays an important role in any research study, as it relates to the data collection. It would be great to have more participants to expand the spectrum in this field. The second limitation is the age of the participants, where expanding the study to include children might broaden the results, as their knowledge, cognitive skills, and acceptance of persuasive attempts through advergames vary. The limited knowledge of

children would affect the outcome of persuasion. Lastly, the platform development of the advergames prototype, focusing on Android only. A single platform limits the data available for identifying the likelihood of persuading the of user.

Some modifications or enhancements could be included in future research, including additional elements that could influence the player's persuasion toward the brand. Researchers should identify more elements that could incorporate the persuasive effect of the game on the embedded brand, since there will be more growth in research in this area of study. This approach allows researchers to examine cognitive, emotional, and consumer reactions, strengthening and broadening their study framework to include other key aspects. Furthermore, a future recommendation for improving this research is the development of the advergame application on multiple platforms. Implementing advergame prototypes across various platforms may attract a larger user base compared to focusing on a single platform. In conclusion, recognizing the limitations and outlining future directions in research is essential, as these insights pave the way for meaningful progress and inspire further advancements.

## **5.6 Summary**

This research study has proposed the advergames framework as a persuasive strategy for a player toward the brand. The panel experts have identified and validated the framework's elements and criteria to prove its credibility as an element that can be used to persuade users through an advergame application. Several phases are involved in proposing the PAG framework, including 1) Problem Investigation Phase, 2) Framework Development Phase, 3) Framework Evaluation Phase and 4) Documentation Phase.

The initial step of this research study includes identifying the issues in the field. The gap in the research, research objectives, the contribution of this research and the limitations of the research study have been identified in this phase. Therefore, to address the emerging issue in the field of research, a conceptual framework known as the PAG framework has been created, which includes seven advergame aspects that can be used to encourage players to choose a particular brand. The elements of the proposed framework include brand positioning with integration, autonomy brand message, games brand congruence, entertainment, social influence, commitment and consistency, and transfer effect. The panel expert will validate the PAG framework to ensure the

reliability of the element in persuading the player toward the brand. Based on the evaluation by the panel expert, all elements in the PAG framework are relevant in persuading the player toward the brand. The research study proceeds with developing the advergames prototype “Farm Fresh Adventure” by implementing elements in the PAG framework. The intended target player will evaluate the advergames application to ensure the objectives of this research study are achieved.

Therefore, to address the emerging issue in the field of research, a conceptual framework known as the PAG framework has been created, which includes seven advergame aspects that can be used to encourage players to choose a particular brand. The panel expert will validate the PAG framework to ensure the reliability of the element in persuading the player toward the brand. Based on the evaluation by the panel expert, all elements in the PAG framework are relevant in persuading the player toward the brand. The research study proceeds with developing the advergames prototype “Farm Fresh Adventure” by implementing elements in the PAG framework. The intended target player will evaluate the advergames application to ensure the objectives of this research study are achieved. Hence, this thesis concludes with contributions toward society and knowledge in the area of research. However, there are still limitations of this research study since there will be more research regarding the topic area by other researchers. Furthermore, recommendations for a better future in this field of study are offered for improvement.

