UNIVERSITI TEKNOLOGI MARA

ENHANCING CUSTOMER ENGAGEMENT IN THE RESTAURANT INDUSTRY THROUGH CARD GAME AS A SENSORY EXPERIENCE

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MUHAMMAD AZRI BIN IBRAHIM

Thesis submitted in fulfilment
of the requirement for the degree of
Master Arts and Design

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ABSTRACT

This study explores the integration of board and card games as interactive activities to address customer boredom caused by prolonged waiting times in Malaysian restaurants. The primary objective is to identify suitable game types and effective design elements that enhance holistic customer engagement. Employing a rigorous qualitative-dominant mixed-methods approach, empirical quantitative data was gathered through a structured survey of 81 respondents utilizing a targeted survey technique. Concurrently, rich qualitative data was obtained via a detailed visual analysis of specific game design elements alongside semi-structured, in-depth interviews with key stakeholders, namely restaurant owners, active customers, and service staff. The findings reveal that the card game UNO is the most effective choice (54.1%) compared to other studied games such as Jamaica, Monopoly, Anomia, and Farkle. This notable effectiveness is fundamentally driven by vibrant visual aesthetics, high typographical clarity, intuitive symbolic elements, and a short gameplay duration of 10–20 minutes, which aligns perfectly with the average food preparation waiting time. This study concludes that appropriate game designs functioning as a multi-sensory experience not only successfully mitigate the negative psychological perception of waiting time but also provenly strengthen customer engagement, trust, social dynamics, and brand loyalty within the competitive food and beverage industry.

Keywords: Board Games, Customer Engagement, Waiting Time, Visual Design, Sensory Experience.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

The food and beverage (F&B) service industry in Malaysia has evolved beyond the boundaries of basic nutritional provision, shifting entirely toward holistic customer experience satisfaction. In an increasingly competitive experience economy, patrons no longer evaluate a restaurant solely by the quality of food on the plate; instead, they seek value-added dimensions in the form of environment, social interaction, and emotional stimulation. This evolution demands that restaurateurs think strategically about their physical surroundings. According to Ryu and Han (2010), the physical environment, or "services cape," is not merely a visual backdrop but a critical determinant influencing perceptions of quality and overall customer satisfaction. Failure to manage these environmental elements can drive customers to competitors offering more engaging and interactive ambiances.

However, a major challenge still plaguing the industry is the management of perceived waiting time. Within the context of consumer psychology, unoccupied time spent waiting is often perceived as a mental burden, leading to boredom and negative perceptions of service efficiency. This issue becomes even more critical when preliminary survey data indicates that the majority of customers identify long waiting times as the primary source of dissatisfaction. Herein lies the integration of interactive game design specifically card games which is viewed as an innovation capable of bridging the gap between service operations and customer comfort. Anchored in Bitner's (1992) services cape theory, every physical stimulus, including interactive activities at the dining table, possesses the power to alter customer emotions from negative (boredom) to positive (amusement), thereby influencing their subsequent behavior within the establishment.

This study conceptualizes card games not merely as recreational toys, but as a meticulously designed form of sensory experience. A game design that integrates appealing visual elements, the tactile feel of the cards, and dynamic gameplay mechanisms function as a cognitive stimulus capable of diverting customer attention away from prolonged waiting durations. Through this approach, the concept of

customer engagement can be strengthened. As emphasized by Bowden (2009), customer engagement is a psychological process involving deep trust and emotional commitment to a brand. By providing a medium that fosters face-to-face interaction among friends and family while waiting for dishes to arrive, restaurants are effectively constructing positive social memories, which serve as a cornerstone for long-term brand loyalty.

Consequently, this will provide a comprehensive overview of this research journey. It begins with an analysis of the background of the problem, rooted in service quality issues in Malaysia, followed by a statement of the problem outlining the urgent need for sensory, interactive solutions. Subsequently, the research objectives and questions are formulated to identify the specific types of games and design elements most effective for a restaurant context. Through this introduction, the researcher asserts that innovation in interactive experience design represents a progressive step forward, ensuring that the Malaysian restaurant industry remains relevant, dynamic, and customer-centric in confronting modern market challenges.

1.2 Research Background

In an increasingly challenging era of globalization, the food and beverage (F&B) service industry in Malaysia has undergone a significant paradigm shift. Competition within this market is no longer confined solely to product quality or culinary flavor; instead, it has transitioned toward the creation of an "experienced economy." Design now plays an exceptionally critical role in shaping these interactive experiences, encompassing not only the visual aesthetics of a space but also the functional environmental planning capable of heightening user engagement and satisfaction. Within the food service sector, design encapsulates the entire customer journey from the moment patrons' step into the premises until their departure with the ultimate objective of cultivating an immersive and meaningful atmosphere.

One of the fundamental elements underpinning the efficacy of the customer experience is the physical environment, professionally conceptualized as the dining environment. According to the seminal framework posited by Bitner (1992), the physical environment of a service organization including spatial layout, interior decor, and ambient stimuli exerts a profound influence on customers' cognitive and emotional responses. In a restaurant context, a meticulously designed physical environment

functions not merely as an aesthetic backdrop, but as a strategic brand communication tool capable of modulating consumer behavior, including the duration of time spent on-site and their propensity for repeat patronage. Consequently, the integration of entertainment elements, such as card games, within the restaurant environment is viewed as a service design evolution aimed at optimizing interactions within space.

Aligning with the perspectives of Ryu and Han (2010), the success of a restaurant is heavily mediated by the interplay between food quality, service quality, and physical environmental quality, which collectively synthesize overall customer satisfaction. While culinary taste remains a critical determinant, contemporary consumers increasingly value ambiance, service efficiency, and the presence of interactive elements that contribute to a holistic experiential lifestyle. Restaurants that successfully execute innovative strategies, such as providing curated card games, are equipped to differentiate themselves within a saturated market. This additional layer of interaction not only aids in forging a unique brand identity but also elevates customer perceptions regarding the overarching quality and value of the service offered.

When examining the dynamics of interaction, the construct of Customer Engagement becomes highly salient. According to Bowden (2009), customer engagement transcends mere transactional satisfaction; it is a psychological process that fosters deep emotional connections between the customer and the brand through dynamic service experiences. This engagement is paramount, as it cultivates long-term trust and loyalty, subsequently transforming customers into brand advocates who generate organic word-of-mouth promotion. Through the provision of card games, restaurants introduce a stimulus that compels patrons to actively engage rather than passively wait for their meals. This activity engenders meaningful social memories, particularly within dinner dining environments where consumers' social affiliation needs are inherently heightened.

This study positions card games as a distinctive modality of Sensory Experience. Sensory experiences serve as a bridge between sensory perception and customer action. Through compelling visual elements such as color, typography, and symbolic design on the cards, customers are cognitively stimulated. For instance, the deployment of warm hues like red is conventionally utilized to stimulate appetite and cultivate a high-energy ambiance, whereas muted colors like blue are better suited for tranquil environments. Captivating visual aesthetics not only capture players' initial attention but also sustain their focus throughout the gameplay. Furthermore, the tactile engagement with physical game components, such as cards and dice, yields a tangible experiential dimension that

digital entertainment fails to replicate.

One of the most pervasive operational challenges confronting restaurant managements is the mitigation of perceived waiting time. Prolonged wait times are routinely conceptualized as tedious and frustrating occurrences that can degrade service image, irrespective of the high quality of the food served. Herein lies the strategic utility of card games as an effective tool for benign distraction. From a behavioral economics perspective, engaging customers in pleasurable activities during interstitial waiting periods can induce positive psychological states, whereby positive emotions shape decision-making and mitigate price sensitivity. This phenomenon, occasionally referred to as buying time, allows the kitchen staff to prepare orders at an optimal operational pace without compromising service quality or provoking customer dissatisfaction.

Furthermore, card games yield extensive cognitive and social benefits, rendering them potent instruments for fostering communication within communal settings. Within a restaurant locale, judiciously selected games can facilitate seamless interaction among friends, family members, and occasionally even strangers, thereby engineering an inclusive environment. This social activation not only mitigates social awkwardness but also functions as a socio-therapeutic agent that reduces daily stress levels and enhances emotional well-being. For family-oriented dining establishments, the inclusion of games that stimulate cognitive skills such as creativity and problem-solving injects pedagogical value for parents seeking child-friendly dining alternatives.

Socio-culturally, particularly within a pluralistic society like Malaysia, card games possessing universal appeal can catalyze cross cultural engagement. This aligns with Schmitt's (1999) experiential marketing theory, which asserts that emotionally and socially enriched experiences fortify brand recall, emphasizing the power of shared entertainment in augmenting customer satisfaction. Moreover, collaborating with local game designers to showcase culturally resonant games can afford patrons an exclusive experience while simultaneously stimulating the local creative economy. Through this approach, restaurants transcend their primary culinary function, transforming into social hubs that reinforce community cohesion.

From a marketing standpoint, the integration of card games can be positioned as a distinct unique selling point (USP) within a value-added service strategy. Restaurateurs can market the play-while-you-wait concept as a signature hallmark that distinguishes them from competitors. In the digital age, consumers experiencing such novel engagement are highly predisposed to share their experiences on social media platforms via photographs or videos, thereby organically amplifying the restaurant's

visibility and prestige through positive word-of-mouth marketing. This strategy not only captures novel demographic segments, such as young adults and families, but also bolsters business sustainability by cultivating a loyal customer community and driving incremental sales in secondary offerings like beverages or desserts.

In synthesis, the incorporation of card games into the restaurant environment yields multidimensional benefits that encompass customer engagement, psychological satisfaction, brand equity development, and consumer behavior research. Through the analytical lens of experience design and sensory stimulation, card games are positioned not merely as recreational instruments, but as strategic design elements capable of delivering profound value to both consumers and enterprises. This study aims to evaluate how the integration of card games can enrich the restaurant experience, support strategic differentiation, and ultimately contribute to service innovation within an increasingly dynamic hospitality industry.

1.3 Background Of Problem

Service quality constitutes the primary cornerstone in determining the level of customer satisfaction and loyalty within the food and beverage (F&B) sector. Nevertheless, a major challenge routinely confronted by restaurant operators in Malaysia is the inability to effectively manage order waiting times. According to Taylor (1994), there is a strong negative correlation between the perception of service delays and the overall evaluation of service quality by customers. When patrons encounter significant delays, negative emotions such as anxiety and anger begin to surface, which ultimately degrades the overarching dining experience even if the quality of the food served is exceptionally high.

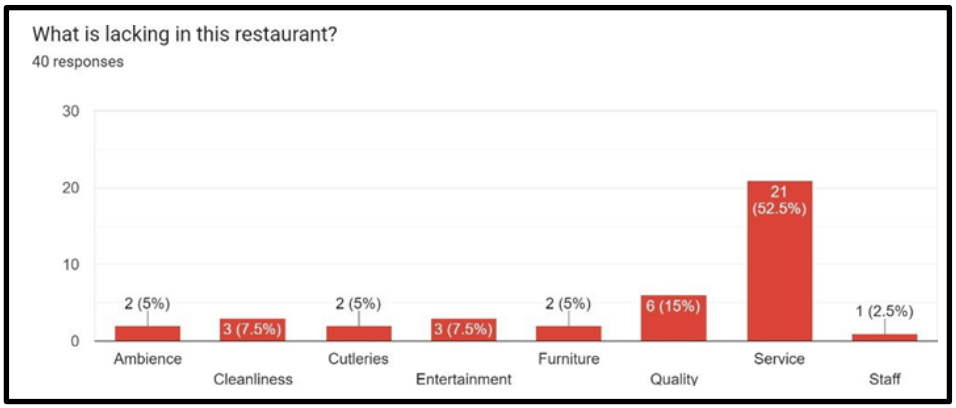

Figure 1.1 What is lacking in the restaurant?

To identify the root cause of this issue within a local context, an initial survey was conducted involving 40 respondents who are regular patrons across various food establishments. This study focused on eight critical dimensions, namely service, ambiance, food quality, entertainment, furniture, tableware, cleanliness, and staff performance. The data gathered through this survey revealed several concerning findings regarding current service standards in local restaurants, aligning with the framework posited by Parasuraman et al. (1988) on the responsiveness dimension of the SERVQUAL model, which emphasizes employees' willingness to assist customers and provide prompt service.

Data analysis demonstrates that service quality is the dominant factor driving customer dissatisfaction. Specifically, 52.5% of the 21 individuals of the respondents identified unsatisfactory service as the primary issue encountered during their dining experiences.

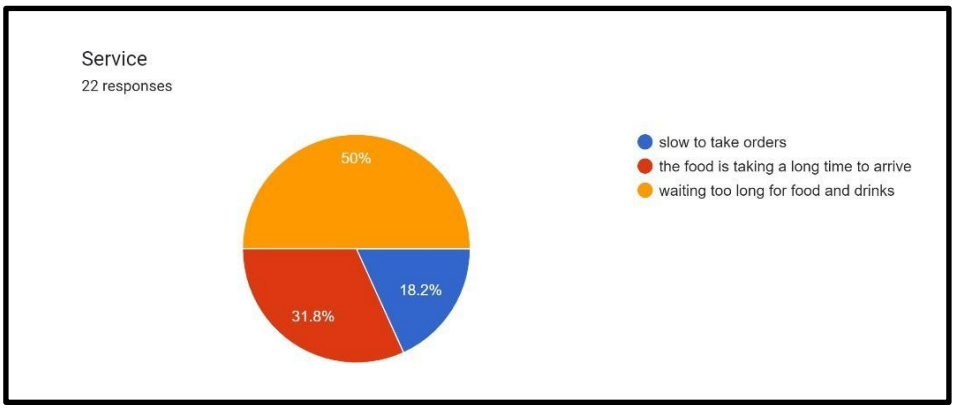

Figure 1.2 Service

This problem can be categorized into several critical operational issues that demand urgent attention. Half of the service-related complaints (50%) indicated that patrons were forced to wait excessively long for both food and beverages. Additionally, 31.8% of the respondents reported that dishes took an inordinate amount of time to arrive at the table after the order had been finalized. Meanwhile, 18.2% of the participants noted that restaurant personnel were highly inefficient and slow in taking customer orders in the first place. This structural breakdown underscores a pressing deficit in service efficiency and time management within restaurant operations, highlights an immediate need for systemic optimization to restore customer satisfaction.

These empirical metrics reveal that more than half of the study's sample endured a profoundly negative waiting experience. This phenomenon is thoroughly articulated

by Hui and Tse (1996) in their seminal research on the psychology of waiting, which posits that consumers who lack explicit information regarding wait durations, or are left without any cognitive stimuli to occupy their time, perceive the passage of time as significantly longer than its actual duration. While excessive waiting times are routinely attributed to structural deficits such as acute understaffing or poorly designed workflow mechanics, their psychological toll on consumer perception is far more severe. When customers are relegated to a state of passive waiting, the perceived experiential value of the dining encounter deteriorates drastically, ultimately acting as a catalyst for destructive, organic negative word-of-mouth marketing.

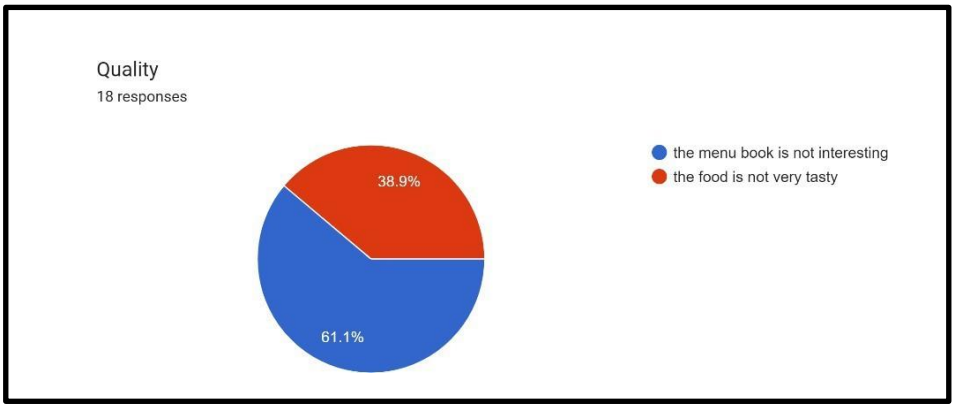

Figure 1.3 Quality

Beyond service constraints, the secondary determinant compromising customer experience is culinary quality. A total of 15% of the respondents reported dissatisfaction regarding this dimension, specifically emphasizing uninspiring flavors and unappealing menus. The data indicates that among the 18 respondents who expressed dissatisfaction with baseline quality, 61.1% identified the menu book itself as aesthetically uninteresting, while 38.9% stated that the dishes served were unpalatable. This empirical distribution validates the framework posited by Ryu and Han (2010), which asserts that cumulative consumer satisfaction is a synthesized outcome of food quality, service quality, and the physical environment working in tandem. If a menu fails to stimulate the customer's sensory perception from the outset, it establishes a low initial anchor and deflates expectations regarding the impending culinary execution.

To mitigate the adverse impacts of prolonged wait times, some dining establishments might compromise operational precision to accelerate food preparation. However, according to the service environment framework established by Bitner (1992), the functional efficiency of the physical environment must remain harmonized

with final product quality. The absolute deficit in active engagement corroborated by 7.5% of respondents dissatisfied with current entertainment metrics reveals a significant gap in the contemporary customer journey. In the absence of structured interactive activities, consumers naturally realign their cognitive focus entirely toward chronometric time, which exponentially exacerbates boredom and impatience. Consequently, the strategic introduction of card games acts as a transformative psychological mechanism, re-engineering passive waiting time into active playtime, thereby successfully deflecting the internal cognitive clock and mitigating the customer's perceived mental burden.

This investigation demonstrates that the fundamental vulnerability within the Malaysian restaurant industry is not merely restricted to occasional operational delays, but rather a structural failure to cultivate continuous customer engagement. As robustly conceptualized by Bowden (2009), true customer engagement requires dynamic service interactions that transcend basic transactional satisfaction. When a restaurant fails to deliver cognitive or social stimulation during interstitial waiting periods, it forfeits a critical window to build deep emotional connections with its clientele. The empirical baseline derived from this initial survey yields definitive proof that conventional operational systems are no longer sufficient to satisfy modern diners, who increasingly demand holistic experiential value alongside sustenance.

In synthesis, the data from this survey underscores the argument that perceived wait times and service inefficiencies represent systemic crises that must be resolved through experience design innovation. The identified operational breakdown encompasses not only literal physical delays but also an acute absence of sensory stimuli capable of maintaining consumer immersion. This study aims to bridge this experiential gap by positioning curated card games as a strategic design intervention one that elevates customer engagement, redefines waiting periods as meaningful social encounters, and ultimately drives brand equity and long-term customer retention.

1.4 Problem Statement

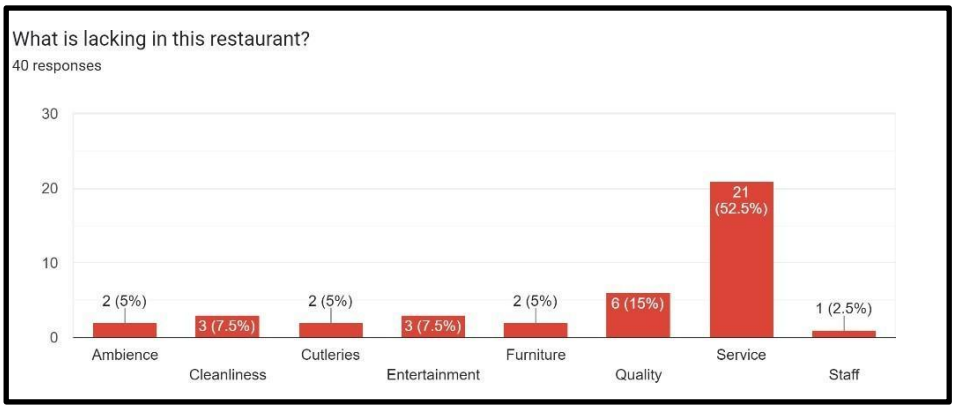

Figure 1.4 What is lacking in the restaurant?

The primary challenge confronting the contemporary Malaysian restaurant industry is the inability to effectively manage customers' perceived waiting time, a factor that consistently precipitates profound consumer dissatisfaction. Although culinary quality remains a fundamental determinant, suboptimal service quality specifically pronounced delays in dish presentation have been identified as the root cause behind the collapse of the overarching dining experience. Based on preliminary survey data, 52.5% of patrons reported that sluggish service and excessive wait times constitute critical issues that directly undermine their trust in an establishment. This dilemma transcends a mere technical bottleneck within the kitchen; rather, it represents a structural failure in executing an effective customer engagement strategy.

Prolonged waiting periods devoid of interactive stimuli leave patrons highly susceptible to acute boredom and negative emotional distress. In accordance with the theoretical framework of Taylor (1994), durations left completely unassigned to an activity are cognitively perceived as substantially longer than their literal chronometric duration, which subsequently heightens customer anxiety. Within this context, the absence of a meaningful distraction mechanism causes consumers to fixate their attention exclusively on the clock, ultimately deflating their perception of the service value received. While certain establishments attempt to artificially accelerate preparation processes, this introduces a high-risk trade-off where culinary standards may be compromised by a compromise that inevitably damages the long-term reputation of the restaurant.