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## **APPENDICES**

# APPENDIX 1

## Formal Letter of Appointment

| Kolej Pengajian Pengkomputeran Informatik, dan Media                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                         | Universiti Teknologi MARA(Melaka)                                                                                       |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
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| <b>Universiti Teknologi MARA(Melaka)</b><br>Kampus Jasin<br>77300 Merlimau, Jasin<br>Melaka Bandaraya Bersejarah<br>Tel: (+606) 2645000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| Reference: 100 – KJM (FSKM 14/3/4/3)<br>Date: 3 <sup>rd</sup> June 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| <p><b>DR AZLIN ZANARIAH BINTI BAHTAR</b><br/>Senior Lecturer<br/>Universiti Teknologi MARA (UiTM)<br/>Cawangan Melaka Kampus Alor Gajah,<br/>KM 26 Jalan Lendu,<br/>78000 Alor Gajah, Melaka</p> <p>Dear Dr Azlin Zanariah,</p> <p><b>APPOINTMENT AS AN EXPERT REVIEWER FOR THE ADVERGAMES FRAMEWORK AS A PERSUASIVE STRATEGY TOWARD BRANDS</b></p> <p>Thank you for agreeing to be an expert reviewer for the following student master's study. Below are the details:</p> <table><tr><td><b>NAME OF STUDENT</b></td><td><b>: NUR ILHAM SYAFEGAH BINTI ROSLI</b></td></tr><tr><td><b>UiTM STUDENT NO.</b></td><td><b>: 2020679232</b></td></tr><tr><td><b>FACULTY</b></td><td><b>: COLLEGE OF COMPUTING, INFORMATICS AND MEDIA</b></td></tr><tr><td><b>RESEARCH TITLE</b></td><td><b>: THE ADVERGAMES FRAMEWORK AS A PERSUASIVE STRATEGY TOWARD BRAND</b></td></tr><tr><td><b>MAIN SUPERVISOR</b></td><td><b>: Ts. DR NURUL HIDAYAH BINTI MAT ZAIN</b></td></tr><tr><td><b>CO-SUPERVISOR</b></td><td><b>: DR SUZANA BINTI AHMAD</b></td></tr></table> <p>2. For your information, the student would like to humbly solicit your opinions, suggestions, or recommendations to review and validate her initial framework: The Advergimes Framework as a Persuasive Strategy Toward Brands.</p> <p>3. We look forward to receiving your feedback. Kindly provide feedback on the form at your earliest convenience, preferably within two weeks: 19<sup>th</sup> June 2023. You can confirm your participation in this study and start the review process by referring to this link:<br/><a href="#">Expert Review Form</a></p> <p>5. Your cooperation, time, and assistance are greatly appreciated. Once again, thank you in advance for your time and effort in making this research successful.</p> <p>Thank you.</p> <p>Sincerely,</p> <p><b>Ts. DR NURUL HIDAYAH MAT ZAIN</b><br/>Senior Lecturer<br/>Universiti Teknologi MARA (UiTM) Cawangan Melaka<br/>Kampus Jasin, 77300 Merlimau, Melaka<br/>✉ <a href="mailto:nurul417@uitm.edu.my">nurul417@uitm.edu.my</a></p> |                                                                         |                                                                                                                         | <b>NAME OF STUDENT</b> | <b>: NUR ILHAM SYAFEGAH BINTI ROSLI</b> | <b>UiTM STUDENT NO.</b> | <b>: 2020679232</b> | <b>FACULTY</b> | <b>: COLLEGE OF COMPUTING, INFORMATICS AND MEDIA</b> | <b>RESEARCH TITLE</b> | <b>: THE ADVERGAMES FRAMEWORK AS A PERSUASIVE STRATEGY TOWARD BRAND</b> | <b>MAIN SUPERVISOR</b> | <b>: Ts. DR NURUL HIDAYAH BINTI MAT ZAIN</b> | <b>CO-SUPERVISOR</b> | <b>: DR SUZANA BINTI AHMAD</b> |
| <b>NAME OF STUDENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>: NUR ILHAM SYAFEGAH BINTI ROSLI</b>                                 |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| <b>UiTM STUDENT NO.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>: 2020679232</b>                                                     |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| <b>FACULTY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>: COLLEGE OF COMPUTING, INFORMATICS AND MEDIA</b>                    |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| <b>RESEARCH TITLE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>: THE ADVERGAMES FRAMEWORK AS A PERSUASIVE STRATEGY TOWARD BRAND</b> |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| <b>MAIN SUPERVISOR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>: Ts. DR NURUL HIDAYAH BINTI MAT ZAIN</b>                            |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |
| <b>CO-SUPERVISOR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>: DR SUZANA BINTI AHMAD</b>                                          |                                                                                                                         |                        |                                         |                         |                     |                |                                                      |                       |                                                                         |                        |                                              |                      |                                |

## APPENDIX 2

### Certificate Token as Contributions



## APPENDIX 3

### Research Ethics Certificate

| www.uitm.edu.my                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <br><b>UNIVERSITI<br/>TEKNOLOGI<br/>MARA</b>                                                                                                                                                                                                                                                         | <b>Pejabat</b><br>Timbalan Naib Canselor<br>(Penyelidikan dan Inovasi) |
| Reference : 600-TNCPI(5/1/6)<br>Our reference : REC/12/2021 (MR/959)<br>Date : 16 <sup>th</sup> September 2021                                                                                                                                                                                                                                                                        |                                                                        |
| <b>Ts Dr Nurul Hidayah bt Mat Zain</b><br>(Nur Ilham Syafeqah bt Rosli - 2020679232)<br>Faculty of Computer and Mathematical Sciences<br>Universiti Teknologi MARA<br>40450 Shah Alam<br>SELANGOR                                                                                                                                                                                     |                                                                        |
| Dear Ts Dr Nurul Hidayah,                                                                                                                                                                                                                                                                                                                                                             |                                                                        |
| <b>APPROVAL LETTER - UiTM RESEARCH ETHICS COMMITTEE</b>                                                                                                                                                                                                                                                                                                                               |                                                                        |
| Thank you for submitting your research proposal to Research Ethics Committee (REC). After considering your application, the Committee approved your proposal entitled "The Persuasive Advergaming Framework as a Strategy toward the Brand" at Faculty of Computer and Mathematical Sciences, UiTM Jasin Campus, Melaka.                                                              |                                                                        |
| Details of the approval are as follows:                                                                                                                                                                                                                                                                                                                                               |                                                                        |
| <b>Ref. number:</b>                                                                                                                                                                                                                                                                                                                                                                   | REC/12/2021 (MR/959)                                                   |
| <b>Approval Period:</b>                                                                                                                                                                                                                                                                                                                                                               | 16 <sup>th</sup> September 2021 until 30 <sup>th</sup> April 2022      |
| <b>Authorised personnel:</b>                                                                                                                                                                                                                                                                                                                                                          | 1. Ts Dr Nurul Hidayah bt Mat Zain<br>2. Nur Ilham Syafeqah bt Rosli   |
| The UiTM Research Ethics Committee operates in accordance to the ICH Good Clinical Practice Guidelines, Malaysian Good Clinical Practice Guidelines and the Declaration of Helsinki. The approval of this project is conditional upon your continuing compliance with these guidelines and declaration.                                                                               |                                                                        |
| We draw to your attention the requirement that a report on this research, must be submitted every 12 months from the date of the approval or on the completion of the project, whichever occurs first. Failure to submit reports will result in withdrawal of consent for the project to proceed. Amendments, if any, to the study documents are to be submitted to REC for approval. |                                                                        |
| If you require further information, please contact REC Secretariat at 03-55448069/03-55442794 or email at recsecretariat@uitm.edu.my.                                                                                                                                                                                                                                                 |                                                                        |
| Yours sincerely,                                                                                                                                                                                                                                                                                                                                                                      |                                                                        |
| <b>PROFESSOR DATO' DR ABU BAKAR ABDUL MAJEED</b><br>Chairman<br>UiTM Research Ethics Committee                                                                                                                                                                                                                                                                                        |                                                                        |
| c.c.: Dean, Faculty of Computer and Mathematical Sciences, UiTM                                                                                                                                                                                                                                                                                                                       |                                                                        |
| Universiti Teknologi MARA<br>Aras 3, Bangunan Wawasan<br>40450 Shah Alam, Selangor, MALAYSIA<br>Tel: (+603) 5544 2004/2255<br>Faks: (+603) 5544 2070                                                                                                                                                                                                                                  |                                                                        |
|                                                                                                                                                                                                                                                                                                  |                                                                        |

## APPENDIX 4

### PAG Framework Instrument



## EVALUATION OF FARM FRESH ADVENTURE: AN ADVERGAMES APPLICATION

Assalamualaikum and a very good day 😊. My name is Nur Ilham Syafeqah binti Rosli, and I am a Master's student from the College of Computing, Informatics and Media, UiTM Shah Alam. Currently I am conducting a research with the title of "The Advergaming Framework as a Persuasive Strategy Toward Brands". The advergaming application have been implemented with the PAG Framework in persuading user toward the brand.

Please be assured that all the information you provide will be kept confidential. Your participation and support are very much appreciated. Thank you for your time in advance.

ilhamsyafeqah96@gmail.com [Switch account](#)  Draft saved

\* Indicates required question

Email \*

Your email

 This is a required question

### RESEARCH INFO

#### ETHICS APPROVAL

This research study has obtained ethics committee approval from UiTM Research Ethics Committee with reference number REC/12/2021 (MR/959). The approval of

## APPENDIX 5

### Face Validation Instrument

#### Face Validation for the Persuasive AdvergAMES Framework (PAG) Instrument

Assalamualaikum and a very good day 🌞. My name is Nur Ilham Syafeqah binti Rosli, and I am a Master's student from the College of Computing, Informatics and Media, UiTM Shah Alam.

Looking at your rich background in academic, research, and industrial expertise, I would like to humbly solicit your opinions, suggestions, or recommendations to review and validate my initial framework: The AdvergAMES Framework as a Persuasive Strategy Toward Brands (PAG Framework).

##### INTRODUCTION OF RESEARCH

Advertising is evolving from a traditional medium and changing its strategy into the latest marketing tool known as advergAMES, which will deliver the brand's information more fun and effectively. The promising advergAME uses gamification in delivering the brand's information evoked the researcher and marketing practitioners to identify the possibility advergAME in persuading users toward the brand.

The previous study shows that digital games can be used to persuade, but it lacks the element of advergAME that can be used to persuade players. Therefore, further study is needed to develop a persuasive advergAME as a proposed framework. The proposed framework will contain the advergAMES elements that have been identified, which can be used in persuading users toward the brand.