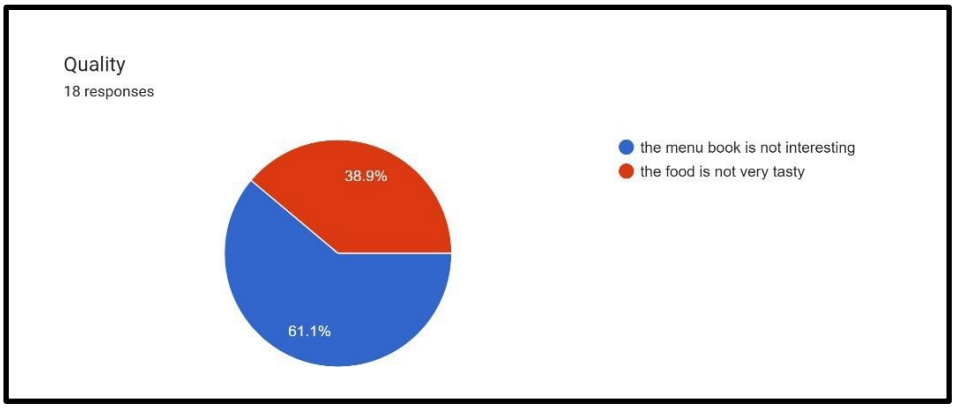

Figure 1.3 Quality

The secondary determinant contributing to this problem statement revolves around a systemic failure to deliver a compelling sensory experience capable of sustaining customer interest. The data indicates that 61.1% of respondents perceived the menu books and the restaurant's visual presentation as aesthetically unappealing, which reflects an absence of visual triggers capable of stimulating customer cognition from the very beginning of their visit. As robustly emphasized by Ryu and Han (2010), a bland physical environment devoid of interactive elements fails to forge a meaningful emotional connection between the customer and the brand. When consumers are deprived of activities that engage their baseline senses such as sight, touch, and social interaction they become highly predisposed to feelings of isolation and neglect.

Furthermore, there is a distinct issue regarding the erosion of face-to-face social interaction within modern dining environments. Although digital technology is routinely utilized as a time filler, it is inherently individualistic and frequently degrades the quality of organic social connections among diners. This problem is particularly acute within the family and friend demographic segments, who explicitly patronize establishments for socialization purposes. The absence of a tangible medium that facilitates conversation and mutual collaboration leaves the restaurant environment feeling rigid, sterile, and low energy.

This problem statement also encompasses management's failure to leverage entertainment as a high-impact, strategic marketing asset. Most restaurateurs conceptualize wait times strictly as an operational liability rather than an opportunistic window to amplify customer experience value. Without deliberate innovation in interactive entertainment, restaurants struggle to differentiate within a hyper competitive market, ultimately resulting in low customer retention and weak brand loyalty.

Consequently, this study is undertaken to bridge these experiential gaps by

introducing card games as a dual sensory and interactive intervention designed to fill the vacuum of interstitial waiting periods. The core inquiry centers on identifying the most effective game design elements such as a brief play duration 10–20 minutes, captivating visual aesthetics, and low barrier rule structures to ensure it serves as a highly practical solution that integrates seamlessly into baseline restaurant operations. Failure to resolve this issue through a creative, customer-centric approach will force restaurants to continuously struggle with persistent customer boredom, low quality perceptions, and forfeited opportunities to build a competitive brand presence within the Malaysian F&B industry.

In absolute synthesis, this problem statement underscores the critical need for a paradigm shift from passive wait time management to active, sensory-driven customer experience management. By integrating meticulously designed card games, dining establishments can successfully transform the negative psychological perception of waiting into a valuable opportunity to solidify social interactions, heighten emotional satisfaction, and guarantee long-term business sustainability through innovative customer engagement strategies.

1.5 Research Question

a) What type of card game is most effective as a sensory experience to reduce the perception of waiting time among restaurant customers?

b) How do card game design elements such as color, typography, and gameplay mechanics influence the level of customer engagement in a restaurant?

1.6 Aim and Objective

The primary goal of this study is to address the issue of customer dissatisfaction arising from deficiencies in service quality, specifically involving excessively long waiting periods within the restaurant environment. Through the integration of card game design as a modality of sensory experience, this research aims to transform customers' negative perception of waiting times into an active, enjoyable form of customer engagement. By providing interactive stimuli, this objective supports the restaurant's efforts to heighten overall satisfaction levels while forging a distinct brand identity that differentiates them within a competitive market.

To achieve this goal, two specific objectives have been identified:

a) To explore types of card games that are suitable as a sensory experience while waiting for orders in a restaurant.

b) To identify the best elements within card games that support interactive activities and customer engagement in a restaurant.

1.7 Methodology

This study applies a mixed-methods research design, placing its primary emphasis on the qualitative approach, while the quantitative approach serves as supporting data to reinforce the analysis and enhance the validity of the research findings. This methodology was selected to facilitate a more comprehensive understanding of the customer engagement phenomenon via card games in restaurants, while simultaneously supporting a deeper and more meaningful interpretation of the data.

1.7.1 Relationship Between Methodology and Objectives

To achieve the First Objective, which is to explore the appropriate types of card games, the researcher utilizes Visual Analysis and Physical Observation methods. Through a visual analysis of the gameplay mechanisms such as UNO or other fast-paced card games, the researcher evaluates the extent to which the physical properties of the cards, their size, and the play duration align with the constrained spatial environment of a restaurant. Concurrently, physical observations conducted at the research sites allow the researcher to directly observe the specific types of games most frequently selected by patrons and how these games function as a positive distraction during waiting periods. This process directly answers RQ1 regarding the most effective types of games.

To achieve the Second Objective, which is to identify the best elements within the games, the In-depth Interview method is implemented. Semi-structured interviews conducted with respondents enable the researcher to delve into customer perceptions regarding specific sensory elements, such as attractive colors, clear typography, and the ease of understanding game rules. The qualitative data derived from these participant

narratives is essential to answer RQ2 concerning how design elements influence the level of Customer Engagement and foster Trust toward the restaurant's services, aligning with the theoretical framework posited by Bowden (2009).

1.7.2 Research Approach and Study Location

This study is exploratory in nature, focusing on actual restaurant environments as a social laboratory. The deployment of Purposive Sampling ensures that only respondents who have direct experience with card games in a restaurant setting are selected. The settings for the research are specifically focused on restaurants within urban areas that experience critical waiting time issues, ensuring that the acquired data bears a direct, contextual relevance to the problem statement discussed previously.

1.7.3 Analysis of Research Findings

To ensure the validity and trustworthiness of the research findings, the researcher applies a triangulation technique. Data derived from field observations are cross referenced with interview transcripts and visual analysis outcomes. The analytical procedure is executed through a systematic process of coding and thematizing. Through this progression, raw data is systematically categorized into core themes that address how gaming as a sensory experience enhances customer satisfaction, framed within Bitner’s (1992) service environment conceptualization of the physical environment.

In synthesis, the integration of a mixed-methods research design harmonizing qualitative and quantitative modalities not only satisfies the thesis's academic imperatives but also significantly fortifies the rigor and reliability of the overall findings. The qualitative approach yields a profound understanding of subjective customer experiences, whereas the quantitative data reinforces these insights through more objective, numerical evidence. The confluence of these dual approaches guarantees that each empirical claim rests upon a robust evidentiary foundation, successfully addressing the research questions while capturing the primary objective: elevating service quality within the restaurant industry through interactive experience design.

1.8 Limitation

In conducting a research project that prioritizes qualitative methodology and mandates physical interaction within real-world environments, researchers inevitably confront various operational constraints and structural limitations that challenge the seamless execution of the data collection process. Identifying these boundary conditions is vital to safeguard the trustworthiness of the research findings and to afford readers a transparent context regarding the exact scope, capabilities, and parameters within which this study was carried out.

1.8.1 Research Limitations

One of the most significant limitations encountered in this study was the disruptive impact of the COVID-19 pandemic, which swept globally between the years 2020 and 2022. This timeframe constituted a highly critical phase during which numerous regions across Malaysia were subjected to stringent movement restriction orders and rigorous Standard Operating Procedures (SOPs). The restaurant environment, serving as the primary field laboratory for this research, was among the sectors most severely crippled by the absolute prohibition of dine-in services during those periods. This boundary condition directly impeded the researcher's capability to execute face-to-face physical observations and conduct real-time card gameplay interaction experiments. Nevertheless, parallel to the transition into the endemic phase and the subsequent relaxation of operating restrictions, the study was successfully expanded to encompass dining establishments in both urban and rural locales, thereby ensuring the collection of more comprehensive data across structurally diverse contexts.

1.8.2 Time Limitation

This study also confronted constraints regarding time management, encompassing the researcher’s daily routines, external assignments, and personal obligations. As a postgraduate researcher, balancing the demands of field research which requires prolonged periods on-site at various restaurants with other responsibilities presented a significant challenge. The process of conducting in-depth

interviews and non-participating observations necessitated specific timing, particularly during peak restaurant hours such as lunch and dinner peak hours, to capture the authentic dynamics of perceived waiting time. Consequently, these time constraints occasionally restrict the duration of data collection at specific locations.

1.8.3 Respondent Demographics

Gaining access to the appropriate individuals to assist with this case study proved to be a far from straightforward task. Considerable difficulties were encountered in locating restaurant owners or managers who were willing to allocate time for in-depth interview sessions, given the demanding nature of their daily operational routines. Furthermore, efforts to assemble groups of respondents from diverse ethnic backgrounds to accurately reflect the multicultural society of Malaysia faced notable obstacles. Due to variations in time constraints and geographical locations, acquiring a sociocultural balanced spectrum of perspectives demanded a significantly more intensive effort on the part of the researcher.

1.8.4 Financial Limitations

This study also confronted constraints in terms of limited financial planning. Although certain quarters assume that research can be executed merely through digital searches at one's fingertips via the internet, the reality dictates that the researcher must physically go the extra mile to acquire high-quality primary data. Operational costs such as logistics expenditures incurred while visiting various restaurant premises across different locations, alongside the fabrication of card game prototype materials constituted financial boundaries that required strategic management to remain aligned with the researcher's primary financial obligations.

1.8.5 Scope of the Study

Due to the limitations mentioned above, this study intentionally focuses on a qualitative approach with a smaller, yet more in-depth sample size, rather than a large-scale quantitative survey. Primary focus is directed toward specific types of restaurants

directly affected by waiting-time issues; consequently, the findings may not be generalizable to all sectors of food service, such as fine dining or fast-food chains, which operate under entirely different operational dynamics.

Overall, while the researcher faced various functional and environmental constraints, strategic mitigation steps were taken to ensure that the core research objectives were fully achieved. These limitations ultimately provide valuable insights into the post-pandemic realities of the Malaysian restaurant industry, thereby enriching the contextual discussion on fostering customer engagement through sensory experiences within a highly challenging operational landscape.

1.9 Significant of Research

This study holds broad significance, not only in filling academic gaps but also in providing practical solutions to the food service industry in Malaysia. Overall, the significance of this research can be divided into three primary aspects: -

1.9.1 Theoretical

From an academic perspective, this study contributes to the literature on sensory experience and customer engagement within a unique context: the integration of card games in restaurants. Guided by key frameworks such as Bitner (1992) and Bowden (2009), this research reinforces environment psychology theory by proving that physical interactive stimulation can positively influence customer psychology regarding perceived waiting times. Furthermore, it provides a new conceptual framework for future researchers to explore how game design elements both visual and operational mechanics act as catalysts for positive emotions and brand loyalty.

1.9.2 Methodological

Methodologically, this study introduces an in-depth qualitative approach supported by a quantitative approach to evaluate the effectiveness of design elements within a dynamic commercial space. The use of triangulation techniques incorporating visual analysis, non-participant observation, and in-depth interviews provides a more

holistic research methodology compared to traditional quantitative surveys. The significance of this methodology lies in its capability to capture the emotional nuances and social behaviors of customers that are frequently overlooked in numerical data. Consequently, this establishes a reference analytical model for design researchers to test the effectiveness of prototypes or products in environments with high time and space constraints.

1.9.3 Practical

From a practical standpoint, this study offers an innovative, low-cost solution for restaurant operators to address the critical issue of perceived customer waiting times, a factor identified as directly affecting 52.5% of the consumer base. In terms of operational efficiency, the strategic integration of board games serves as an effective, indirect "time-buying" mechanism. This approach allows kitchen staff to manage peak-hour orders and operate at an optimal pace without compromising the quality of food preparation or diminishing overall customer satisfaction levels. Furthermore, this intervention facilitates brand differentiation within a highly competitive food and beverage sector. By introducing structured, interactive activities, restaurant establishments can effectively build a Unique Selling Point (USP) that distinguishes them from competitors while simultaneously elevating their contemporary brand image.

Beyond operational benefits for vendors, this research also delivers strategic value to the creative sector by establishing empirical design guidelines for game developers and graphic designers. It outlines the specific parameters of functional visual elements such as high-legibility typography, optimal physical scale, and vibrant color systems that are most effective for products intended to be deployed within complex dining environments. Finally, on a broader societal level, the deployment of physical games contributes directly to social well-being. By fostering immediate, face-to-face social engagement among patrons, this approach effectively mitigates excessive dependency on mobile devices during shared meals, thereby enhancing the overall quality and depth of human interaction within commercial hospitality spaces.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

The literature review for this study represents a critical effort to establish a solid theoretical foundation for understanding the integration of interactive entertainment within the hospitality sector, where design encompasses not only spatial aesthetics but also the systematic planning of systems that enhance holistic user engagement. In a globalized era increasingly driven by digital technology, the food and beverage (F&B) service industry faces immense challenges in maintaining relevance and physical appeal for patrons, given that the success of a restaurant is now heavily influenced by the complex interplay between service quality, food quality, and comprehensive customer experience.

The introduction to this chapter aims to articulate how the evolution of restaurant services has shifted from merely providing basic nutrition to delivering experiential offerings that resonate with modern consumers who yearn for social interaction. The central narrative to be dissected positions board game design not as a mere recreational side activity, but as a strategic instrument capable of stimulating social interaction, fostering connections among patrons, and acting as a unique market differentiator. Through the lens of past research, this chapter will discuss the critical role of visual elements and game mechanics in shaping customer perceptions of a restaurant's service quality, particularly in mitigating critical operational issues such as boredom during extended waiting periods.

The foundation of this discussion begins with a deep understanding of the service environment or "physical setting," where every physical aspect of the restaurant has a direct impact on user psychology and behavior. This literature explores how the sensory stimulation generated by board game components can enhance customer comfort and enjoyment, aligning with the perspective that entertainment contributes significantly to memorable user experiences. The focus is centered on the reality that modern customers no longer evaluate a restaurant solely based on the taste of the food, but also on the emotional value and interactive elements they experience while on the premises. Therefore, the integration of board games is viewed as a form of service

innovation that attempts to bridge the gap in social interaction often lost to digital device distractions, thereby functioning as a powerful communication tool in communal settings.

To meet rigorous academic standards, this framework also sets the direction for discussing core constructs such as customer satisfaction, engagement, and trust, which form the backbone of restaurant business sustainability. It is crucial to acknowledge within this literature that while customer satisfaction is a decisive factor for success, it is often static and highly volatile if not accompanied by emotional engagement that builds deeper relationships. This literature review builds the argument that board games act as a catalyst, moving customers from a state of mere satisfaction to active engagement. By involving patrons in interactive activities, restaurants are effectively cultivating a form of trust where customers feel personally valued, subsequently increasing the likelihood of positive word-of-mouth recommendations and long-term brand loyalty.

Furthermore, the narrative within this introduction addresses the importance of visual and design aspects in board games as a fundamental component of a comprehensive sensory experience. According to theories within visual communication design, the strategic use of color, typography, and layout on game components plays a massive role in determining whether a customer experiences excitement or tranquility at the dining table. This literature will dissect how these design elements must be harmonized with the restaurant's theme to reinforce brand identity and create a highly coherent environment. For example, the application of vibrant color palettes can stimulate appetite and promote a cheerful mood, while unique game designs actively help restaurants differentiate themselves within a saturated market.

Beyond mere aesthetics, this introduction places a specific emphasis on the role of board games in managing the psychology of waiting. In the service industry, prolonged waiting periods are frequently identified as a primary driver of customer dissatisfaction and can severely damage a brand's image. The literature will discuss how perceived waiting time can be significantly mitigated through interactive activities that successfully shift the customer's focus from boredom to curiosity and enjoyment. When customers are deeply immersed in the joy of gameplay, the waiting period is perceived as far more meaningful. This indirectly grants the restaurant vital breathing room to prepare food with the highest possible quality, free from the operational pressure of impatient diners.

To reinforce the argument regarding waiting periods, this study will refer to the

classic research by Taylor (1994), which states that there is a highly significant relationship between service delays and the customer's overall evaluation of service quality. Taylor (1994) emphasizes that it is not merely the objective duration of time that matters, but subjective time or how the customer perceives that duration passing is far more critical in determining their satisfaction levels. This is where board game design serves as a highly effective psychological intervention; by providing activities that require high cognitive engagement, restaurants can transform tedious unoccupied time into productive and entertaining occupied time.

This argument is further reinforced by the research of Ryu and Han (2010), which examines the impact of the physical environment or dining environment on customer satisfaction. Ryu and Han (2010) argue that aesthetic elements and ancillary amenities are not merely decorative; rather, they are decisive factors that heavily influence customer behavioral intentions. When a restaurant successfully integrates board games that are visually appealing and easy to play, it is essentially manipulating the dining environment to reduce the customer's mental stress. This integration indirectly contributes to constructing a foundation of trust, as customers perceive the restaurant's efforts to entertain them as a form of genuine care toward their social dining experience.

Furthermore, the psychology of waiting is closely linked to the concept of flow, where customers become so completely immersed in an activity that they lose track of time and external surroundings. Within a restaurant context, board games designed with the right balance of mechanics neither too difficult to cause frustration nor too simple to cause boredom can effectively trigger this state of flow.

For instance, the gameplay mechanics of Uno, which utilize a fast-paced color and number matching system alongside action cards like "Skip" or "Reverse," create an immediate feedback loop that keeps players in a high zone of focus without requiring excessive cognitive load. Conversely, a game like Monopoly builds flow through resource management mechanics and strategic property investments, where every roll of the dice introduces a continuous sense of risk and reward, thereby shifting the customer's attention from waiting for their food to expanding their financial empire on the board.

This literature will review how sensory elements of games, such as card textures or the quality sound of game components, help strengthen the level of customer engagement. By integrating Taylor's (1994) insights on service delays and Ryu and Han's (2010) arguments on environmental quality, this framework asserts that board

game design serves as an innovative solution to turn the liability of waiting time into a highly valuable customer experience asset. The study will also explore how demographic differences and the purpose of a visit influence entertainment needs while waiting, as a deep understanding of waiting psychology allows restaurants to select the most effective type of game for their specific customer base.

Overall, the introduction to this chapter serves not only as a summary of past literature, but as a critical discourse linking hospitality management theory with visual design practices and modern consumer behavior. It prepares the reader to comprehend how the constructs of trust, satisfaction, and engagement can be translated into the physical elements of ergonomic and aesthetic board game design.

By organizing the literature, this chapter will demonstrate that board game integration offers multidimensional benefits, including brand development, business sustainability, and the strengthening of social connections. Through this perspective, the study is expected to provide a fresh contribution to existing literature on service innovation within the restaurant industry. This is particularly relevant in Malaysia, where culturally and visually engaging games can enhance engagement across diverse ethnic groups, thereby establishing a robust academic foundation for the research objectives to be achieved in subsequent chapters.

2.2 Customer Engagement in the Restaurant Industry

Customer engagement is a multidimensional construct that transcends mere purchase transactions, involving deep cognitive, emotional, and behavioral elements between the customer and the restaurant brand. Within the context of the food service industry, understanding the dynamics of engagement is critical because it acts as the bridge connecting current experiences with long-term loyalty. According to Bowden (2009), customer engagement should be viewed as a psychological process that drives customer loyalty, highlighting significant differences in how new and existing customers interact with a brand.

For new customers, engagement begins with an evaluation of the technical and functional quality of the service, whereas for existing customers, it focuses more on the emotional commitment and trust built through repeated experiences. Therefore, integrating board games within restaurants serves as a strategic tool to initiate this engagement process, particularly by creating an interactive atmosphere that allows customers to invest their time and emotions far beyond the act of dining alone.

The discussion of customer engagement remains incomplete without explicitly breaking down the constructs of satisfaction, engagement, and trust, which are frequently conflated yet play distinctly different roles in consumer psychology.

Customer satisfaction is traditionally defined as a post-consumption evaluation where customers cross-reference their initial expectations with the actual performance of the service received. However, contemporary literature argues that satisfaction alone is insufficient to guarantee repeat patronage within a hyper-competitive market. For instance, a diner may be perfectly satisfied with the quality of a meal but still lack the emotional attachment necessary to compel them to return to the same establishment.

This is precisely where the role of customer engagement becomes dominant, as it represents the level of absorption and enthusiasm a customer invests in during their interactions with the restaurant. When board games such as Uno or Monopoly are introduced into the dining space, they do more than just elevate immediate satisfaction through light entertainment; they actively compel customers to engage with the surrounding social environment. This interactive behavior fosters a state of cognitive focus and emotional immersion, ultimately carving out a far more robust, memorable, and enduring brand connection compared to a entirely passive dining experience.

The construct of trust, on the other hand, is the direct outcome of the service consistency and integrity demonstrated by the restaurant. Trust is established when customers perceive that the restaurant is not merely focused on profit generation but genuinely cares about the value of their social experience. By providing high-quality interactive elements, the restaurant signals a commitment to offering an environment that values human connection, which in turn cultivates customer trust toward the brand.

Bowden (2009) emphasizes that trust is a fundamental element in retaining existing customers through a continuous process of engagement. Within this context, fair gameplay mechanics and well-maintained physical components of the board games at the restaurant become tangible symbols of the restaurant's overall service quality and reliability.

Furthermore, customer engagement in a restaurant setting is also influenced by the quality of interaction triggered by the physical environment. When customers enter a state of flow while playing, they experience a high level of concentration that reduces their sensitivity to external distractions or minor service delays. This further strengthens their emotional connection with the restaurant, as the experience is perceived as highly valuable.

Literature indicates that emotionally engaged customers are more likely to

become brand advocates who will promote the restaurant through social media or oral recommendations. Thus, this subtopic emphasizes that customer engagement is not merely a marketing concept, but an experiential design strategy that blends consumer psychology with physical entertainment innovation to forge meaningful and long-lasting relationships.

The development of the literature in this section will also examine how these constructs are interrelated within a single service ecosystem. Satisfaction acts as the foundation or entry point, while engagement builds the depth of the relationship, and trust serves as the binder that ensures the sustainability of that connection. Through the lens of game design, each chosen game mechanic must align with the restaurant's efforts to foster these three constructs. For example, games that encourage cooperation can build trust among players, which is subsequently translated into a positive perception of the restaurant's environment. By understanding the definitions and differences between satisfaction, engagement, and trust, this study can construct a more precise conceptual framework to measure the effectiveness of board games in enhancing entertainment value and customer loyalty in restaurants.

2.3 The Role of Entertainment in Dining Experiences

The role of entertainment in the restaurant industry has evolved from a mere auxiliary element to a strategic necessity that shapes the overall dining experience. Entertainment in this context does not only refer to musical performances or television screens but encompasses all forms of interactive activities capable of transforming a restaurant's atmosphere from a functional environment into one that is magical and meaningful.

According to Chang and Cheng (2023), effectively integrated entertainment acts as a driver for a sensory brand experience, where customers do not simply eat at the restaurant, but rather experience the brand through multiple sensory touchpoints. When a restaurant is viewed as a service innovation that offers entertainment such as board games, it directly elevates customer perceptions of brand value, which subsequently influences their intention to return and spread positive news through word-of-mouth communication.

In discussing the role of this entertainment, it is crucial to observe how entertainment elements influence the dining environment or physical environment of a restaurant. Interactive entertainment, such as board games, helps create visual and

spatial uniqueness that distinguishes a particular premise from its competitors. For instance, a table layout equipped with dedicated space for placing game boards or card decks sends a signal to customers that the restaurant is a social space that encourages interaction and relaxation.

Chang and Cheng (2023) emphasize that when sensory elements such as visually appealing game designs are combined with entertaining activities, they trigger deep, positive emotions. These emotions are highly critical because they act as a mediator between the restaurant's physical surroundings and customer satisfaction. In other words, entertainment does not merely make customers happy, but it actively colors their perception of the food quality and overall service quality.

One of the core aspects of in-restaurant entertainment is its ability to promote higher-quality social interaction. In an era were phubbing the act of ignoring the person in front of you in favor of a smartphone has become a major social issue, board games offer a physical solution that compels customers to engage in face-to-face communication.

Gameplay mechanics that require cooperation or healthy competition generate a lively and cheerful group dynamic. For example, games featuring elements of surprise or light intellectual challenges serve as highly effective icebreakers, dissolving social barriers and extending the duration of face-to-face interaction without causing patrons to feel fatigued or bored. This enriched social experience is an integral part of the broader customer engagement strategy discussed previously, where entertainment functions as a strategic tool to build meaningful collective memories among customers visiting in groups.

In addition, the literature demonstrates that entertainment exerts a direct psychological impact on customer value perceptions. When customers feel entertained, they tend to exhibit a higher tolerance toward both menu pricing and minor service delays. This is because the overall value they receive from food combined with entertainment and social interaction is perceived to be significantly greater than the financial price paid.

By applying Chang and Cheng's (2023) arguments regarding brand experience, a carefully planned integration of board games allows restaurants to position themselves as lifestyle destinations rather than mere places to fill the stomach. Furthermore, continuous and high-quality entertainment builds trust, reinforcing the conviction that the restaurant remains steadfastly committed to delivering the best possible experience during every customer visit.

Ultimately, this subtopic underscores that entertainment within the dining experience represents a strategic investment in managing customer emotions. By harmonizing robust visual game design elements with precise interaction mechanics, a restaurant can cultivate a service ecosystem that satisfies the palate while simultaneously engaging the customer's cognitive and social faculties. The role of entertainment as an active sensory experience will be explored in greater depth in the subsequent section, focusing on how specific board game design principles can be tailored to maximize these customer engagement objectives.

2.4 Board Game Design Principles

Board game design targeted for a restaurant environment requires a fundamentally different approach compared to standard commercial board games played at home. Design principles in this context must account for the physical constraints, time limitations, and unique social dynamics inherent to the food service sector.

According to Diego Beltrami (2020), successful game design is the result of a harmonious integration among three core elements: mechanics, theme, and components. Within a restaurant setting, these three elements must be optimized to ensure they do not disrupt the primary flow of service but instead act as a value-added feature that elevates the overall quality of the customer experience.

One of the most critical principles of design is ease of learning and intuition. Customers visiting a restaurant do not possess the time or the patience required to read through thick instruction manuals. Consequently, game mechanics must be streamlined and comprehensible in under two minutes.

This aligns directly with the gamer motivation profiles outlined by Yee (2016), which state that many players seek social interaction and ease of play within a casual gaming experience. Games such as Uno or Farkle succeed in restaurant environments because their mechanics are universal and intuitive, allowing patrons to become instantly immersed in gameplay without requiring guidance from restaurant staff. Furthermore, a clear visual design featuring consistent iconography accelerates the subconscious comprehension of the rules.

The second principle is temporal sustainability and pacing. Board games in a restaurant setting must feature short play sessions ideally between 10 to 20 minutes to

perfectly align with the average waiting time for dishes to arrive.

Overly lengthy game designs can lead to table hogging, a situation where customers occupy tables for an extended period after dining solely to finish a match, which subsequently hurts the restaurant's table turnover rate. Therefore, designers must ensure that the game mechanics incorporate a clear and rapid end-phase. Yee (2016) also emphasizes that achievement elements embedded within short-form gameplay provide immediate gratification to players, which is highly critical in sustaining a positive customer mood while waiting for their food.

Next is the principle of compact and ergonomic design. Table space in restaurants is highly restricted, particularly once dishes, beverages, and cutlery begin to be served. Consequently, board game designs for dining environments must maintain a small physical footprint.

This means game components should not be excessively numerous or oversized, which could cause the table to become cluttered. The utilization of cards or dice proves far more practical than large game boards. Furthermore, the physical components must be highly durable and easy to sanitize, given that a restaurant environment is inherently prone to food or liquid spills. Diego Beltrami (2020) emphasizes that the material quality of the components not only dictates longevity but also imparts a high perception of value to the customer, thereby indirectly fostering trust in the overall quality of the restaurant's brand.

Finally, board game design in restaurants must promote meaningful social interaction. The primary objective of integrating these games is to serve as an effective icebreaker and a catalyst for conversation. Mechanics centered around collaboration or light competition are far more suitable than complex games requiring deep, silent concentration, which can inadvertently cause the table atmosphere to become hushed and disconnected.

By referencing the flow theory, a balanced game design where the level of challenge aligns dynamically with the players' skills ensures that customers remain actively engaged without feeling mentally taxed or stressed. When patrons experience genuine enjoyment through precise game mechanics, they undergo a positive sensory experience that meaningfully links their emotions to the restaurant's environment. Overall, these design principles serve as a definitive guide to ensure that board games are not only entertaining but also highly practical and strategic within a hospitality operations context.

2.5 Benefits of Board Games in Restaurants

The integration of board games within a restaurant environment delivers a multitude of benefits that transcend mere light entertainment; it represents a strategic investment that impacts consumer psychology, operational efficiency, and brand equity reinforcement.

The most prominent benefit is the ability of board games to mitigate the negative effects of perceived waiting time. As established by Taylor's (1994) theory, customer anxiety typically peaks when they are left in a state of unoccupied time. By providing engaging board games, restaurants effectively shift this dynamic into occupied time. When customers' minds are actively immersed in game strategy, their focus on kitchen delays or preoccupied service staff decreases drastically. This not only minimizes complaint rates but also ensures that customer emotions remain positive until the food arrives at the table, serving as a decisive factor for overall satisfaction.

From a sociological and human interaction perspective, board games act as a highly effective catalyst in bridging the digital communication gap. In a modern society where individuals are frequently tethered to mobile devices, the presence of physical games at the dining table compels customers to engage in face-to-face interaction.

This benefit is uniquely relevant for customer groups consisting of families or friends seeking genuine quality time together. Board games provide a shared focus object that allows conversations to flow naturally, dissolves social awkwardness, and cultivates a harmonious atmosphere. This enriched social interaction directly contributes to the formation of long-term memories associated with the restaurant's brand. When customers link a specific establishment with feelings of joy and deep social connection, they are far more inclined to develop continuous trust and ongoing engagement with that restaurant.

Furthermore, the integration of board games provides a significant competitive advantage within a highly volatile and saturated F&B market. In urban areas teeming with thousands of dining alternatives, establishments that offer an entertainment experience possess a unique selling proposition that sets them apart from traditional, purely functional restaurants.

This advantage translates directly into increased footfall and customer traffic, particularly among youth and family market segments that consistently seek added value in their outings. Additionally, board games can drive up the average transaction value per customer. When patrons are entertained and fully immersed in a game, their

length of stay naturally extends. This prolonged dwell time frequently prompts incremental orders such as a second round of drinks, desserts, or light finger foods to snack on while playing. This represents a highly effective revenue management strategy, where entertainment is leveraged to drive auxiliary sales organically without direct sales pressure.

From a marketing and brand image perspective, board games provide highly visually captivating content. Customers enjoying their time playing board games are inherently inclined to capture those moments and share them across social media platforms.

This organic user-generated content acts as a highly effective, free advertisement because it showcases a vibrant, lively, and customer-friendly restaurant atmosphere. The sensory experience triggered by visually appealing game components and physical interaction creates a powerful brand narrative. Consequently, the restaurant is no longer viewed merely as a place to eat, but rather as a community hub and a center for social recreation. The long-term benefit of this strategy is the cultivation of strong customer loyalty, where patrons return not just for the menu, but for the specific feeling and experience that can only be found on those premises.

Finally, the benefits of board games extend to customer mental health and well-being. Engaging in play has been scientifically proven to mitigate stress by lowering cortisol levels while simultaneously stimulating the release of dopamine to enhance happiness.

Amidst the hustle and bustle of an urban lifestyle, a visit to a restaurant that offers board games provides a temporary escape from work pressures or daily routines. When customers leave the establishment feeling refreshed and entertained, their perception of the quality of life enhanced by the brand increases significantly.

Consequently, the integration of board games is far more than a mere sales tactic; it is a service philosophy that places human experience at the forefront. This aligns perfectly with the findings of Ryu and Han (2010), which assert that the quality of the dining environment serves as the primary key to holistic customer satisfaction within the modern hospitality industry.

2.6 Types of Board Games That Are Appropriate in Restaurants

Selecting the right type of board game is a critical factor in determining the

effectiveness of a restaurant's entertainment strategy, where key criteria such as compact size, short play duration, and an appropriate level of player interaction must be met to guarantee customer comfort.

Researchers highly recommend several game categories, including quick card games, miniature versions of classic board games, narrative-based social games, and logic or puzzle games. Quick card games like Uno and Farkle are frequently chosen as top options due to their small, portable size and minimal table footprint. This is incredibly important in a restaurant environment where table surfaces are typically occupied by plates, glasses, and cutlery. Furthermore, card games feature highly straightforward rules, making them inclusive for all age groups to play spontaneously without requiring complex setups or lengthy instruction manual explanations while waiting for orders to arrive.

Beyond card games, miniature versions or travel editions of classic board games such as *Jamaica* are also identified as smart choices for restaurants wishing to offer a strategic element in a more condensed format. The primary advantage of these miniature versions is their ability to retain engaging strategic gameplay without overwhelming table space, allowing diners to occupy their time with mentally stimulating activities at a faster pace.

Additionally, card-based social games offer a unique dimension of interaction, as their mechanics rely primarily on verbal communication and rapid reasoning among players rather than a heavy layout of physical components or large game boards. As demonstrated by compact games such as UNO and Anomia in this research, this structural simplicity makes them highly practical for limited dining spaces and exceptionally effective for groups to strengthen social bonds, thereby transforming the restaurant's atmosphere into a more dynamic and livelier environment.

The final suitable category consists of strategy and probability-based tabletop games, which offer customers the flexibility to engage in calculated, turns based play. This type of game is highly effective at stimulating casual problem-solving skills while providing a more relaxed and paced form of entertainment. As demonstrated by games like Farkle and Monopoly within this study, these mechanics are exceptionally popular among patrons who prefer cognitive engagement and structural gameplay over high-intensity, rapid-fire social interaction.

Overall, the choice between fast-paced card games, strategic miniature versions, interactive social games, or logic puzzles depends entirely on the customer demographic profile and the restaurant concept itself. By planning this selection intentionally,

restaurants can ensure that the entertainment offered not only minimizes customer boredom but also contributes to elevating overall satisfaction without disrupting the smooth flow of daily premises operations.

2.7 The Best Elements in Board Games for Restaurants

Determining the effectiveness of board games as an interactive activity in restaurants requires a deep understanding of design elements capable of adapting to a dynamic dining environment. The first and most critical element is short gameplay duration.

In a competitive service industry, games that take between five to fifteen minutes are highly ideal because they align perfectly with the average food waiting time, which typically ranges from 10 to 20 minutes. These short-duration games act as an effective distraction tool from feelings of boredom or impatience, thereby elevating customers' positive perceptions of the service provided.

For instance, games like Uno and Anomia offer an excellent balance between simplicity and strategic depth without exceeding the dish waiting window. This allows patrons to enjoy instant entertainment without feeling bound to a lengthy time commitment.

The second equally important element is compact game design. Given that restaurant tables are frequently restricted and already crowded with dining wear, games requiring a minimal surface footprint are far more practical.

This compact design ensures that gaming activities do not interfere with the primary activity of dining, while also easing storage management for restaurants that may have limited back-of-house space. Games like Farkle, which only requires a small set of dice, or Anomia, which is entirely card-based, serve as excellent examples of space sensitive designs that enrich the environment without cluttering it. Furthermore, simple and intuitive game components reduce the operational burden on restaurant staff, as customers can independently kickstart their games without requiring complex rule explanations from the team.

Next, a high level of interaction is the defining element that sets the physical board game experience apart from digital devices. Games that emphasize active communication, strategic cooperation, or light competition can powerfully strengthen social bonds among customers, whether they are visiting with family members or

friends.

Interactive social games, as exemplified by UNO within this study, stimulate conversation, laughter, and warmth, effectively transforming an ordinary meal into a highly engaging social event. From a business perspective, this high level of social interaction not only drives customer loyalty but also cultivates a live and energetic restaurant atmosphere. This vibrant environment frequently becomes a primary drawing point for attracting new patrons through organic word-of-mouth marketing or social media sharing.

The final element supporting the effectiveness of games in restaurants is being easy to learn. Customers in a restaurant setting are generally not interested in studying complex rules; therefore, games with a straightforward and intuitive structure are the most suitable.

This ease of learning ensures that immediate engagement can occur across diverse customer demographics, including children, adults, and senior citizens. Games like Monopoly Deal and Jamaica provide instant gratification, allowing patrons to feel inclusively engaged without feeling alienated by overly complex game mechanics.

Collectively, the combination of short duration, compact design, high social interaction, and ease of learning forms a holistic customer experience design strategy. This approach not only minimizes boredom but also adds significant aesthetic and emotional value to the restaurant's brand.

2.7.1 Short Gameplay Duration

Within the context of a fast-paced food and beverage industry, the element of gameplay duration serves as a primary deciding factor that distinguishes between successful interactive entertainment and operational disruption. A short gameplay duration, ideally structured between five to fifteen minutes, represents the most critical design principle to ensure that gaming activities harmonize with the restaurant's service rhythm.

The importance of this element can be observed through the lens of customer expectation management, where the goal is to fill the time void between the order taking phase and the arrival of food at the table. This specific window of time, which frequently becomes a critical zone for declining customer satisfaction due to boredom, requires a form of cognitive engagement that is light yet compelling enough to effectively divert their attention.

According to the arguments put forward by Taylor (1994) regarding the psychology of waiting time, customers tend to evaluate service quality based on their perception of food preparation speed. When a board game features a short duration, it functions as an effective time-partitioning mechanism. Customers do not feel overwhelmed by lengthy rules or a heavy time commitment. Instead, they can enjoy one or two complete rounds of play within a standard waiting period. If a game is too long, it risks creating a psychological conflict where customers are forced to choose between abruptly halting their game when the food arrives or continuing to play until their meal turns cold.

Furthermore, from a restaurant operations management perspective, short gameplay duration is vital for maintaining the table turnover rate. Commercial establishments rely on a continuous flow of customers to generate profit. If the board games provided feature complex mechanics and take hours to complete such as heavy strategy games customers might occupy tables far longer than necessary, thereby preventing new patrons from being seated.

Consequently, game designs that focus on instant gratification or immediate satisfaction through fast-paced rounds serve as the best approach. Games like UNO or Anomia within this study are highly successful in these environments because each round only takes a few minutes, allowing customers to easily control when to stop or continue playing based on the arrival of their meals.

Next, this short gameplay duration is also closely linked to the flow theory by Csikszentmihalyi (1990). To achieve a state of flow within a brief window of time at the dining table, the game mechanics must provide rapid feedback. Short games make it easier for players to quickly grasp the risk and reward cycle, maintaining excitement levels without causing mental fatigue.

Within the context of the sensory experience discussed by reviewers, a brief duration ensures that the visual and social stimuli received by customers remain concentrated and high in quality. This guarantees that the entertainment functions strictly as an added value, rather than becoming a dominant activity that overshadows the customer's original purpose for visiting the restaurant: to enjoy food and socialize in a relaxed setting.

In conclusion, the element of short gameplay duration not only serves as a practical solution to customer boredom during waiting periods but also functions as a strategic business decision that protects the restaurant's operational interests. It ensures that customer engagement occurs dynamically and flexibly, fostering a harmonious

atmosphere where entertainment and food service seamlessly complement one another without generating any time conflicts.

2.7.2 Compact game design

Within a competitive food service ecosystem, the physical design of an auxiliary entertainment product is just as vital as the game mechanics themselves. Compact game design refers to a board game's ability to function optimally within highly restricted spaces specifically on a restaurant table, which is traditionally reserved for cutlery, tableware, and main dishes.

The importance of this element cannot be overstated, as the dining table represents the most valuable piece of real estate for a restaurateur; any disruption to its primary function can directly compromise customer comfort and the operational efficiency of the service staff. Therefore, games selected or designed for this environment must maintain a small physical footprint so they can be integrated harmoniously without creating a cluttered or overcrowded atmosphere.

From an ergonomic and space management perspective, compact games allow social activities to occur spontaneously without requiring customers to heavily clear the table. Modern restaurants, particularly in urban areas, frequently feature table sizes optimized for a specific number of guests, leaving very limited free space between the arrangement of glasses and cutlery. Board games that demand an expansive game board or an excessive number of components, such as dozens of tiny tokens, not only make it difficult for players to map out their strategies but also increase the risk of components being lost under the table or accidentally swept into food waste.

Conversely, focusing on designs that utilize a minimal deck of cards, or a streamlined set of dice allows gameplay to continue smoothly around the arriving dishes, thereby maintaining a coherent and uninterrupted experiential dining flow. According to Diego Beltrami (2020), optimizing the physical components and material design for specific environmental constraints is essential to prevent operational friction while simultaneously elevating the customer's perceived value of the experience.

Furthermore, this compact aspect extends to the ease of storage and logistics for the restaurant's management team. Storage space in a restaurant is typically highly restricted and prioritized for food inventory and kitchen equipment. Board games designed with small boxes and streamlined components make it significantly easier for staff to store, organize, and distribute them to customers without requiring expansive

shelf space.

This efficiency also streamlines the turnaround and cleaning process; games with fewer components are much faster to sanitize and check for completeness before being handed over to the next table. This aligns seamlessly with the design for context principle, which dictates that a design must explicitly account for its operational environment so that it acts as an asset rather than a burden to the existing operational system.

Psychologically, games that are compact and do not encroach upon the customers' personal space tend to be much better received. Patrons visiting an establishment to enjoy a meal do not want to feel burdened by complicated game configurations or lengthy setup times. A streamlined design signals that the activity is casual and can be easily paused or halted the moment food arrives. The best examples of this element are games like Uno, which utilizes only a single slim deck of cards, or Farkle, which requires just a few dice and a small score sheet. These games prove that the quality of entertainment does not depend on the physical size of the product, but rather on design efficiency that triggers meaningful social interaction within a limited space.

Furthermore, a compact design plays a vital role in supporting the restaurant's visual image and overall aesthetics. Within the hospitality industry, visual identity is paramount; establishments that pride themselves on neatness and minimalist styling may find their ambiance disrupted by the presence of oversized, overly colorful, or garish board game boxes. By selecting compact games that feature elegant visual designs, restaurants can preserve their professionalism and spatial beauty while still delivering substantial added value to their guests. The sensory experience derived from handling small, high-quality game components provides a unique tactile satisfaction to players, further reinforcing their emotional connection with the restaurant's curated environment.

In conclusion, the element of compact game design is the cornerstone for the sustainability of a restaurant's entertainment initiatives. It effectively bridges the gap between the customer's need for entertainment and the restaurant's operational requirement for efficiency. By prioritizing practical sizing, ease of storage, and matching aesthetics, restaurateurs can ensure that board games act as a catalyst for customer satisfaction rather than an obstacle to their core service quality. This strategy not only optimizes dining table real estate but also builds the restaurant's reputation as an innovative destination that genuinely cares about every single moment of the

customer’s experience.