##### PURPOSE OF RESEARCH

The research study aims to develop a framework for advergAMES as a persuasive strategy toward the brand (PAG Framework). The PAG Framework will consist of advergAME elements that can persuade users toward the brand.

##### RESEARCH PROCEDURE

The panel needs to complete two (2) sections:

Section A: Demography

Section B: Face Validation Evaluation

The feedback received use is in value of **agree (YES)** and **disagree (NO)**. Experts' suggestions and feedback are encouraged to improve the instrument.

##### PARTICIPANT IN RESEARCH

## SECTION B: FACE VALIDATION INSTRUMENT

### INSTRUCTIONS :

1. The expert needs to assess the extent to which the instrument (that was explored previously) meets the criteria for a good research instrument by checking the column (YES / NO).
2. Suggestions and feedback are encouraged to improve the instrument.
3. The face validation criteria are based on a study by Oluwatayo (2012)

Thank you for your cooperation.

\*

|                                        | Yes                   | No                    |
|----------------------------------------|-----------------------|-----------------------|
| Use of correct and appropriate grammar | <input type="radio"/> | <input type="radio"/> |
| Adjusted use of appropriate language   | <input type="radio"/> | <input type="radio"/> |
| Use of correct spelling                | <input type="radio"/> | <input type="radio"/> |
| Correct sentence structure             | <input type="radio"/> | <input type="radio"/> |
| Appropriate writing size               | <input type="radio"/> | <input type="radio"/> |
| Appropriate format                     | <input type="radio"/> | <input type="radio"/> |
| Appropriate content                    | <input type="radio"/> | <input type="radio"/> |

### List of Panel Experts

| No  | Name                                     | Position            | Company                  |
|-----|------------------------------------------|---------------------|--------------------------|
| 1.  | Dr Azlin Zanariah Binti Bahtar           | Senior Lecturer     | UiTM                     |
| 2.  | Dr Cynthia @ Annamaria Robert Dawayan    | Senior Lecturer     | UiTM                     |
| 3.  | Dr Hasnawati Binti Guliling              | Senior Lecturer     | UiTM                     |
| 4.  | Dr. Mohd Syarqawy Bin Hamzah             | Assistant Professor | IIUM                     |
| 5.  | Dr. Mozard Bin Mohtar                    | Senior Lecturer     | UM                       |
| 6.  | Dr. Nurazlin Binti Zainal Azmi           | Assistant Professor | IIUM                     |
| 7.  | Dr. Sharifah Nurafizah Binti Syed Annuar | Dr                  | UiTM                     |
| 8.  | Dr. Yusri Bin Abdullah                   | Dr                  | UPSI                     |
| 9.  | Mr. Afizan Bin Amer                      | Senior Lecturer     | UiTM                     |
| 10. | Ts. Mohamad Razeef Shah Mohmad Rafik     | Senior Lecturer     | UiTM                     |
| 11. | PM Dr. Roslina Ibrahim                   | Prof Madya. Dr      | UTM                      |
| 12. | Ts Dr Hasiyah Mohamed @ Omar             | Senior Lecturer     | UiTM                     |
| 13. | Ts Dr Siti Nurul Mahfuzah Binti Mohamad  | Senior Lecturer     | UTEM                     |
| 14. | Ts. Dr. Ibrahim Ahmad                    | Senior Lecturer     | UTEM                     |
| 15. | Mr Fareez Shafiq Hussain                 | Lead Game Designer  | Todak Studio Sdn Bhd     |
| 16. | Mr Ikmal Hakim                           | Game Programmer     | Todak Studio Sdn Bhd     |
| 17. | Mr Ikhwan Mat Zain                       | Game Development    | Sigma Info Analytic Data |
| 18. | Mr Tze Chian Teoh                        | Game Programmer     | Double11 Malaysia        |
| 19. | Mr Syafiq Shuhaimi                       | Executive           | Audi Glenmarie           |
| 20. | Mrs Azizah Nazaruddin                    | Marketing Executive | IKIM                     |
| 21. | Mr Mohamad Fauzi Ab Hamid                | Marketing Executive | IKIM                     |
| 22. | Mr Ahmad Zuriyad Ahmad Zukiman           | Marketing Executive | IKIM                     |
| 23. | Mrs Zuraidah                             | Marketing Executive | IKIM                     |
| 24. | Mr Muhammad Syarifuddin Sa'ari           | Developer           | Maybank                  |