2.7.3 High level of interaction

A high level of interaction serves as the heartbeat of board game designs targeted at restaurant environments, where the primary objective is not merely individual amusement, but the empowerment of social connections among customers. Within the context of the hospitality industry, interaction refers to the quality and frequency of communication, cooperation, or competition that occurs between players as they engage with the game mechanics.

This element is highly critical because restaurants, by nature, function as social spaces or third places according to sociological theory environments where individuals gather to forge human connections while enjoying a meal. Consequently, board games that offer a high level of interaction act as a bridge that emotionally connects patrons, transforming a passive or quiet table dynamic into a vibrant environment filled with active verbal communication.

According to the player motivation profile developed by Nick Yee (2006), one of the primary components driving individuals to play is the social dimension, which encompasses socialization, relationship building, and teamwork. In a restaurant setting, this interaction must be inclusive and lighthearted enough to maintain a relaxed dining atmosphere rather than provoking aggressive friction. Games featuring a high level of interaction allow patrons to temporarily disconnect from digital device distractions and refocus their full attention on the individuals sitting directly across from them. For instance, board games like Jamaica or Monopoly Deal require players to negotiate, trade, and converse. These mechanics foster active cognitive and social engagement, where every participant plays a direct role in shaping the game's momentum. This level of shared engagement is vastly more effective at cultivating long-lasting memories compared to solitary, isolated play.

From a customer engagement perspective, a high level of interaction directly contributes to forming a powerful emotional bond with the restaurant's brand. As highlighted by Bowden (2009), customer engagement is a psychological process deeply rooted in commitment and trust.

When patrons experience moments of joy, shared laughter, and meaningful social interaction through the provided board games, they subconsciously associate those positive emotions with the restaurant’s identity. High interaction ensures that

customers are not merely satisfied with their food but feel genuinely engaged with the community and atmosphere the establishment creates. This yields a unique added value that cannot be easily replicated by competitors who focus strictly on the functional aspects of dining alone.

Furthermore, a high level of interaction plays a monumental role in building trust. While trust within a service context is traditionally established through the quality of interaction between the service provider and the customer, in this scope, it additionally encompasses the social trust shared among the customers themselves. When a restaurant provides a medium that actively promotes healthy, face-to-face interaction, patrons perceive that management genuinely cares about the quality of their human connections. Game designs that encourage cooperative play are exceptionally effective at fostering this sense of togetherness.

For example, a game that requires players to solve a puzzle or mystery collaboratively before their food arrives establishes a shared goal that unifies family members or friends. This collaborative experience leaves a profound, lasting impression, ultimately driving customer loyalty and inspiring patrons to return to the same establishment to recreate those high-quality social moments.

Furthermore, a high level of interaction functions as a central component of the sensory experience, engaging auditory elements and direct social feedback loops. The ambient sounds of lively discussions, spontaneous reactions to unexpected in-game twists, and non-verbal cues such as the animated facial expressions triggered during a fast-paced card game like Anomia collectively contribute to a vibrant, living restaurant environment. Chang and Cheng (2023) emphasize that sensory experiences involving multiple touchpoints, including organic social interaction, serve as the ultimate key to constructing an innovative brand image. Restaurants filled with the background hum of positive human interaction are naturally perceived as friendlier, safer, and more inviting than silent dining rooms where patrons are entirely absorbed in their smartphones.

From an operational standpoint, a high level of interaction also aids significantly in managing the psychology of waiting time. When customers are fully immersed in animated conversations or intense, lighthearted gameplay competition, their awareness of the passage of time becomes minimized. This state of mind, frequently referred to as the flow state, ensures that minor delays in food preparation are not perceived as a service burden. Instead, patrons are often pleasantly surprised when their meals arrive because they are completely absorbed in their social interactions. This demonstrates that the quality of interaction triggered by board games serves as an excellent element that

bridges the emotional needs of the customer with the strategic business requirements of the restaurant.

In conclusion, the element of a high level of interaction is far more than a mere game feature; it represents a holistic strategy designed to elevate human connection within the service industry. By intentionally selecting or designing games that focus on communication, collaboration, and rapid social feedback loops, restaurants can cultivate a robust ecosystem of deep customer engagement.

This approach effectively fulfills the social motivation profiles of players as outlined by Yee (2006), establishes social trust and emotional commitment in alignment with the frameworks of Bowden (2009), and reinforces the restaurant's position as a premier social destination through a fully immersive, multi-sensory experience.

2.7.4 Easy to learn

The element of ease of learning is an absolute prerequisite for the effective integration of board games within a restaurant environment, dictating that the barrier to entry for users must be kept at an absolute minimum.

In the dynamic context of the hospitality industry, patrons visit restaurants with the primary goal of enjoying a meal and socializing in a relaxed manner, rather than expending significant cognitive energy to decipher a complex rule system. Therefore, games selected or designed for this context must feature a rule structure that is intuitive, straightforward, and capable of being understood in less than a few minutes**.** Raph Koster (2013) argues in his theory of fun that the human brain naturally seeks out patterns to master; however, if those patterns are too difficult to access within a short timeframe, it triggers frustration rather than enjoyment. In a restaurant setting, failing to provide immediate clarity will cause customers to quickly abandon the game altogether, thereby completely defeating the original objective of mitigating waiting-time boredom.

A straightforward, easy-to-learn rule structure allows for immediate engagement without requiring third party assistance or lengthy manual references. This is highly critical from a customer engagement perspective, as the onboarding process begins at the exact moment a customer first handles the game components.

If a game such as Uno simply requires players to match colors or numbers, customers experience a form of instant cognitive gratification that encourages them to keep playing. Conversely, if a game demands deep theoretical explanations, the flow of

the dining experience becomes disrupted, and patrons may feel overwhelmed by an outcome completely at odds with the relaxed concept of restaurant service. Furthermore, this ease of learning ensures inclusivity across diverse demographics, enabling children as young as seven or eight years old to play alongside senior citizens without any significant skill gaps.

Furthermore, this element plays a monumental role in building trust between the customer and the restaurant. Within this context, trust is established through the transparency and simplicity of the offered experience.

When a restaurant provides games that are easy to comprehend, they are effectively sending a signal that they respect their customers' time and comfort. Patrons feel valued when the entertainment activities provided do not burden them, but instead offer genuine, effortless joy. Bowden (2009) emphasizes that trust is built when customer expectations are consistently met. An easy-to-learn game guarantees that the customer's expectation of immediate fun is fulfilled, which subsequently reinforces a positive perception of the restaurant's overall service quality.

From a sensory experience perspective, the ease of learning allows customers to focus their senses entirely on the aesthetic and tactile aspects of the game, free from the distraction of mental confusion. When rules do not act as a barrier, the vibrant visuals of a game like Uno or the satisfying sound of rolling dice in Farkle become much more prominent and enjoyable.

This positive sensory experience acts as a bridge to deeper emotional engagement. Patrons who do not have to struggle with a rule manual are far more likely to engage verbally with their table companions, creating a warm, communicative restaurant atmosphere. This proves that a user-friendly game design is the ultimate key to unlocking the full potential of interactive entertainment within a dining setting.

From an operational standpoint, easy-to-learn games significantly reduce the workload on restaurant staff. During peak hours, service personnel simply do not have the time to act as board game instructors. An intuitive design allows a self-service system to occur naturally, where customers can independently pick up, play, and pack away the games with minimal supervision. Examples like Monopoly Deal or Anomia, which feature straightforward mechanics, are highly practical for managing customer flow without compromising operational efficiency. This supports the argument that the ease of learning element not only benefits customer psychology but also ensures the seamless smoothness of the restaurant's overall management system.

In conclusion, the ease of learning element serves as the primary backbone of a

successful restaurant board game design strategy, seamlessly linking the requirements of customer engagement, the cultivation of trust, and the delivery of a meaningful sensory experience. By minimizing cognitive load and maximizing immediate gratification, restaurants can transform tedious waiting periods into a golden opportunity to build long-term customer loyalty. The integration of such inclusive and intuitive games not only elevates entertainment value but also positions the restaurant as a caring, innovative, and customer-centric brand within an increasingly competitive hospitality market.

2.8 An Independent Study on Board Games in Restaurants

Independent studies on the integration of board games within business environments, such as restaurants, provide a critical empirical perspective on how physical entertainment elements can transform the modern hospitality service landscape. A wealth of prior research has demonstrated that providing board games is far from a mere side activity; rather, it represents a service innovation that delivers multi-dimensional benefits across customer satisfaction, competitive advantage, and brand relationship reinforcement.

Within an increasingly competitive food service industry, customer satisfaction serves as the central pillar influencing loyalty and a restaurant's reputation. Consequently, these independent studies examine how the strategic incorporation of board games acts as a solution mechanism for a common industry pain point: customer boredom and dissatisfaction during the pre-meal waiting period.

One of the primaries focuses within these independent studies is the role of board games in minimizing the negative impacts of extended waiting times, which are frequently identified as a leading cause of customer complaints and service failures. Findings from research such as that by Smith and White (2017) demonstrate that board games provide an entertainment medium that does not merely fill a time void but actively elevates the quality of social interaction among customers.

When patrons engage in a game with friends or family members, it fosters a more enjoyable and welcoming atmosphere, directly rendering the restaurant more appealing for repeat visits. The ultimate byproduct of this positive interaction is an increased level of customer patience; entertained patrons are found to lodge significantly fewer complaints regarding food preparation delays because their focus has been successfully diverted toward a meaningful activity.

In addition to the time management aspect, independent studies also emphasize the importance of creating a unique dining experience to differentiate an establishment from its competitors. Carter and Brown (2022) argue that restaurants offering board games successfully cultivate a distinctive brand identity, particularly in attracting family market segments and social groups seeking a space to spend quality time together. This added value enriches the customer experience by fostering a more relaxed and inclusive environment, where interactions unfold in a deeper manner that extends far beyond the mere activity of dining. Consequently, this provides a powerful competitive advantage for restaurants looking to attract patrons who desire more than just a good meal.

Subsequent independent studies also touch upon the impact of board games on building customer loyalty and stabilizing business profitability. Research by Kim et al. (2021) discovered that restaurants providing board game amenities record significantly higher repeat booking rates. This proves that the enjoyment experienced by customers while waiting or after their meal serves as a primary driving factor for them to return and leaves positive reviews. In the digital era, feedback from customers who are satisfied with this unique experience is highly critical, as it extensively influences the restaurant's reputation. Indirectly, the relaxed ambiance created through board games encourages patrons to stay longer, which frequently leads to an increase in spending through additional orders.

In conclusion, the introduction to this independent research section establishes the premise that board game integration serves as a holistic marketing and service strategy. It functions not only as a tool to attract new patrons through a unique experience but also as an instrument to retain existing customers by forging powerful emotional and social connections. By understanding the findings from these independent studies, restaurateurs can leverage board games as a strategic asset to drive customer traffic, extend the duration of visits, and ultimately ensure long-term business sustainability. The subsequent sub-topics will delve deeper into each of these aspects to provide a clearer illustration of the impact across each dimension of the study.

2.8.1 Enhancing Customer Satisfaction

In hospitality management literature, customer satisfaction is frequently regarded as the ultimate benchmark for a restaurant's operational success. Independent studies consistently demonstrate that the integration of board games exerts a significant

impact on elevating this satisfaction level by creating a higher-quality and more entertaining service environment. According to Ryu and Han (2010), customer satisfaction in the restaurant industry is not only influenced by food and service quality but is also heavily dependent on the dining environment of the establishment. This environmental dimension encompasses facility aesthetics, spatial layout, and provided auxiliary activities.

When board games are integrated into this dining environment, they inject a unique interactive dimension that subsequently stimulates positive customer emotions. Satisfaction is achieved when patrons perceive that the total value received the combination of delicious food and high-quality entertainment surpasses their initial expectations of a conventional restaurant.

This breakdown in customer satisfaction is also closely linked to how board games manage the perception of service quality during waiting periods. Independent studies have found that customers given access to board games tend to provide higher satisfaction ratings for overall service quality, even when the actual food preparation time is identical to that of a restaurant without games. This occurs because satisfaction is heavily influenced by the customer's mood; when patrons feel entertained and happy due to engaging game mechanics, they are naturally more inclined to be tolerant and offer more positive evaluations of their interactions with restaurant staff. In this regard, board games act as an emotional management agent, ensuring that the customer experience lifecycle begins on a highly positive note the moment they are seated at the table.

Furthermore, customer satisfaction is augmented through the element of social enjoyment triggered by these games. Independent research indicates that customer satisfaction in restaurants is frequently collective in nature; if members of a group or family are enjoying their interaction, the individual satisfaction of everyone within that group increases as well.

Board games like Uno or Monopoly provide a platform for shared laughter and healthy competition, which are critical components in forging a deeply satisfying dining memory. Ryu and Han (2010) emphasize that an environment capable of simultaneously stimulating visual and social pleasure is the ultimate key to transforming customers who are merely satisfied into patrons who genuinely enjoy their experience holistically.

From the perspective of consumer psychology, satisfaction is also derived from a sense of equity perceived by the customer. When a restaurant provides complimentary

value-added amenities like board games, customers feel they are receiving greater value for the money they spend. This feeling of being valued elevates their trust in the restaurant's commitment to delivering top-tier service. Independent studies suggest that satisfaction driven by interactive entertainment yields a positive spillover effect on customer behavioral intentions. Specifically, these patrons are far more likely to leave glowing reviews on digital platforms and enthusiastically recommend the restaurant to others. This proves that enhancing customer satisfaction through thoughtful board game design is a highly effective strategy for building a robust and reputable brand identity.

In conclusion, elevating customer satisfaction through board games is far from a temporary tactic; it is an innovation that taps into the fundamental psychology of hospitality. By leveraging the dining environment framework of Ryu and Han (2010), restaurateurs can recognize that every visual and interactive component of a board game contributes directly to shaping a holistic perception of service quality. This heightened level of satisfaction serves as the baseline for deeper customer engagement which will be explored in the subsequent section ensuring that patrons leave the establishment not only with full stomachs, but also with happy hearts and beautiful memories.

2.8.2 Creating Competitive Advantage

In an increasingly saturated and competitive food and beverage industry, a restaurant's ability to differentiate itself from competitors is the deciding factor for long-term business sustainability. Creating a competitive advantage through the integration of board games is an innovative strategy that transcends traditional culinary offerings, shifting the focus toward delivering a unique and unforgettable customer experience.

According to research by Carter and Brown (2022), restaurants that offer interactive elements like board games successfully cultivate a distinctive brand identity, allowing them to capture niche market segments looking for added entertainment value. This advantage positions the restaurant as a destination of choice for families and social groups who prioritize the quality of social interaction over just a place to have a meal.

This differentiation strategy is exceptionally effective in building a Unique Selling Proposition (USP) that is difficult for competitors who focus strictly on food quality alone to replicate. When a restaurant provides a diverse library of board games, ranging from deep strategy games to lighthearted party games, they are effectively offering an entertainment ecosystem that caters to a wide spectrum of customer needs.

This competitive edge is further reinforced by creating a friendlier and more relaxed ambience environment, which indirectly elevates the visual and emotional appeal of the establishment. Today's consumers, particularly youth and young professionals, are highly inclined to choose venues that offer shareable social media experiences, and the presence of visually engaging board games provides the perfect content for that exact purpose.

Furthermore, establishing a competitive advantage through interactive entertainment allows a restaurant to penetrate a broader market without having to rely entirely on price promotions or heavy discounts. By offering the value-added benefit of board games, establishments can maintain premium pricing because customers perceive they are paying for a complete, bundled experience package. A study by Anderson and Lee (2019) found that board games serve as highly effective marketing tools to drive new customer traffic from patrons looking for something different in their daily routines. This unique positioning not only elevates the restaurant's standing in the market but also builds its reputation as an innovative brand that genuinely cares about the psychological needs of its customers.

From a strategic management perspective, the competitive advantage built through board games also aids in optimizing restaurant operations during both peak and off-peak hours. During peak hours, board games effectively manage customer anxiety regarding waiting times. Conversely, during off-peak periods, they encourage patrons to stay longer, thereby increasing the probability of incremental, secondary purchases. This efficiency in balancing customer satisfaction with operational productivity yields a tangible competitive edge in managing business revenue streams.

In conclusion, the integration of board games is far from a mere entertainment tactic; it represents a holistic competitive strategy that unifies service quality, experience design, and brand identity reinforcement to ensure the restaurant remains highly relevant within a dynamic hospitality industry.

2.8.3 Increasing Customer Loyalty

Customer loyalty represents the ultimate objective of any hospitality strategy, and independent studies demonstrate that the integration of board games plays a highly transformative role in turning existing patrons into loyal brand advocates. Customer loyalty means far more than just repeat visits to a restaurant; it involves psychological

commitment where customers consistently choose that specific establishment over other competitors.

According to Bowden (2009), customer loyalty is built through a deep engagement process driven primarily by trust and satisfaction. Within this framework, board games deliver a unique experiential value that elevates the overall quality of the customer's visit. When patrons experience consistent social enjoyment through the games provided, they forge an emotional bond with the establishment, which serves as the foundational cornerstone for long-term loyalty.

Independent research reveals that customer loyalty is significantly reinforced when a restaurant successfully establishes itself as an inclusive social hub. Board games serve as an anchor that encourages patrons to invest high-quality time at the establishment. Based on the player motivation theory by Yee (2006), the element of social connection is a powerful driver that compels individuals to repeat an activity. When a family or a group of friends discovers that a restaurant provides a medium facilitating seamless interaction and effortless fun free from digital distractions, they begin to view the establishment as their third place after home and the workplace. This high frequency of repeat visits is a direct manifestation of customer loyalty driven by interactive entertainment.

Furthermore, customer loyalty is intimately linked to the construct of trust, which is built through the consistency of sensory experience. As suggested by Ryu and Han (2010), the quality of the physical environment which encompasses entertainment amenities signals to customers that the restaurant is genuinely committed to their well-being. When patrons trust that the restaurant consistently provides well maintained, clean, and engaging games, they feel both secure and valued. This trust effectively mitigates the perceived risk of trying out new dining venues, as customers already have a guarantee that a visit to this restaurant will always be socially and emotionally fulfilling. Consequently, board games do not merely draw customers in; they actively lock in their loyalty through a reliably positive sensory experience.

From a marketing perspective, the high level of customer loyalty resulting from board game integration yields an organic, word-of-mouth effect. Loyal patrons do not simply return, they become active marketing agents by bringing in new friends or sharing their unique experiences on social media.

Independent studies indicate that restaurants adopting an entertainment concept boast a significantly higher customer retention rate compared to conventional establishments. In conclusion, cultivating customer loyalty through thoughtful board

game design is a highly sustainable strategy that unifies the elements of satisfaction, engagement, and trust to ensure continuous business growth within the hospitality industry.

2.8.4 Enhancing Social Interaction

An increase in social interaction stands as one of the most significant benefits yielded by the integration of board games within a restaurant environment, where they function as a medium that connects individuals both physically and emotionally.

In a modern societal landscape increasingly isolated by the excessive use of digital technology, dining tables frequently bear witness to the phenomenon of loneliness in a crowd, where patrons are more absorbed in their respective smart devices than in the individuals sitting right in front of them. The presence of board games acts as a social intervention tool that compels customers to reengage in high quality, face-to-face interaction.

The act of playing provides a shared focal point, allowing conversation to flow naturally and narrowing any communication gaps that might exist among group members. According to Jones and Miller (2020), board games offer a compelling reason for customers to communicate and actively interact, subsequently creating a much warmer and friendlier environment.

This reinforced social interaction also plays a pivotal role in building interpersonal relationships, particularly for family units and friend groups seeking quality time. Board game mechanics that require cooperation, negotiation, or healthy competition stimulate laughter, strategic discussions, and deep emotional sharing. For instance, collaborative games encourage players to work together to achieve a common goal, which indirectly builds trust and teamwork skills. Robinson and Clark (2021) emphasize that restaurants providing these types of social activities are far more likely to attract customers who value experience extending beyond mere food quality, which subsequently contributes to an increase in customer loyalty toward the establishment.

Beyond strengthening relationships within existing groups, board games also possess a unique potential to foster interaction among strangers, particularly in restaurants that adopt a communal seating concept or host board game night events. Several restaurants strategically incorporate communal gaming experiences where patrons can interact with other individuals who share similar interests. Thompson and

Lewis (2019) state that the social element in gaming helps bridge communication gaps and facilitates the formation of new connections, transforming a restaurant from a mere dining venue into a dynamic space for socialization and networking. This transformation renders the restaurant atmosphere much more vibrant and energetic, providing an additional layer of appeal that differentiates the establishment from more rigid, conventional restaurants.

From a psychological perspective, heightened social interaction through board games helps reduce social anxiety and fosters an inclusive sense of togetherness across various demographics. When customers engage in an entertaining activity together, stress hormone levels decrease and are replaced by positive emotions that reinforce their feeling of being valued during their time at the restaurant. This aligns perfectly with the customer engagement construct, where social interaction acts as a key component in building customer trust toward the restaurant's brand identity as a caring community hub.

In conclusion, the ability of board games to enhance social interaction not only enriches the holistic dining experience but also acts as a powerful marketing strategy in creating a unique, vibrant, and human centric restaurant environment.

2.8.5 Board Games as an Effective Marketing Strategy for Restaurants

In the era of modern marketing, strategies are no longer focused solely on conventional advertising; instead, they have shifted toward the concept of experience-based marketing. The integration of board games in restaurants is a highly effective marketing strategy because it creates a clear point of difference in a saturated hospitality market.

According to contemporary marketing wisdom, customers do not just buy a product or a meal they buy the stories and experiences offered by a brand. By providing board games, a restaurant is effectively marketing itself as a lifestyle destination that values human connection. This strategy not only captures the attention of specific market segments, but it also builds a brand image that is innovative, welcoming, and community centric.

One of the primary strengths of board games as a marketing tool is their ability to generate organic content through social media. Today's consumers, particularly Millennials and Gen Z, are highly inclined to share exciting moments of their lives on

platforms like Instagram, TikTok, and Facebook.

The sight of customers having fun playing board games while enjoying their meals provides a highly compelling visual element. When patrons record these moments of joy and tag the restaurant's location, they are effectively conducting free digital word-of-mouth marketing to thousands of their followers. This organic viral reach is far more trusted by potential customers than paid advertisements, as it serves as an honest testimonial to the ambiance and sensory experience encountered at the establishment.

Furthermore, board games function as a marketing strategy to elevate customer retention rates and customer lifetime value. A successful marketing strategy is one capable of bringing customers back for a second visit and beyond.

By providing a constantly updated collection of games or hosting themed game nights, restaurants can spark a sense of FOMO (fear of missing out) and give patrons a compelling reason to return. The loyalty cultivated through this interactive entertainment is an invaluable marketing asset, as it transforms ordinary customers into loyal brand advocates who will voluntarily defend and promote the restaurant.

From a sensory branding perspective, utilizing board games as a marketing strategy allows a restaurant brand to connect with customers through multiple senses. As emphasized by Chang and Cheng (2023) regarding sensory brand experiences, physical engagement with game components reinforces a customer's memory of the brand. Game designs that align with the restaurant's theme such as incorporating the restaurant’s color palette or logo onto the game components help strengthen its visual identity. This strategy ensures that whenever customers think of fun or social gatherings, your restaurant becomes the first name that comes to mind. This proves that board game integration is a strategic marketing investment that yields returns not only in terms of customer traffic but also in building a robust and sustainable brand equity.

In conclusion, Section 2.8.5 summarizes that board games are a highly versatile marketing instrument. They act as a magnet for new customers, a reinforcer of relationships with existing patrons, and an effective driver of social media content.

By seamlessly blending entertainment elements into the restaurant's business model, operators can establish a dynamic marketing ecosystem where customer satisfaction and brand growth occur simultaneously. This strategy ensures that the restaurant remains highly relevant in an ever-evolving market by offering a value proposition that extends far beyond just the food on the plate.

2.9 Conceptual Framework

The conceptual framework for this study functions as a theoretical roadmap that unifies various key constructs to explain the phenomenon of board game integration within the restaurant industry. This framework is systematically developed to address the need to transform passive waiting times into an active and meaningful sensory experience.

Fundamentally, the framework is anchored on the premise that Board Game Design, through its visual and mechanical aspects, acts as a stimulant for Sensory Experience. This experience subsequently becomes the primary driver of deeper Customer Engagement, which encompasses cognitive, emotional, and behavioral dimensions.

In alignment with the reviewer's perspective, this framework also integrates the element of trust as an outcome of consistent, high-quality interaction, which ultimately leads to Customer Satisfaction and long-term loyalty. By bridging the dining environment framework (Ryu & Han, 2010) and the Engagement Theory (Bowden, 2009), this framework offers a fresh perspective within the field of visual communication design. Here, the aesthetics of board games are no longer viewed in isolation, but rather as an intrinsic component of a holistic service ecosystem.

2.9.1 Sensory Experience

The starting point for the development of this conceptual framework is rooted in the understanding that board games in restaurants serve as the primary medium for creating a comprehensive sensory experience. Referring to the concept introduced by Chang and Cheng (2023), a sensory brand experience is defined as a process where customers interact physically, visually, and cognitively with elements in their environment, which subsequently shapes their emotional perception of a brand.

Within the context of the restaurant industry, board games contribute to this experience through three primary dimensions: visual elements, tactile elements, and mechanical elements. The visual elements which encompass the strategic use of color, clear typography, and engaging illustrations on cards or game boards play a pivotal role in stimulating the customer's sense of sight the moment they are seated at the dining table. This aesthetics are far more than mere decoration; they function as a visual

communication instrument that builds the restaurant's brand identity while simultaneously offering customers an initial glimpse into the overall mood and personality of the establishment.

Subsequently, this sensory experience is further reinforced through tactile elements, or the sense of touch, which involves the physical interaction of customers with the game components. The material quality used to produce cards, dice, or game pieces plays a critical role in subconsciously transmitting signals of quality to the user.

Components featuring excellent texture, balanced weight, and physical ease of manipulation convey a premium feel and a sense of professionalism. Customers then indirectly associate these traits with the caliber of service and food about to be served. Beyond these physical aspects, the mechanical elements of the game, namely the ruleset and gameplay flow contribute to an intellectual sensory experience by sparking an enjoyable cognitive challenge. Well-balanced mechanics ensure that customers feel actively involved in an activity with clear objectives, where immediate feedback from the game sustains their interest and focus throughout the waiting period.

Within the structure of this conceptual framework, the sensory experience is strategically positioned as a critical independent variable. This means that the quality and depth of the sensory experience generated by the board game's design is the primary factor determining the effectiveness of this entertainment integration.

This sensory experience serves as the solid foundation upon which customers build their overall perception of the restaurant's quality of service. When a customer's senses are positively stimulated through engaging visual elements, high-quality components, and entertaining mechanics, they are highly inclined to form an elevated initial assessment of the restaurant's professionalism.

In other words, long before the food even reaches the table, the customer satisfaction chain has already been set in motion via the sensory touchpoints provided by the board games. Therefore, optimizing these sensory elements is the mandatory first step that designers and restaurateurs must take to ensure that the customer engagement process can be achieved more effectively in the subsequent phase.

2.9.2 Customer Engagement

The second core construct anchoring the development of this conceptual framework is customer engagement, which functions as a critical mediating variable.

Drawing inspiration from the model introduced by Bowden (2009), customer engagement is no longer viewed as a static transactional outcome. Instead, it is recognized as a psychological process that is vastly deeper and more complex than mere customer satisfaction.

Within the context of this study, the positive sensory experience derived from interacting with board games acts as a catalyst, elevating customers from passive consumers to actively engaged participants. This engagement is highly critical because it reflects both the intensity of the customer's participation and the emotional connection they forge with the restaurant environment during the waiting period.

Theoretically, customer engagement is manifested through three primary, interconnected dimensions: cognitive, emotional, and behavioral. From a cognitive perspective, providing challenging and engaging board games allows customers to immerse their attention entirely into game strategies, subsequently drawing them into a state of flow. This state is exceptionally effective in manipulating time perception, where patrons no longer notice the duration of their wait for food because their minds are actively processing information and gameplay patterns.

From an emotional standpoint, this interaction triggers feelings of fun, joy, and social warmth. These positive emotions serve as a vital element that mitigates the anxiety or frustration frequently tied to service delays, ultimately fostering a much more harmonious atmosphere at the dining table.

Subsequently, the behavioral dimension can be observed when customers begin utilizing their time at the restaurant in a high-quality manner, interacting both verbally and physically with their table companions. Board games become a medium that facilitates face-to-face communication, representing a form of behavioral investment by customers into their social experience at the establishment.

Within the structure of this framework, customer engagement acts as a mediator ensuring that all the stimuli received from the board game's sensory experience are not simply lost; instead, they are translated into a powerful and meaningful emotional bond with the restaurant brand. With a high level of engagement, customers do not just feel satisfied with their visit, but they also begin constructing a foundation of commitment and trust that will drive their behavioral intention to return in the future.

2.9.3 Trust and Commitment

The next element anchoring this conceptual framework is the cultivation of trust and commitment, positioned as a direct outcome of a successful customer engagement process. Based on reviewer feedback, trust is a frequently overlooked construct, yet it plays a critical role in transforming short-term interactions into long-term relationships.

Within the context of board game integration, trust is built when customers view the restaurant's effort to provide high-quality, clean, and user-friendly entertainment amenities as a signal of brand integrity and genuine care for the value of their time. When a restaurant invests in aesthetically pleasing and highly functional game designs, customers subconsciously form a perception that management truly values their presence. This, in turn, reinforces their sense of security and trust in the overall quality of the service offered.

Subsequently, this developed trust leads to the formation of commitment, which is the customer's desire to maintain an ongoing relationship with the restaurant. This commitment is not merely transactional; rather, it is a deep emotional bond where customers perceive the restaurant as a safe space that consistently delivers high quality social experiences.

Referring to Bowden's (2009) engagement theory, trust acts as the binding agent that ensures customers do not defect to competitors, even when experiencing minor service disruptions such as accidental delays in food preparation. This resilience occurs because customers already have a psychological guarantee that the overall value they receive, which encompasses sensory entertainment and social interaction, far outweighs the costs paid.

Within this framework, the relationship between engagement and trust establishes a dynamic, positive feedback loop: the more deeply immersed a customer becomes in the board game activities, the higher the level of trust they develop toward the restaurant's brand identity. This trust is subsequently translated into positive behavioral intentions, such as a higher frequency of visits and a strong willingness to promote the restaurant to others.

In conclusion, cultivating trust and commitment through the medium of board games proves that visual communication design possesses the power to influence the most fundamental psychological constructs in customer relations, thereby laying a solid foundation for achieving holistic and sustainable customer satisfaction in the future.

2.9.4 Linkage

The relationships between the constructs within this conceptual framework can be summarized as a value chain that progresses from physical elements to psychological customer outcomes. The first relationship involves the influence of game design encompassing both visual and mechanical aspects on the customer's sensory experience. Effective visual communication design and robust game mechanics act as catalysts for positive sensory stimulation.

When these elements are meticulously designed, they do not merely capture the senses of sight and touch; they also build a strong initial perception of the restaurant brand's quality and innovation long before the primary service interaction even begins.

Subsequently, the second relationship within this framework details how the sensory experience generated through board games drives customer engagement. Consistent and high-quality sensory stimulation prompts customers to transition from a state of passive waiting to active cognitive, emotional, and behavioral involvement.

The success of this sensory experience ensures that customers feel completely immersed in the activity, which directly alleviates the mental burden associated with waiting times. In this phase, board games act as a strategic instrument that keeps customers' attention positive and tightly focused on the added value provided by the restaurant.

Finally, this framework emphasizes the relationship between customer engagement and the cultivation of trust and satisfaction. Deep and meaningful engagement through the medium of board games builds a sense of brand trust, where customers view the restaurant's initiative as a genuine commitment to their social well-being. As referenced through the theory by Ryu and Han (2010), the customer satisfaction generated within this context is holistic, as it encompasses an environmental quality that extends far beyond just food quality

In conclusion, this chain of relationships proves that the strategic integration of board game design can produce sustainable satisfaction by forming trust and a powerful emotional bond between the customer and the restaurant.

2.9.5 Conclusion in Conceptual Framework

Overall, the conceptual framework constructed here proves that integrating

board game design into the restaurant industry is far more than just a matter of aesthetics or side entertainment; rather, it represents a holistic and systematic customer experience management strategy.

This framework provides a robust academic justification by demonstrating that every single design element whether in terms of visuals, materials, or mechanics plays a specific role in driving the consumer's psychological value chain. By understanding the progression from sensory experience to customer engagement, and ultimately to the cultivation of trust, restaurateurs can clearly see how board games function as a design instrument capable of transforming the hospitality service landscape. The model underscores that a restaurant brand's success in a highly competitive market depends heavily on its ability to manage customer emotional touchpoints through precise sensory stimulation.

Furthermore, the conclusions drawn from this framework demonstrate that the strategic use of board games is highly capable of addressing critical issues within restaurant operations, particularly those related to managing the perception of waiting times and elevating the quality of social interactions.

Through the theoretical lenses of Ryu and Han (2010) as well as Bowden (2009), it is entirely clear that the resulting customer satisfaction is no longer one dimensional, relying solely on the taste of the food but is instead the product of an immersive, interactive, and dining environment. The trust cultivated from this highly enjoyable experience becomes an invaluable asset for the restaurant in building long-term customer loyalty. This framework does not merely serve as a guide for the current study; it also offers a practical roadmap for visual communication designers to create game products that deliver a profound impact on consumer behavior and emotions within commercial environments.

In closing this section, the conceptual framework emphasizes that innovation in food services must move in tandem with the psychological evolution of humans, who increasingly crave physical and social interaction. By positioning gaming as a sensory experience at the forefront, this study proposes a new paradigm wherein restaurants in Malaysia can leverage interactive entertainment elements to build a brand image that is more human-centric, trusted, and inclusive. The transformation from a passively waiting customer to an actively engaged patron is the primary key to the sustainability of restaurant businesses in the modern era. Ultimately, this framework provides a robust foundation to support the hypotheses and analyses that will be conducted in the subsequent chapter.

2.10 Summary

In summary, this literature review has comprehensively discussed the evolution of the food service industry, the critical role of visual communication design, and the strategic integration of board games as a mechanism to enhance the dining experience. Through an in-depth analysis of foundational theories, namely sensory branding, customer engagement, and dining environment frameworks, this chapter has successfully demonstrated the symbiotic relationship between interactive entertainment and the psychological constructs of customer satisfaction and trust. Collectively, the synthesis of these arguments has culminated in the development of a conceptual framework that links the sensory stimuli of games directly to positive customer behavioral outcomes. This theoretical foundation is paramount, as it establishes a robust baseline for conducting the field research and data analysis that will be detailed in the subsequent methodology chapter.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

The methodology serves as the core pillar of any research, ensuring that the study's objectives are achieved systematically and scientifically. In this study, primary focus is placed on exploring board game design elements and their impact on customer engagement within dining establishments. To gain a profound understanding of this phenomenon, the study applies a mixed-methods research design that places primary weight on the qualitative approach, while utilizing the quantitative approach as supplementary data to further strengthen the description and validity of the findings.

The selection of this methodology aligns with the nature of the study, which aims to identify not only what types of games are suitable, but more critically, how the visual and interactive elements of those games influence customer emotions and behavior. According to Creswell (2014), the use of mixed methods allows researchers to bridge the gap between statistical numerical data and the textual data of human experience, thereby providing a more holistic overview of the research problem. In this context, the qualitative method enables the researcher to delve into the subjective perspectives of customers and restaurant owners through visual analysis and in-depth interviews, while the quantitative data from questionnaires acts as supporting evidence to measure general customer trends or tendencies.

This method explicitly emphasizes the qualitative approach as the backbone of the research. This is because the quality of human interaction with board game design cannot be fully measured through numerical data alone. Graphic design, color usage, typography, and game mechanics demand critical interpretation through qualitative visual analysis.

Nevertheless, as an effort to strengthen the descriptions, a quantitative method is included as a supplementary component. This approach aligns with the concept of data triangulation, where the strengths of one method are utilized to compensate for the weaknesses of another (Tashakkori & Teddlie, 2010). By integrating data from both sources, the researcher ensures that the conclusions drawn are more robust, well-rounded, and reliable.

Overall, this chapter will detail every step of the research process, starting from the selection of the research design, purposive sampling techniques, and research locations to the data collection instruments involving visual analysis, interviews, and surveys.

Furthermore, this chapter will discuss in depth the data analysis procedures, which encompass the coding process and the formulation of core themes. Strong emphasis will also be placed on the aspect of reliability to ensure that all data gathered through field observations and field notes strictly adhere to established academic standards. Through this tightly structured methodology, this study aims to contribute fresh insights to the fields of graphic design and restaurant service management in Malaysia.

3.2 Research Design

The research design utilizes a modified convergent parallel mixed methods approach that places primary emphasis on qualitative data. Within this framework, the researcher collects both qualitative and quantitative data simultaneously; however, the final interpretation and analysis prioritize the qualitative findings to answer research questions that are exploratory and descriptive in nature. According to Johnson et al. (2007), a qualitatively dominant mixed-methods design allows the researcher to retain the rich, in-depth advantages of qualitative research while reinforcing it with numerical data to provide a broader perspective.

The primary reason for selecting this design is to achieve the objective of data triangulation. Within the context of studying board game design elements in restaurants, a single method is insufficient to capture the complex reality of customer behavior.

Qualitative data, obtained through visual analysis and interviews, is utilized to explore the aesthetic aspects and emotional experiences of customers in depth. Meanwhile, quantitative data from surveys serves as a supporting instrument to assess the extent to which these qualitative findings align with the trends or general tendencies of most customers at the study sites. The application of this mixed-methods approach helps mitigate researcher bias and enhances the validity of the research findings through cross-referencing across multiple data sources (Creswell & Plano Clark, 2018).

In executing this research design, the researcher divides the study process into two complementary phases of integration: the qualitative phase as the primary

component, and the quantitative phase as the supporting component. This division enables the researcher to gain a deeper understanding of the role of board game design in enhancing the customer experience at restaurants, while simultaneously acquiring supplementary data that supports and reinforces the research findings.

The first phase is the qualitative focus phase, which acts as the primary component of the study. This phase involves a visual analysis of the board game's graphic elements such as color usage, typography, and layout alongside the execution of in-depth interviews with selected respondents. Through this approach, the researcher seeks to understand how board game design aspects function as a stimulus capable of enhancing customer engagement, interaction, and overall experience within the restaurant setting.

The second phase is the quantitative supporting phase, which functions as a supplementary component to reinforce the qualitative findings. In this phase, questionnaires are distributed to gather the respondents' demographic information as well as general feedback regarding customer satisfaction levels toward the interactive activities provided. The data obtained is not intended to generate broad statistical generalizations; instead, it is utilized as corroborative evidence to support and validate the themes that emerge from the qualitative analysis.

Theoretically, this design aligns with the stimulus response behavioral theory that anchors this study. The mixed-methods design allows the researcher to simultaneously map the visual stimuli with qualitative data and measure the resulting behavioral responses with quantitative data. This systematic approach ensures that each finding possesses not only narrative depth but also the backing of solid empirical data, thereby fulfilling the criteria of academic excellence expected in this research.

3.3 Qualitative Approach

The qualitative approach in this study serves as the primary instrument for exploring the subjective nuances of customers' aesthetic perceptions and social experiences regarding board game design in restaurants. Given that the study's primary objective is to identify the best design elements that can enhance entertainment, this approach allows the researcher to look beyond statistical data to understand the underlying meaning behind customer interactions with the provided visual stimuli.

According to Merriam and Tisdell (2015), qualitative research is highly

effective in understanding how individuals interpret their experiences and how they construct their social worlds through these interactions.

Within the context of this study, the qualitative approach allows the researcher to act as the primary instrument for data collection. Focus is directed toward gathering rich information through an in-depth visual analysis of board games, as well as interview sessions that enable respondents to express their views openly without being confined to restricted answer choices.

The application of this method is highly relevant because design elements such as color psychology, typographical readability, and illustration styles on board game components like cards or game boards carry varying emotional impacts depending on an individual's background. Through qualitative narratives, the researcher can capture the authentic voices of respondents regarding how these specific elements help alleviate anxiety while waiting for their food.

Furthermore, this qualitative approach enables an inductive exploration process, where themes and behavioral patterns are constructed directly from field data rather than being rigidly predetermined solely by existing theories. This qualitative emphasis also ensures that every discovery in the subsequent data analysis and findings is backed by concrete textual and visual evidence.

This aligns with the perspective of Yin (2018), who states that the strength of qualitative research lies in its capacity to explain contemporary phenomena within a complex, real-life context. Consequently, the next section will detail the sampling strategies and site selection to ensure that the gathered qualitative data maintains a high level of quality and credibility.

3.3.1 Sampling

In qualitative research, the selection of participants or research subjects is not conducted randomly; instead, it is based on a specific purpose to obtain the richest and most in-depth information. For this study, purposive sampling has been selected as the primary strategy. According to Patton (2015), purposive sampling allows researchers to select information-rich cases that are highly relevant to the research questions. Given that the focus of this study is on the effectiveness of board game design as an entertainment element in restaurants, the selected respondents must be individuals who have direct experience, knowledge, or involvement within that specific ecosystem.

The selection of this sample is conducted by establishing strict inclusion criteria to ensure that all data obtained possesses a high level of credibility. For instance, for the interview component, respondents do not merely consist of general customers; they also encompass dining establishment owners and experts in the fields of design or gaming. This enables the researcher to perform source triangulation, whereby perspectives from multiple angles management, designers, and consumers can be integrated to construct a robust narrative.

The application of this purposive sampling also assists the researcher in focusing on a target group capable of providing critical feedback regarding visual elements such as color, typography, and game mechanics insights that might not be effectively articulated by random respondents who lack interest in such activities.

To ensure transparency in the sample selection process, the table below details the context and rationale for choosing each category of respondents involved in this study: -

Table 3.1
Context and Sample Selection Criteria

Respondent Category	Selection Criteria (Inclusion)	Rationale / Role in the Study
Restaurant Owners / Managers	• Possess experience in managing dining establishments that provide interactive activities or board games.	• Provide input regarding the impact of board games on waiting time and customer satisfaction from an operational perspective.
Active Customers (Gamers)	• Individuals who frequently visit the restaurant and have used the board game facilities provided at least once.	• Provide subjective feedback regarding entertainment quality, game difficulty levels, and the resulting social interactions.
Design Experts / Graphic Designers	• Possess a professional or academic background in the fields of visual arts, graphics, or game design.	• Provide a technical assessment of visual elements (color, typography, illustration) on game components, as emphasized in the Visual Analysis.

Family / Youth Groups	• Customers who arrive in groups (minimum of 2–4 people) and engage in board games while waiting for their food.	• Enable the researcher to observe social dynamics and behavioral responses across different age demographics.