25. Mr Muhamad Nazrin Izat Abdul  
Rahman

Team Lead

Kretivco  
Mediaworks

---

# APPENDIX 6

## Publications of SCoRED 2023

### Levelling Up Brand Influence: A Review with the Persuasive Advergame Framework

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**Abstract**—Advergames and persuasive mechanisms have attracted attention recently as they can emerge as advertising strategies to persuade consumers. Advergames can persuade people, brand loyalty and brand memory. However, there is a lack of guidelines or framework to develop advergames applications with an embedded persuasive strategy toward the brands as an advertising strategy. The guideline is crucial as it leads to a better understanding of game design structure. Therefore, this paper intends to review and propose the Persuasive Advergames Framework (PAG) as a framework for developing advergames as a persuasive strategy. The PAG Framework will help advergame designers develop a good game for promoting a brand or product. Besides, the advergame will aid the company business in promoting their product or brand with a more enjoyable platform.

**Keywords**—advergames, advertising strategy, persuasive, brand, gamification

#### I. INTRODUCTION

In a world where achieving anything becomes possible through technology drives the marketing and advertising industry to change their strategy in the marketing environment. Advergames are the latest advertising strategy used widely [1] to create entertaining experiences with the specific purpose of promoting a brand or product [2]. Previous research studied user intention to play advergames and purchase a product, experience, and consumer behaviour [3][1]. Besides, the researcher also starts studying the persuasion element of advergame by understanding how persuasive factors can be effectively integrated into digital games [4]. This situation shows that digital games can be used to persuade, but it lacks the element of advergame that can persuade users. Therefore, there is a need for further study in analyzing persuasive advergames. The results of the study also able to help advertising practitioners understand and employ the potential of advergames as an advertising medium.

Heilbrunn et al. [5] discovered that a lack of understanding of the essential components in designing and implementing advergames can lead to failures. Given the significance and benefits of advergame in advertising, the need for guidelines in successfully achieving project goals or purposes is evident. However, there is no specific guideline to guide game designers in developing advergames while embedding the brand information as a strategy to persuade customers toward the brand. The limitation of a framework in developing advergames affected the resources in understanding the critical issue of persuasive advergames.

Hence, to fully harness the potential of the promising outcomes, there is a need for a comprehensive framework that clearly defines how to design advergames and provides the necessary implementation support to improve its persuasive strategy toward the brand. The gathered data from the review process regarding the research study proposed a PAG Framework with persuasive components. Therefore, the present study proposed the PAG Framework as a guideline for advertising strategy that could persuade consumers toward the brand.

#### II. LITERATURE REVIEW

##### A. Gamification

Most people spend their time on the Internet. The endless growing capabilities of technology encourage the researcher to seek new approaches to problem-solving. Gamification is one of the new techniques being implemented, with many companies incorporating gamification into their company strategy. It utilizes the elements of game and game design to create a strategy that can be implemented in different areas, such as tourism and marketing [6]. Gamification can be defined as applying the engaging elements found in the game to real-world production activities [7], such as utilizing the game's capabilities and theories in unrelated game surroundings, including the learning process [8]. The approach attracts the interest of marketers in enhancing marketing effectiveness [9].

The previous study shows that gamification is positively associated with brand attitude [10] also brand awareness [11] and shows that gamification can positively affect brand management and increase brand equity. As the technique grows among marketers, many aspects have been analyzed to create consumer engagement with the brand. Most companies employ gamification techniques to increase consumer engagement, yet some fail to engage users. The detailed research on combination gamification and marketing needs further study and more importantly, different gamification design categories have different marketing outcomes and engagement [11]. Therefore, it is a powerful approach for increasing brand management [12].

##### B. Advergames

Traditional advertising strategy like billboard and TV commercials are no longer effective today since it is time-consuming and money-consuming. The static form of traditional advertising attracts marketers, advertising practitioners, and researchers to seek an alternative and

# APPENDIX 7

## Turtinitin Similarity Index

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## **AUTHOR'S PROFILE**



Nur Ilham Syafeqah binti Rosli obtained a Bachelor of Computer Science (Hons) in Multimedia Computing Science in 2018 from Universiti. Teknologi MARA (UiTM) Campus Jasin, Malacca. She completed a Diploma of Computer Science from UiTM Segamat, Johor branch in 2016 with a Second-Class Honours. She enhanced her academic qualifications by obtaining a Master's Degree in Computer Science from UiTM Shah Alam, with a specialisation in gamification.

## **LIST OF PUBLICATION**

Rosli, N. I. S., Zain, N. H. M., & Ahmad, S. (2023, December). Levelling up brand influence: A review with the persuasive advergame framework. In *2023 IEEE 21st Student Conference on Research and Development (SCORed)* (pp. 385-390). IEEE