Through this well-planned sampling approach, the researcher ensures that the gathered data is not merely superficial, but possesses the depth required to robustly support the visual analysis and the development of core themes in the upcoming data analysis and findings chapter. The final sample size is determined based on the principle of data saturation, whereby the data collection process is concluded once no new information, insights, or themes emerge from the interviewed respondents (Creswell, 2014).

3.3.2 Research Location

The selection of the research location is a critical element in qualitative research because the environmental context plays a major role in shaping participant behavior and responses. For this study, the research locations are focused on dining establishments or restaurants operating within urban and semi-urban areas in Malaysia. The selection of these locations was deliberately based on high customer density and demographic diversity among visitors, particularly during peak hours such as lunch and dinner times. According to Zeithaml et al. (2017), the physical environment of a restaurant exerts a direct influence on customers' perceptions of service quality and their level of comfort while waiting.

The restaurants selected as research locations are not merely typical dining establishments; rather, they must fulfill specific location criteria that feature interactive elements. The researcher focuses on restaurants that already provide board game sets or those that feature open-space concepts conducive to social activities.

The ambiance of these locations is highly crucial to detail because it serves as the backdrop for physical observations and field notes. Within these specific settings, the researcher can directly observe how the visual stimuli from the board game designs interact with ambient lighting, furniture arrangements, and restaurant noise levels, all of which contribute to the customer's overall level of entertainment.

Furthermore, selecting locations within major urban areas or city centers in Malaysia is highly relevant due to the dynamic dining-out culture and the tendency of customers to spend longer durations at restaurants for socialization purposes. Such locations grant access to a diverse pool of respondents, ranging from working professionals looking to unwind from job stress to families dining with young children. The researcher also ensured that official permission was secured for the selected locations to maintain strict research ethics, guaranteeing that both interview sessions and field observations could be conducted smoothly without disrupting the restaurants' business operations.

The description of the locational context aims to provide a clear picture of where and why the data was collected. By establishing specific and relevant locations, the outcomes of the visual analysis and interviews will possess a strong contextual foundation, thereby strengthening the study's internal validity as recommended in thesis evaluation guidelines.

3.4 Data Collection Methods

The data collection methods in this study are systematically designed to ensure that all gathered information effectively answers the research questions with accuracy and depth. Considering the study's primary objective which focuses on enhancing customer entertainment through board game design the researcher employs a data triangulation approach.

This triangulation involves utilizing multiple data sources to validate findings, mitigate bias, and provide a more comprehensive overview of the phenomenon under study (Patton, 2015). Accordingly, data collection is not confined to a single aspect; rather, it integrates visual elements, experiential narratives, and general feedback.

The data collection process begins with a visual analysis, which serves as the qualitative core of this study. This analysis is performed on the physical components of board games to evaluate visual art elements such as color theory, typography, and graphic layout. Subsequently, In-depth interviews are conducted with the respondents identified through purposive sampling to capture their subjective perspectives and experiences. To further reinforce these qualitative findings, a survey is implemented as a supplementary method to observe feedback trends across a larger group of respondents.

The effectiveness of this data collection is further supported by using field notes during the observation process at the study sites. These field notes serve to record spontaneous customer reactions, social dynamics at the dining tables, and their physical interactions with the provided board games. By integrating visual data, verbal narratives, and numerical data, the researcher can construct a rich, detailed description of how board game design elements function as effective stimuli within the restaurant environment.

To provide a clear overview of the data collection structure, the table below summarizes the instruments and the purpose of each method used in this study: -

Table 3.2
Summary of Research Data Collection Methods

Method	Data Type	Instrument / Tool	Primary Purpose
Visual Analysis (Primary)	Qualitative	Physical Board Game	• To identify graphic design elements (color, typography, icons) that attract customer interest.
In-depth Interviews	Qualitative	Semi-Structured Interview	• To explore customers' feelings, emotions, and personal perspectives regarding interactive activities.
Survey	Quantitative (Supplementary)	Questionnaire (Google Forms)	• To measure general satisfaction levels and the frequency of board game usage among customers.
Physical Observation	Qualitative	Observation Checklist & Field Notes	• To record actual behaviors and social interactions of customers while waiting for their food in the restaurant.

3.4.1 Survey

The survey method is utilized in this study as a supplementary quantitative data collection instrument. The primary objective of this survey is not to produce broad

statistical generalizations; rather, it functions to provide supporting data that reinforces the findings from the visual analysis and interviews. According to Creswell (2014), quantitative data within a qualitatively dominant research design acts as a trend-identifying mechanism. This allows the researcher to determine whether the subjective insights obtained from a small group of respondents qualitatively align with the general tendencies of most customers at the study sites.

The survey instrument is distributed in the form of a digital questionnaire using the google forms platform. This digital method was chosen for its efficiency in reaching respondents at the study sites in real-time, as well as facilitating a data collection process that minimizes major physical disruptions for customers enjoying their meals. The questions within this form are designed to be short and concise to ensure a high response rate, focusing primarily on the waiting experience and initial perceptions of the board games.

The questionnaire is divided into several main sections to ensure that the data collected is systematic: -

Table 3.3
Questionnaire Instrument Structure

Section	Content Focus	Question Type / Scale	Purpose
Section A	Demographic Profile	Multiple Choice (Gender, Age, Occupation)	• To identify the background of the respondents involved in the study.
Section B	Waiting Experience	Likert Scale (1–5) / Multiple Choice	• To measure customers' levels of anxiety or boredom while waiting for food.
Section C	Perception of Board Games	Multiple Choice	• To evaluate the extent to which customers agree that board games are a suitable form of entertainment in restaurants.
Section D	Visual Engagement	Multiple Choice	• To identify which types of board games attract customers' attention the

			most upon first impression.
Section E	Recommendations & Improvements	Open-ended	• To provide space for respondents to offer additional ideas (preliminary qualitative data).

The data obtained from this survey will subsequently be analyzed using descriptive statistics, such as percentages and frequencies. The results of this analysis will be cross-referenced with the visual analysis outcomes in the upcoming data analysis and findings chapter to examine the level of consistency between the studied design elements and general customer acceptance.

3.4.2 Visual Analysis

Visual analysis serves as the primary qualitative method employed in this study to evaluate the aesthetic and graphic elements present in board games. As a study anchored within the Faculty of Art and Design, this analysis is critical for examining how visual stimuli functions as a primary attraction for restaurant customers.

According to Rose (2016), visual analysis enables researchers to interpret the meanings behind images, symbols, and graphic compositions that influence human psychological perception. Within this context, visual analysis does not merely look at the external beauty of the games but rather evaluates the effectiveness of those elements in facilitating interaction and alleviating boredom while waiting.

This analytical process is systematically conducted on several popular board game samples frequently used in restaurants, such as Uno, Monopoly, or simple card games. The researcher utilizes a graphic deconstruction approach, whereby every component of the game from the packaging box, cards, and game board to the instruction manual is broken down into smaller visual units for evaluation. Each of these units is analyzed based on graphic design principles to determine the extent to which it contributes to the fun factor and usability within the varying lighting environments of the restaurants

To ensure that this analysis remains objective and consistent, the researcher has developed a visual evaluation instrument that focuses on the following criteria: -

Table 3.4
Criteria for Visual Analysis Elements

Visual Element	Evaluation Criteria	Justification / Importance
Color	Use of color palettes, contrast, and color psychology (e.g., bright colors for energy).	• Evaluates emotional appeal and the ability of colors to attract customer attention from a distance.
Typography	Font types, text size, and readability of the text on cards or the game board.	• Ensure game instructions can be understood quickly in a busy restaurant environment
Illustration & Iconography	Art style, symbolism, and the use of icons as text replacements.	• Measures the level of universal visual communication that does not require heavy reading.
Layout	Organization of graphic elements and white space on the game components.	• Evaluates the ease of visual navigation to ensure the game does not appear overly complex or tedious.
Material Quality	Texture, durability, and physical finishing of the game.	• Evaluates tactile sensory aspects that contribute to the overall user experience at the dining table.

The outcomes of this visual analysis will be recorded in the form of descriptive notes and presented alongside photographic evidence in the upcoming data analysis and findings chapter. This step ensures a clear linkage between the planned methodology and the presented data. Through this in-depth visual analysis, the researcher will be able to identify the optimal design features capable of significantly enhancing the level of customer entertainment.

3.4.3 Interview

The interview method serves as a highly vital qualitative component in this study, aimed at orally exploring the deep perspectives, emotions, and experiences of the respondents. Unlike the rigid nature of survey methods with predetermined answer choices, interviews enable the researcher to understand the authentic voice behind customer actions.

According to Seidman (2019), qualitative interviewing allows researchers to delve into the personal histories and social contexts of individuals to understand how they construct meaning from an event in this case, their interaction with board games in a restaurant. Aligned with the dominant qualitative focus of this research, these interviews aim to answer research questions regarding how board game elements provide satisfaction and entertainment to customers.

This study utilizes a semi-structured interview format. This format was selected because it provides the researcher with the flexibility to pose follow up questions based on the answers provided by respondents, while still maintaining a guideline or protocol that ensures the research objectives remain on track.

Through this two-way interaction, the researcher can capture subtle nuances in body language, tone of voice, and facial expressions, which offer additional insights into the respondents' level of emotional engagement. The interview process is conducted either face-to-face at the study sites or via video conferencing platforms, depending on the respondents' preference, and each session is audio-recorded with the participants' explicit consent for transcription purposes.

To ensure that the gathered data is accurate and highly relevant to the visual design objectives, the interview protocol has been structured according to the following information clusters: -

Table 3.5
Protocol and Focus of Semi-Structured Interviews

Question Cluster	Discussion Focus	Data Goal
Waiting Experience	• Respondents' feelings during the food waiting period, comparing the experience before and after	• To measure emotional shifts from boredom to entertainment.

	the introduction of board games.	
Visual Interaction	• Respondents' opinions on the colors, graphics, and physical clarity of board games.	• To support the findings of the Visual Analysis through the users' perspective.
Dinamika Sosial	• How the games facilitate communication among family members or friends.	• To understand the role of board games as a social catalyst.
Cabaran & Cadangan	• Difficulties in understanding the rules or constraints related to limited table space.	• To identify design elements that require improvement.

Each interview transcript will subsequently be analyzed systematically using a coding process. The outcomes of these interviews will not only provide rich narrative data but will also serve as robust evidence to validate the findings from the visual analysis. Through this approach, the researcher can construct a comprehensive explanation regarding the effectiveness of board game design in enhancing the overall customer experience in restaurants.

3.5 Analysis Procedure

The data analysis procedure is a critical phase where the researcher begins to interpret, organize, and derive meaning from the volume of raw data collected. In this study, which is anchored in a qualitatively dominant approach, the analysis process is conducted inductively and systematically to ensure that every finding is firmly rooted in the field data.

According to Braun and Clarke (2006), thematic analysis is a highly effective method for identifying, analyzing, and reporting patterns or themes that emerge from qualitative data. This procedure enables the researcher to link the visual elements of the board games with the emotional feedback of the customers to answer the research questions holistically.

To ensure academic rigor, the data analysis in this study is not conducted at random. Instead, it follows a structured workflow that progresses from the transcription

of verbal data to coding, categorization, and ultimately, the formation of main themes. This process also involves integrating data from both the visual analysis and the survey. Data from the survey will first be analyzed descriptively to identify majority trends, which are then utilized to either support or challenge the emerging qualitative themes. This step ensures a seamless continuity between the supplementary quantitative data and the primary qualitative narrative.

The researcher also employs a continuous comparative approach; whereby new data is constantly compared with existing data to ensure that the developed codes are accurate and truly representative of the respondents' voices. Clarity in this analytical procedure is paramount to demonstrate that the study's findings in the upcoming data analysis and findings chapter are not merely the researcher's personal interpretations, but are instead the product of a transparent, rigorous, and verifiable analytical process

To facilitate a clear understanding of the qualitative analysis workflow, the table below summarizes the step-by-step procedures implemented in this study:-

Table 3.6
Steps in the Data Analysis Procedure

Analysis Phase	Activity / Process	Output
Phase 1 Data Preparation	• Transcribing interview audio recordings and organizing visual analysis photographs as well as field notes.	• Complete transcripts and image archives.
Phase 2 Coding	• Reading through the data repeatedly and labeling key words or important phrases (Codes).	• Initial code list (Open Codes).
Phase 3 Categorization	• Grouping similar codes together into broader, distinct groups (Categories).	• Category clusters (Axial Coding).
Phase 4 Theme Development	• Identifying core patterns that answer the research questions based on the established categories.	• Main themes (e.g., "Visual Appeal").
Phase 5 Integration &	• Cross referencing qualitative themes with the descriptive	• Validated findings.

Triangulation	statistical data obtained from the survey.

3.5.1 Coding Procedure

The coding procedure constitutes the initial transformative step in qualitative data analysis, wherein raw data from interview transcripts, field notes, and visual analysis documents are converted into concise units of meaning. For this study, the researcher utilizes a manual coding process to ensure that every linguistic nuance and expression of the respondents can be thoroughly examined. According to Saldaña (2015), coding is not merely a labeling exercise; rather, it is an analytical process that enables the researcher to link raw data to the study's underlying theoretical framework.

The first stage is Initial Coding, where the researcher repeatedly reads through the interview transcripts and observation notes to achieve data immersion. At this level, labels or codes are assigned to text segments relevant to the research objectives, such as phrases highlighting bright colors, fast-paced gameplay, or social interaction. This step is deliberately open-ended to allow any critical information emerging from the field to be comprehensively recorded without predetermined restrictions or biases.

Next, the process transitions into the second stage**,** Focused Coding. Once an extensive list of initial codes is generated, the researcher filters and selects the codes that appear most frequently or hold the greatest significance in answering the research questions. Codes that share conceptual or contextual meanings are then grouped together to form the foundation of broader categories. For instance, specific codes such as easy to understand and simple rules are synthesized and focused under a single conceptual cluster.

The final stage involves Continuous Coding and Triangulation, which serves as a quality control mechanism for the data. Throughout this ongoing process, the researcher constantly cross-references the developed codes with the raw data to ensure that the interpretations remain faithful to the respondents' original contexts. Most critically, the codes derived from this qualitative data are systematically cross-checked with the visual analysis findings to evaluate how the physical design elements of the board games such as typography and color are recognized and experienced by the respondents during the interviews.

To facilitate a clear understanding of how these units of information are

processed, the table below illustrates an example of the coding process conducted in this study:-

Table 3.7
Example of the Qualitative Data Coding Process

Data Segment (Transcript/Observation)	Initial Code	Coding Justification
"I like Uno because its colors are bright and it looks appealing on the table."	Visual Appeal	• Relates the element of color to customer interest.
"This game is very quick, so by the time the food arrives, we are already done playing."	Short Duration	• Emphasizes the importance of game length aligning with the waiting time.
"When there's a game, we chat and laugh instead of constantly looking at our phones."	Social Interaction	• Highlights the role of the game as a catalyst for social communication.
"The text on the cards looks clear even though the restaurant lighting is quite dim."	Typographic Readability	• Evaluates the technical aspects of typography within the environmental context.

This systematic coding procedure ensures that each emerging theme in the subsequent section is backed by robust empirical evidence from the field, thereby fulfilling the trustworthiness criteria expected by the evaluators.

3.5.2 Codes

The code represents the smallest unit of analysis generated during the initial coding process. In this study, codes are constructed based on key phrases that consistently emerge within the interview transcripts and visual analysis notes. A code functions as an anchor that links raw data to design concepts.

For instance, when a respondent describes colors so bright that they are easily visible on a table full of food, the assigned code is visual appeal. This coding mechanism ensures that all verbal and visual data are reduced into a more manageable form before the synthesis process takes place.

3.5.3 Categories

The subsequent stage involves category development, wherein codes sharing conceptual or contextual relationships are grouped together. This process is recognized as axial coding. Categories serve to organize codes into broader groups to examine how they interconnect with one another.

For instance, the codes visual appeal, font readability, and clear iconography are clustered under a single overarching category, namely Game Aesthetic Criteria. Through this categorization process, the researcher can establish a clearer data structure and begin identifying the dominant patterns that enhance customer entertainment.

3.5.4 Themes

Themes represent the final output of the qualitative analysis process, encompassing the comprehensive findings of the study. A theme is constructed from filtered and abstract categories specifically formulated to answer the research objectives and questions. The development of these themes is achieved by identifying the common thread that connects each category.

For instance, the theme visual design as a catalyst for social engagement emerges from combining the aesthetic categories with customer interaction categories. These final themes will be discussed in depth within the upcoming data analysis and findings chapter, supported by direct verbatim quotes from the respondents and

empirical evidence from the visual analysis.

To demonstrate the hierarchical flow from Codes to Themes, the table below summarizes the analytical process:-

Table 3.8
Mapping Codes to Themes

Codes	Categories	Themes
• Bright Colors • Clear Typography • Attractive Illustrations	Visual Aesthetic Elements	Impact of Visual Design on Customer Attraction
• Simple Rules • Short Playtime • Compact Size	Usability	Alignment of Game Mechanics with the Restaurant Context
• Active Conversation • Reduce Phone Usage • Healthy Competition	Social Dynamics	Transforming the Waiting Experience Through Social Interaction

3.6 Trustworthiness

Trustworthiness is the primary criterion for evaluating the quality and integrity of qualitative research. Given that this study places significant emphasis on visual interpretation and the subjective experiences of customers, the researcher is responsible for demonstrating that the resulting findings are true, accurate, and dependable. According to Lincoln and Guba (1985), trustworthiness within the qualitative paradigm encompasses four core dimensions: credibility, transferability, dependability, and confirmability. To meet these standards, the researcher has outlined several rigorous

procedures to ensure that the collected data remains free from personal bias or procedural errors.

In this study, trustworthiness is achieved through a process of prolonged engagement at the research site and absolute transparency in recording every interaction. The researcher ensures that all information obtained from respondents via interviews and observations is backed by physical evidence from the visual analysis. This process not only strengthens the qualitative descriptions but also guarantees that the narrative constructed in the upcoming data analysis and findings chapter is a true representation of field realities. Furthermore, ethical considerations such as respondent confidentiality and informed consent serve as the cornerstone for guaranteeing data integrity.

Four core elements must be detailed in this section to demonstrate the research rigor of this study. These steps encompass obtaining formal permissions, maintaining systematic documentation of field notes, and applying triangulation methods to cross-validate data from multiple sources. A more comprehensive discussion of each element is detailed in the following sub-sections:

3.6.1 Consent from Participants

Research ethics constitute the highest priority during the collection of primary data. Before conducting any interview sessions or physical observations, the researcher ensures that every participant is provided with a clear explanation regarding the purpose of the study and how their information will be utilized.

Informed Consent is obtained either in writing or verbally before any session begins. Participants are explicitly informed that their involvement is completely voluntary and that they reserve the right to withdraw at any point without any consequences. Furthermore, anonymity is strictly maintained by utilizing pseudonyms to protect the identities of the respondents specifically restaurant owners and customers in full compliance with the ethical standards of Universiti Teknologi MARA (UiTM).

3.6.2 Field Notes

Field notes serve as a written record that captures environmental nuances and behaviors that cannot be fully recorded through audio or questionnaires. While on-site

at the restaurant, the researcher records observations regarding customers' spontaneous reactions upon seeing the board game design, the social dynamics at the dining tables, and environmental factors such as lighting and noise disruptions.

These field notes are critical for supporting interview data because they provide physical context to the respondents' words. Consistent use of field notes helps the researcher reduce reliance on memory alone, thereby enhancing the quality of the description in the qualitative analysis.

3.6.3 Triangulation

Triangulation constitutes the primary strategy employed to enhance the validity of the research findings through the utilization of multiple data sources or methods. In this study, methodological triangulation is applied by integrating data from three primary sources: visual analysis, in-depth interviews, and surveys.

When a specific theme, for example, bright colors attract attention consistently emerges across all three methods, the credibility of that finding is significantly strengthened. Triangulation enables the researcher to examine the phenomenon of customer engagement from multiple perspectives, thereby minimizing potential errors or biases that could arise from relying on a single isolated method.

3.6.4 Adequate Engagement

The researcher ensures prolonged engagement in the field by spending an appropriate amount of time at the research sites to understand the culture and routines of the restaurant customers. This involves being present during both peak and off-peak hours to observe variations in customer behavior toward the board games. This deep immersion enables the researcher to build a relationship of trust and rapport with the respondents, ultimately yielding more honest and in-depth data.

3.7 Research Framework and Operational Flow

The operational flow for this study is designed to ensure systematic progression from the conceptualization stage to the conclusion. This study adopts a convergent

parallel mixed-methods design, where qualitative and quantitative data are collected concurrently. However, a qualitative-dominant approach is prioritized to capture the depth of visual design aesthetics and customer experiences, while the quantitative data provides complementary breadth and validation.

The following figure 3.1 illustrates the structured flowchart of the investigation, highlighting the operational execution of the primary qualitative methods and the supplementary quantitative survey to achieve the research objectives.

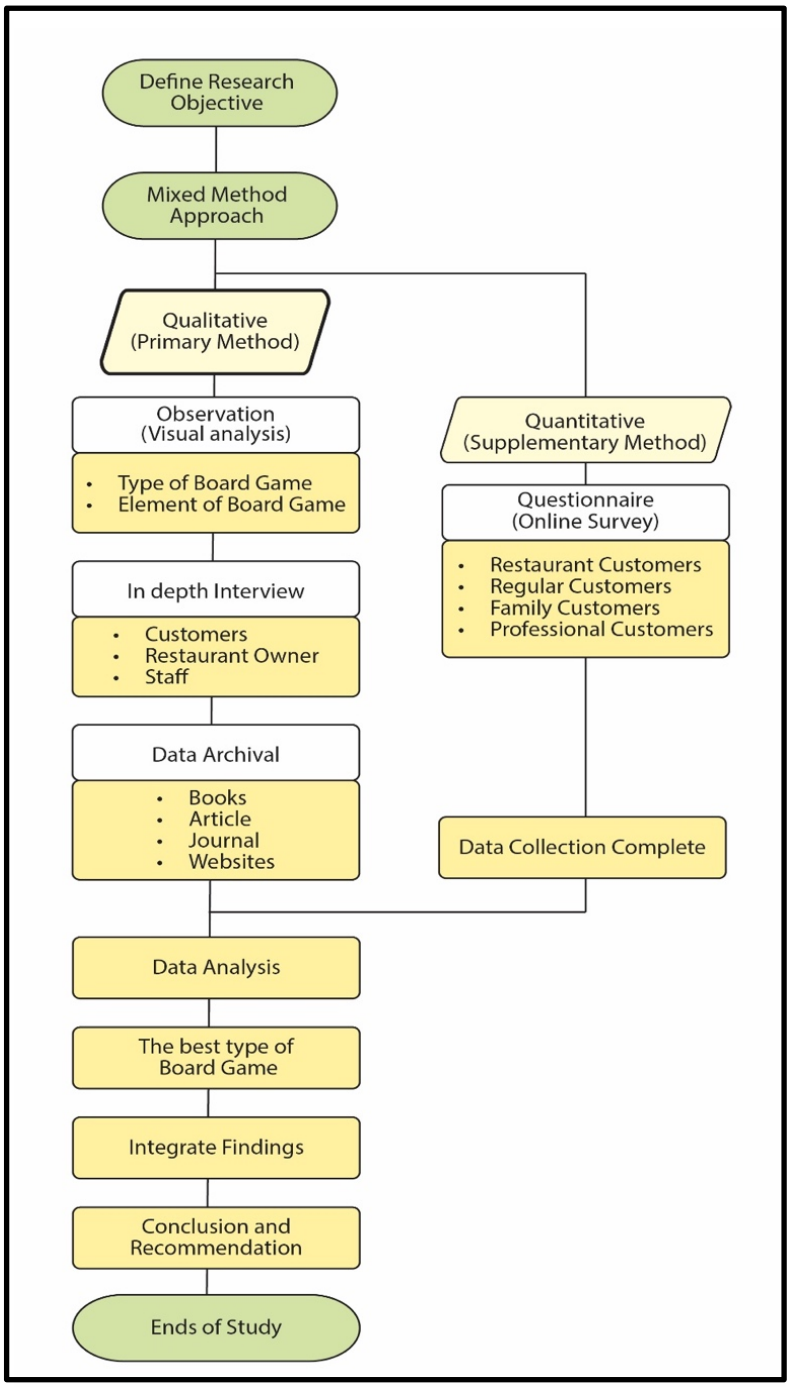

Figure 3.1 Qualitative-Dominant Mixed-Methods Research Flow

3.8 Summary

Overall, this chapter has systematically detailed the methodological framework utilized to achieve the research objectives. By applying a convergent parallel mixed methods design with a primary emphasis on the qualitative approach, this study successfully establishes a robust research platform. The qualitatively dominant approach was selected because the nature of this research demands an in-depth exploration of visual design elements and subjective customer experiences, whereas the quantitative data from the survey serves as supporting evidence to strengthen the validity of the findings through the process of triangulation.

This study places significant emphasis on Purposive Sampling, where the selection of respondents and restaurant research sites is deliberately conducted to ensure that the gathered data is information-rich and highly relevant to the context of the Malaysian food and beverage industry. Through three primary data collection methods namely visual analysis of the game's graphic elements, In-depth Interviews with key stakeholders, and a supplementary survey the researcher can gather diverse perspectives that complement one another. Additionally, the use of field notes during physical observations provides added value by capturing the social dynamics that occur spontaneously in the field.

From an analytical perspective, this chapter outlines a transparent procedure moving through the stages of coding, category development, and ultimately, the formation of main themes. These analytical steps demonstrate that every research finding to be discussed in the subsequent chapter is the result of a professionally managed synthesis of raw data rather than mere random interpretation.

Finally, adherence to trustworthiness criteria through methodological triangulation, informed consent, and prolonged engagement in the field ensures that the academic integrity of this study is rigorously maintained. Furthermore, the structured research plan presented in this chapter successfully maps out the comprehensive phases of the study, ensuring a systematic and transparent transition from data gathering to the final integration of findings. In conclusion, the methodology discussed in this chapter provides a solid foundation for the data analysis and discussion of findings in the upcoming chapter.

CHAPTER 4
DATA ANALYSIS AND FINDING

4.1 Introduction

This chapter represents a crucial phase of this thesis, as it details the results of the data analysis and the research findings obtained. The primary focus of this chapter is to present the findings that address the two established research questions, identifying the types of board games suitable for a restaurant environment, and determining the best design elements that effectively contribute to interactive customer activities.

To ensure comprehensive findings and a high level of validity, this study applies a mixed-methods approach. Quantitative data obtained from questionnaire surveys involving 81 respondents is utilized to examine macro-level customer trends and preferences. This data is subsequently strengthened and elaborated through qualitative data gathered from in-depth interview sessions with informants, consisting of restaurant owners, customers, and staff. Furthermore, a visual analysis of the physical and graphic design of selected board games is conducted to provide empirical evidence from a design perspective.

The analytical process in this chapter is systematically organized according to the main themes that emerged from the data triangulation process. Rather than merely reporting descriptive statistics, the researcher conducts an in-depth interpretation by cross-referencing visual findings with verbal feedback to formulate a cohesive conclusion. Each theme discussed in the subsequent sub-sections is supported by primary data evidence, such as direct interview quotes, statistical tables, and Visual Analysis Figures.

Overall, this chapter provides a clear insight into how the integration of board games serves not merely as an entertainment tool, but as a strategic element in enhancing sensory experience and customer engagement within the food service industry.

4.2 Respondent Demographics

This section details the demographic profile of the 81 respondents who participated in this study via the online questionnaire method. Demographic analysis is a critical initial step in this research, as individual backgrounds such as gender, age, and status influence perceptions and levels of acceptance toward the utilization of board games within restaurants. By understanding the respondents' profiles, the researcher can identify the characteristics of the target groups most inclined to engage in interactive activities within food premises.

The collected data is analyzed descriptively to provide a comprehensive overview of the research sample composition. The primary focus of this analysis is to ensure that the selected sample accurately represents the segment of restaurant customers who actively seek entertainment elements or additional social experiences while dining. This profile also serves as supporting data to validate that the qualitative findings obtained subsequently originate from the target group relevant to the research objectives.

The following is the detailed breakdown of the respondents' demographic profiles, divided into several major categories:

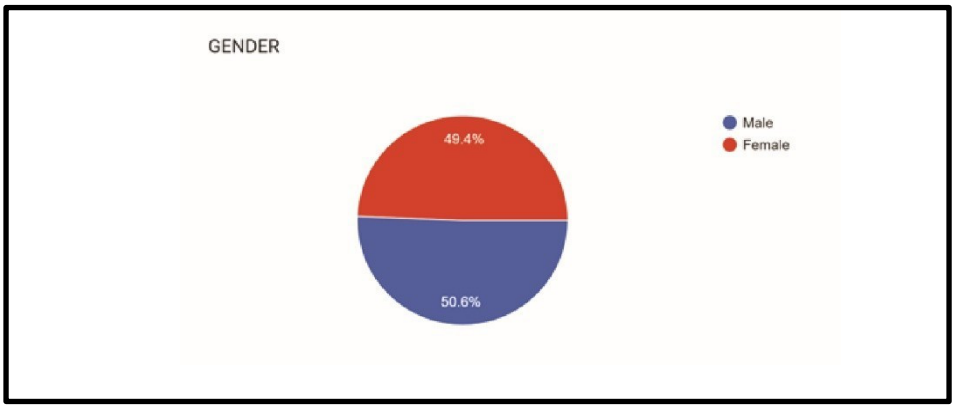

Figure 4.1 Question 1 (Respondents by Gender)

Figure 4.1 shows the distribution of respondents based on gender. The findings indicate that male respondents represent 50.6% of the total participants, while female respondents account for 49.4%. This marginal percentage difference between the two

genders reflects an almost equal level of participation. This balance provides an advantage to the study, as it allows for a more equitable and comprehensive analysis from a gender perspective, particularly in identifying differences or similarities in viewpoints between male and female respondents regarding board games.

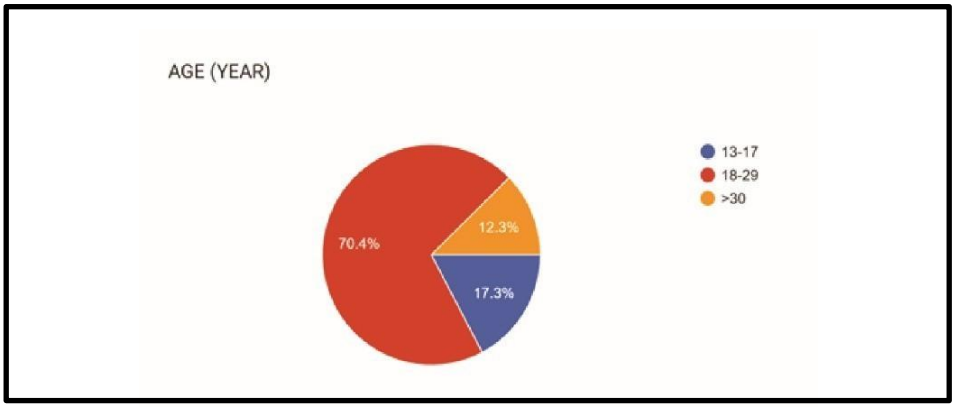

Figure 4.2 Question 2 (Respondents by Age Group)

Figure 4.2 illustrates the findings for Question 2, which focuses on the age factor of the respondents. The study indicates that the most dominant age group is youth aged between 18 and 29 years old, accounting for 70.4% of the total respondents. This is followed by adults aged 30 and above 17.3%, while early adolescents aged between 13 and 17 years old record 12.3%.

This analysis demonstrates that most respondents fall within the late adolescent to early adult age range a demographic that is typically active in entertainment and recreational activities such as board games. Consequently, their preferences and viewpoints regarding game-related aspects can serve as a primary reference in developing game designs or elements that cater to the tastes of this generation.

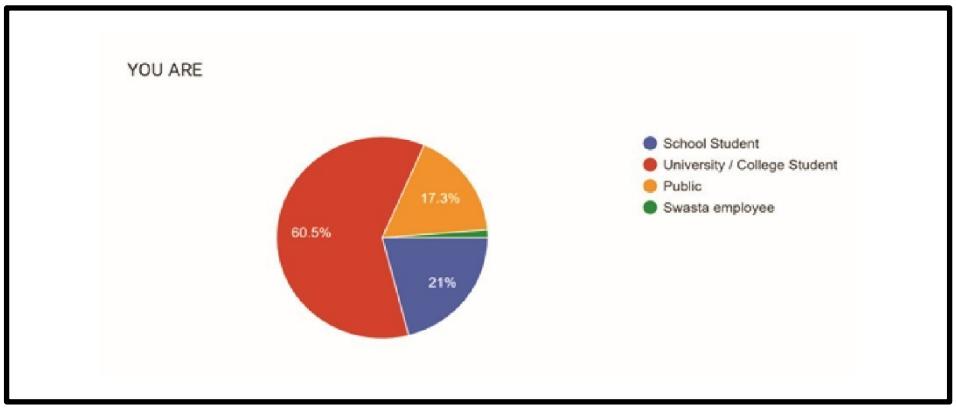

Figure 4.3 Question 3 (Respondents by Status)

Figure 4.3 shows the findings for Question 3 regarding the target group or background of the respondents. The data indicates that most respondents, at 60.5%, consist of university or college students. Meanwhile, 21% are secondary school students, 17.3% comprise the public who do not fall into the student category, and 1.2% are private sector employees.

This information provides an initial overview of the profiles of the respondents involved in the study, thereby enabling the researcher to understand their backgrounds in relation to their preferences or interest in the elements being investigated. The dominance of respondents from higher education institutions also suggests that this group has a higher level of interest and engagement with the research topic, thus positioning them to provide more relevant and meaningful insights.

4.3 Research Findings 1 (RQ1): Types of Board Games Suitable for Restaurants

This section discusses the research findings addressing the first research question, which concerns the types of board games most suitable for integration into a restaurant environment. To obtain a comprehensive answer, the researcher synthesized data from the customer questionnaire surveys via quantitative and feedback from the in-depth interview sessions with informants via qualitative. This process enables the researcher to examine not only what customers prefer, but also why those specific types of games are considered practical for a dining space.

Identifying the right type of game is critical because the restaurant environment

presents unique constraints, such as limited table space, varying food waiting times, and the need to maintain the comfort levels of other patrons. Therefore, the analysis in this section does not merely focus on game popularity alone but also considers functional factors and social dynamics within food premises.

Based on the coding process of the qualitative data and the descriptive analysis of the quantitative data, three main themes have been identified as the determining factors for the suitability of board games in restaurants. These themes are: (i) Preference for Physical Interactive Activities, (ii) Suitability of Time and Waiting Duration, and (iii) Popularity and Familiarity.

A detailed discussion of each theme is as follows: -

4.3.1 Theme 1: Preference for Physical Interactive Activities Over Digital Medium

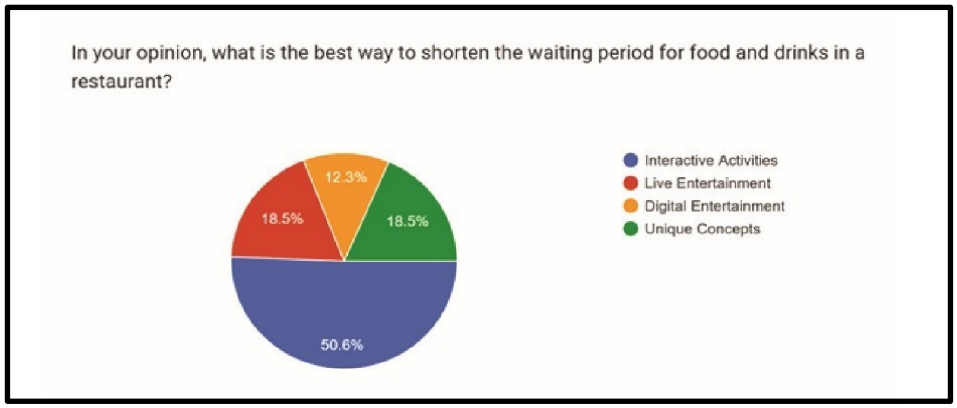

Figure 4.4 Respondents' Perceptions on the Best Approach to Shorten Perceived Waiting Time

Initial quantitative findings indicate a distinct trend regarding the most effective method to shorten the perceived waiting period during order preparation. As illustrated in Figure 4.4, a substantial majority of 50.6% stated that "Interactive Activities" were vastly superior and more effective. This approach easily outpaced other conventional methods, such as live entertainment which only recorded 18.5%, while the utilization of passive "Digital Entertainment" sat at the lowest position at 12.3%.

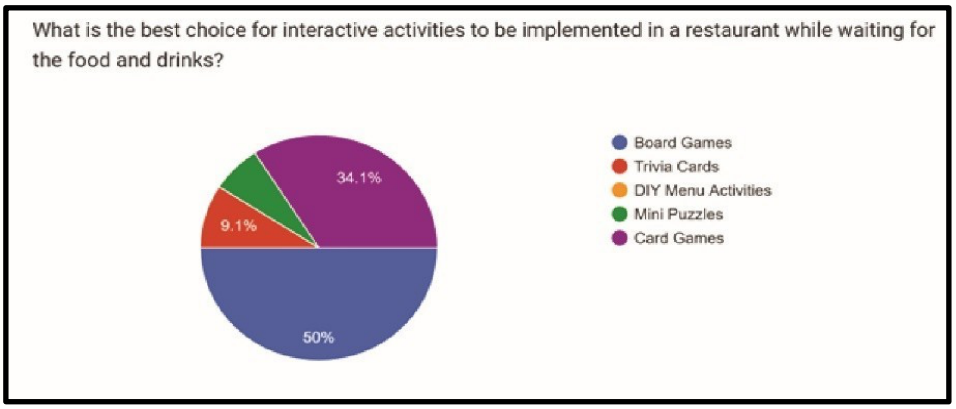

Figure 4.5 Respondents' Preference for Interactive Activities in the Restaurant

Driven by this high preference for interactive activities, the study narrowed its scope to identify the specific mediums most favored by customers within a restaurant environment. Referring to Figure 4.5, physical board games emerged as the primary choice, captured by 50% of the total respondents. This is followed closely by card games at 34.1%, while individual-oriented tasks such as trivia cards (9.1%) and mini puzzles (6.8%) received minimal response.

Collectively, these numbers demonstrate that despite the dominance of digital devices in contemporary life, restaurant patrons actively seek a temporary 'escape' from screen time to engage in real-time, face-to-face interaction through physical elements. This quantitative baseline is further reinforced by qualitative data obtained through in-depth interview sessions with key stakeholders. Informant A (Restaurant Owner) expressed the same sentiment based on on-site observations at the premises: -

"Customers usually arrive in groups, but everyone is heavily occupied with their own smartphones. However, the moment we introduce simple board games, the social communication among them visibly becomes drastically more alive."

Therefore, it can be empirically concluded that physical board games serve as a powerful social catalyst. They can enhance holistic customer engagement through physical and verbal interactions that cannot be replicated by digital applications.

4.3.2 Theme 2: Appropriateness of Time and Waiting Duration

The time factor represents a primary determining element in selecting types of board games that are practical for a restaurant environment. Based on the quantitative data obtained from the questionnaire, exactly 50% of the respondents selected a time duration between 10 to 20 minutes as the most ideal gameplay window refer to Figure 4.6. This finding demonstrates that customers lean heavily toward fast-paced games that do not require excessive time commitment.

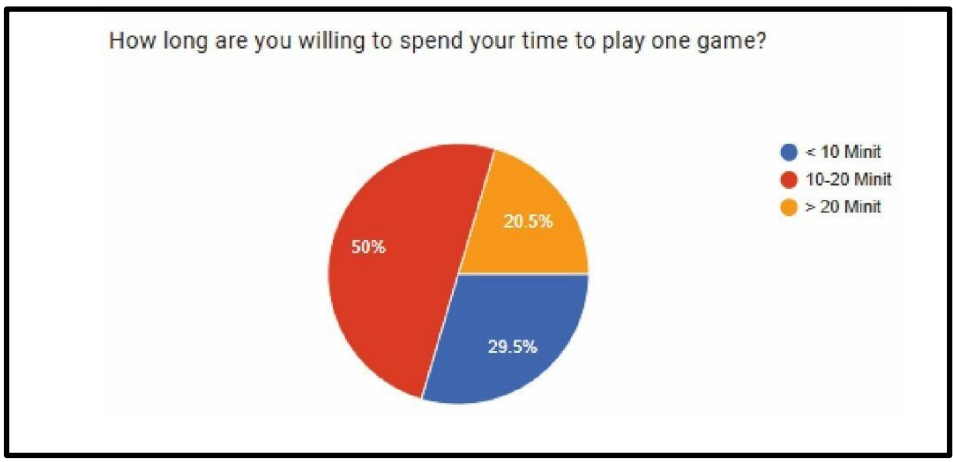

Figure 4.6 Respondents' Ideal Gameplay Duration in the Restaurant

The justification behind the choice of this time duration is closely related to the waiting time at food premises they are games that possess a simple rule structure and can be quickly paused or completed. The integration of games within this 10–20 minute duration indirectly transforms customers' negative perceptions of waiting time into an entertaining experience, thereby enhancing overall customer satisfaction with the restaurant's service.

4.3.3 Theme 3: Popularity and Familiarity

The final theme in determining the suitable types of board games is the factor of popularity and the customers' level of familiarity with the game. Based on the quantitative data from the questionnaire, there is a very large gap between the types of games chosen by the respondents. The card game Uno emerged as the primary choice

with a percentage of 54.1%, far outstripping other classic games such as Monopoly (9.2%) and Jamaica (8.2%) refer to Figure 4.7.

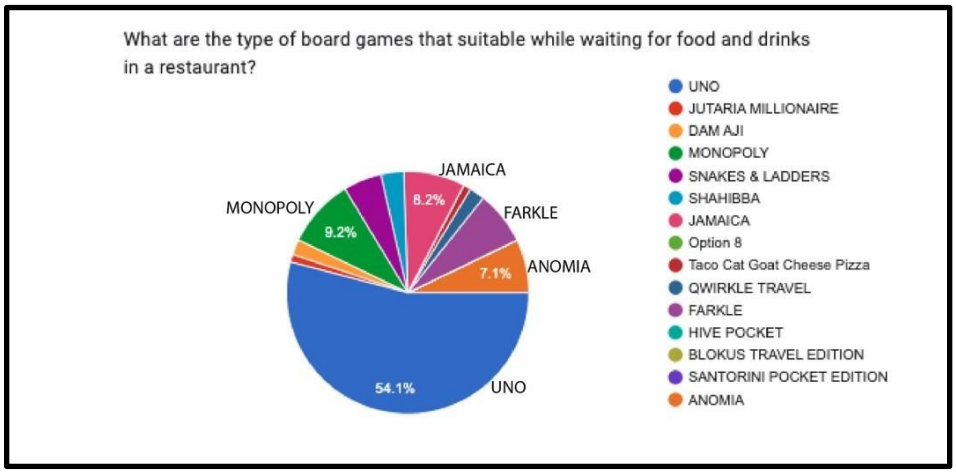

Figure 4.7 Respondents' Suitability Ratings for Specific Board Game Titles

This finding demonstrates that restaurant customers lean more toward games they already know how to play. This factor of 'Familiarity' reduces the customers' cognitive load; they do not need to spend an extensive amount of time reading manuals or understanding new rules. In a restaurant environment where the primary focus is on socializing and dining, a game requiring lengthy explanations will be perceived as a disruption rather than entertainment. This matter is further confirmed through feedback from Informant C (Restaurant Staff): -

"Most customers, when they see the Uno box, will immediately pick it up and play. There is no need for us to explain how to play it anymore. If we provide a game that people rarely hear of, they usually just look at it because they are reluctant to think about how to start."

This analysis implies that for the successful integration of interactive activities in restaurants, operators must select games that possess a strong visual identity and universally recognized rules. The popularity of Uno lies not merely in its brand name, but in its ability to be initiated spontaneously, making it the type of game that harmonizes best with a relaxed dining-out culture.

4.4 Research Findings 2 (RQ2): Design Elements for Interactive Restaurant Activities

Having identified the suitable types of board games in the previous section, this sub-chapter will focus on the second research question, which is to identify the best design elements required in a board game to make it an effective interactive activity in a restaurant. The analysis in this section is more technical and in-depth, as it integrates the visual perceptions of the quantitative respondents with a detailed Visual Analysis of the physical components of the selected board games.

Researchers emphasize that the effectiveness of a board game in a commercial space such as a restaurant depends heavily on the aesthetic quality and functionality of its design. Good design elements do not merely serve to attract customers' attention visually; rather, they function as a communication medium that facilitates the gameplay process without requiring third-party assistance. In this context, elements such as color scheme, typography, iconography, and the physical ergonomics of the game instruments are examined to evaluate the extent to which they support the sensory experience of the customers.

To achieve holistic findings, the researcher conducted an analysis of five major board games, with a specific focus on Uno as the primary benchmark based on its popularity in the RQ1 findings. Data from Sections D and E of the questionnaire are utilized to support these visual arguments. The results of the analysis have established three main themes that form the backbone of board game design criteria in restaurants: (i) Visual Aesthetics and Color Stimulation, (ii) Typographical and Symbolic Clarity, and (iii) Physical Ergonomics and Practicality.

4.4.1 Theme 1: Visual Aesthetics and Color Stimulation

Visual aesthetics, particularly the use of color, represent the first element detected by the customers' visual senses before they decide to engage in interactive activities. Based on the quantitative data from Section D, a substantial 85% of respondents agreed that the use of bright and appealing colors is the primary factor that attracts their attention toward a board game in a restaurant. This finding demonstrates that color functions as a powerful tool for visual communication in a busy restaurant

environment.

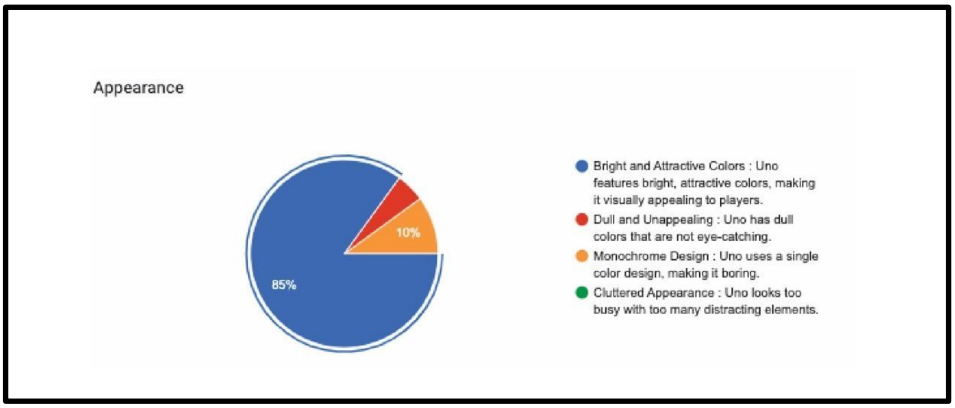

Figure 4.8 Respondents' Perception of Visual Appearance

To delve deeper into these findings, a Visual Analysis was conducted on the color schemes of three major board games to examine how color theory is applied within their designs. This analysis begins by examining the game Uno, which serves as the primary benchmark in this study. Uno was found to utilize a primary color scheme with an exceptionally high level of contrast, namely Red (#FF0000), Yellow (#FFFF00), Blue (#0000FF), and Green (#008000). The visual analysis indicates that the deployment of these saturated colors not only facilitates card recognition in potentially dim restaurant lighting but also delivers a vibrant and cheerful psychological impact to the players. Red and yellow are frequently linked in color psychology theory to increased appetite and excitement, thereby making Uno's external design highly harmonious with the ambiance of food premises.

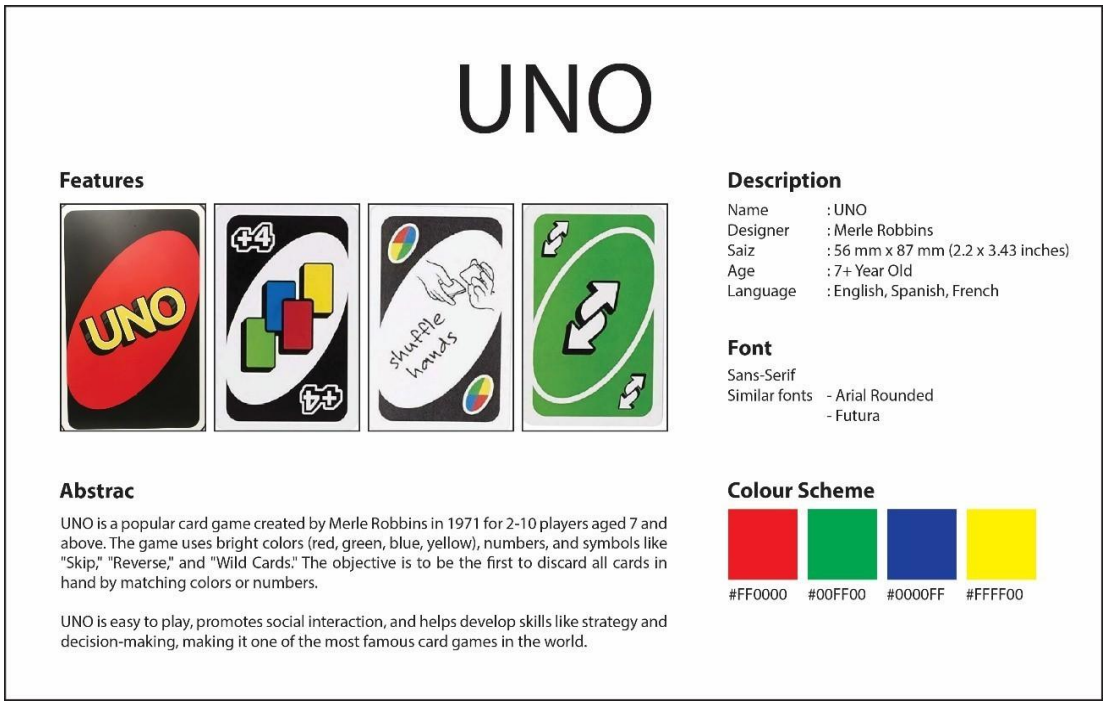

Figure 4.9 Visual Analysis and Color Scheme of the Game Uno

In contrast to Uno's approach, the game Jamaica utilizes a more complex and artistic color palette to represent its pirate and adventure theme. Although the game instruments employ a wider variety of colors, the design successfully maintains a high level of brightness to capture attention. The visual analysis reveals that the dominant use of colorful illustrations on the Jamaica game board indirectly helps create an atmosphere of 'escapism' for restaurant patrons. This dynamic aesthetic element can transform the spatial perception of an ordinary dining table into an engaging and interactive narrative environment while customers wait for their orders to arrive.

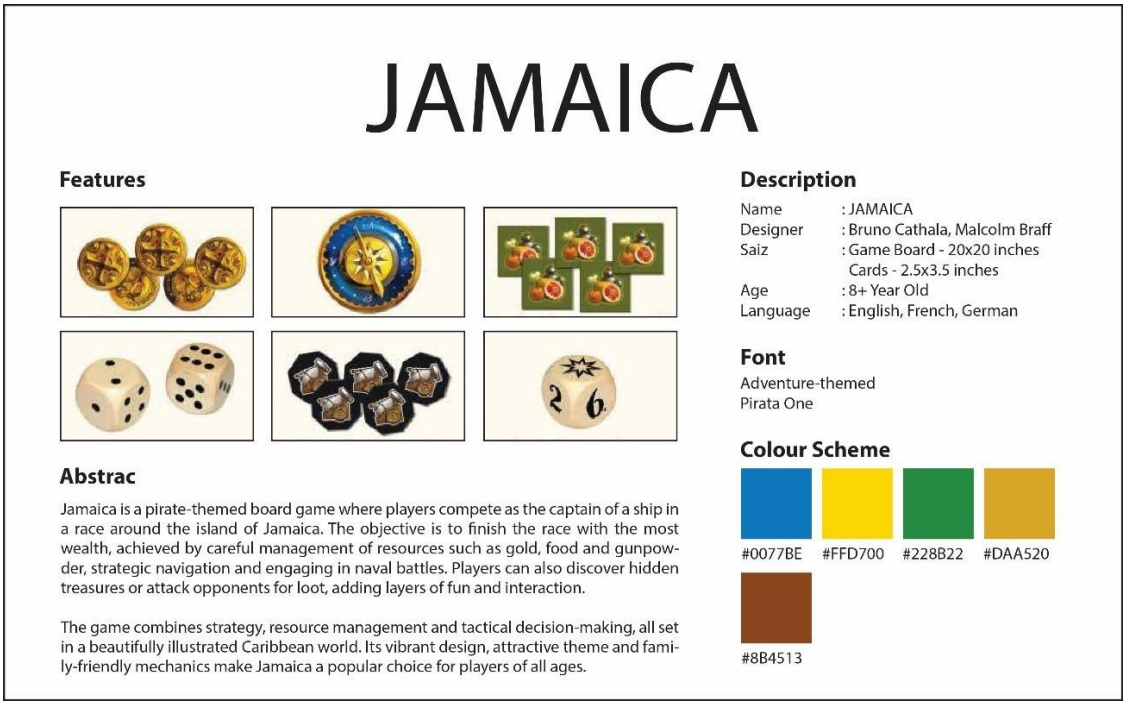

Figure 4.10 Visual Analysis and Color Scheme of the Game Jamaica

Subsequently, the analysis of the game Monopoly reveals a more structured and organized color scheme approach based on the functions of property categories. However, compared to the visual impact generated by UNO, the color categorization in Monopoly is found to be more functional for distinguishing game zones rather than acting as a spontaneous stimulus. This structural design difference explains why, from an aesthetic standpoint within a restaurant, Uno is found to capture customer attention much faster compared to the Monopoly box, which appears more formal, dense, and demands a more serious visual commitment.

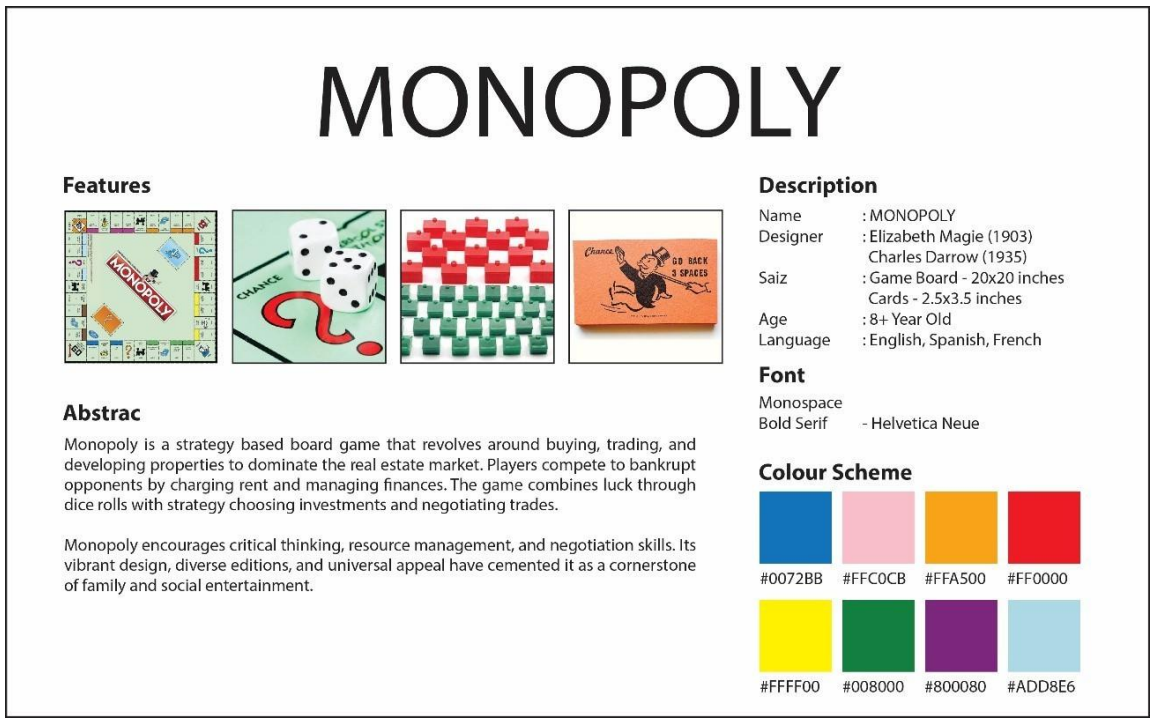

Figure 4.11 Visual Analysis and Color Scheme of the Game Monopoly

Overall, this comparative analysis proves that the effectiveness of board games in a restaurant environment depends heavily on the ability of the external design to act as visual bait. The use of bright and contrasting color schemes not only serves to enhance the aesthetic value of the instruments, but also plays a critical role in facilitating quick, spontaneous interaction. The findings of this visual analysis align with and reinforce the previous quantitative data, where 85% of respondents emphasized the necessity of prominent physical appearance elements within the dining space.

4.4.2 Theme 2: Typographical and Symbolic Clarity

The second critical element in board game design for restaurant use is typographical clarity and the symbolic system employed. Given that a restaurant environment is frequently filled with visual distractions and movement, the effectiveness of a game depends on how quickly players can comprehend information on the game components. Based on quantitative data, a substantial 92.5% of respondents agreed that easily readable typography is an essential element in ensuring smooth and seamless gameplay.

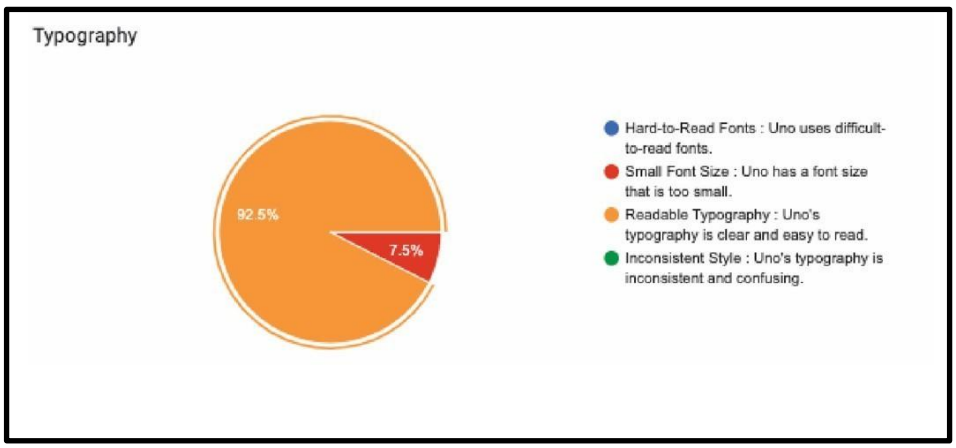

Figure 4.12 Respondents' Perception of Typography

To further elaborate on these findings, a Visual Analysis was conducted to examine how typographical elements and symbolic systems are effectively applied within the design of board game components. This assessment begins with an in-depth analysis of the typographical aspects, focusing specifically on the games Uno and Farkle. Uno was found to strategically utilize sans-serif fonts that resemble the design characteristics of Arial Rounded or Futura. The selection of this font type offers a distinct advantage in terms of high legibility, where clean letterforms without decorative flourishing (serifs) allow numbers and text on the cards to be read rapidly, even from a distance or under less-than-optimal restaurant lighting conditions. A similar functional approach was observed in the game Farkle, where the design employs Arial and Helvetica fonts on its score sheets to ensure that numerical information is conveyed accurately and swiftly to the players.

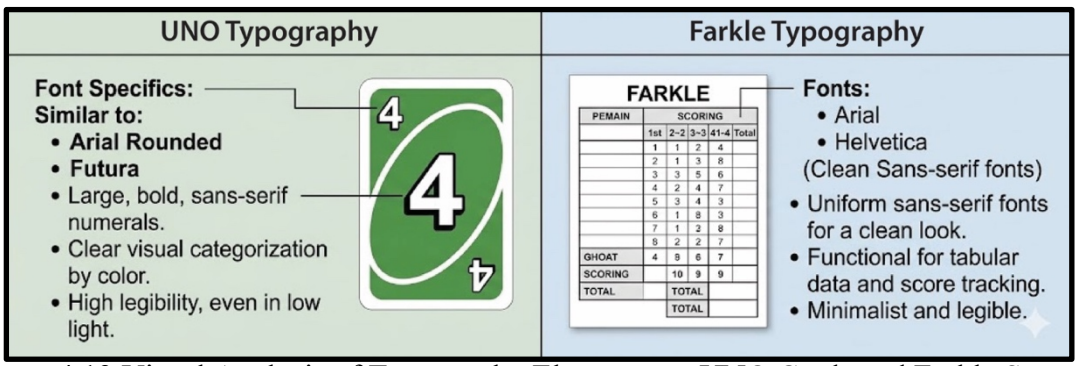

Figure 4.13 Visual Analysis of Typography Elements on UNO Cards and Farkle Score Sheets

In addition to textual elements, the functional analysis extends to the symbolic systems and iconography implemented within the games Anomia and UNO. Within this context, symbols function critically as a 'universal language' that bypasses the customers need to read lengthy written instructions. This finding is empirically supported by quantitative data, which reveals that 87.5% of respondents identified clear visual symbols as a primary factor facilitating their immediate understanding of card functions. Visual analysis of the UNO cards demonstrates that symbols such as arrows for the 'Reverse' card and stacked card graphics for the 'Draw Two' card are highly intuitive, thereby successfully reducing the customer's cognitive processing time when learning game rules. Meanwhile, Anomia focuses its design on bright, abstract symbols positioned directly at the center of the cards, serving as primary visual triggers to stimulate rapid cognitive responses during gameplay.



Figure 4.14 Visual Analysis of Design Features on Anomia and UNO Cards

Overall, this analysis proves that typographical clarity and symbolic strength do not merely concern external aesthetics; rather, they represent an essential functional requirement within a restaurant environment. The use of clean typography and intuitive symbol design indirectly enables customers to initiate gameplay spontaneously without the need to refer to complex rulebooks. These effective design characteristics are highly aligned with the relaxed, dynamic, and time-constrained nature of social interaction within food premises.

4.4.3 Theme 3: Physical Ergonomics and Practicality

The final theme in determining the best design elements involves the aspects of ergonomics and the physical practicality of the board game components. Within the context of a restaurant environment, space is a highly asset. Dining tables are typically filled with dishes, cutlery, and drinks, leaving very limited space for secondary activities. Based on the quantitative data, a substantial 92.3% of respondents stated that the practical size and shape of a game represent a critical factor in ensuring their comfort while at the food premises.

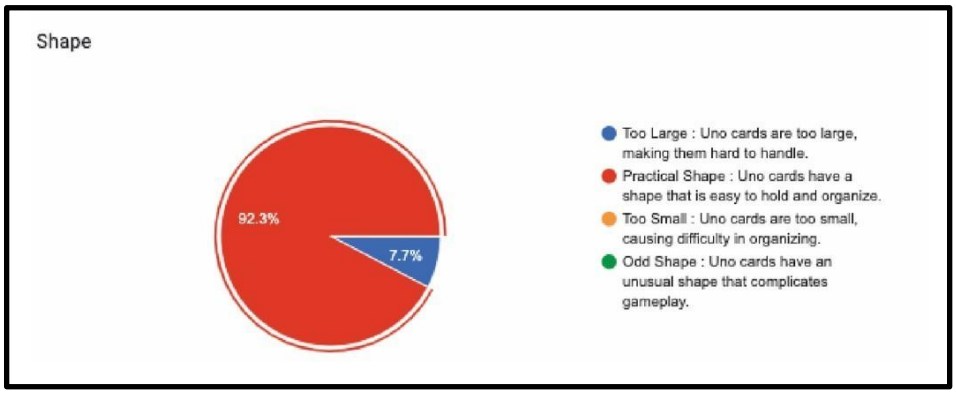

Figure 4.15 Respondents' Perception of Shape

To delve deeper into the aspect of physical practicality, a comparative Visual Analysis was conducted on the dimensions and configurations of selected board game components. This functional assessment begins by analyzing the spatial requirements of components between the games Uno and Monopoly. The analysis reveals that, by design, Uno consists merely of a single card deck of standard size, measuring 56mm x 87mm. This compact and minimalist design structure offers a significant ergonomic advantage, allowing gameplay sessions to be conducted efficiently on highly restricted surface areas without requiring the relocation of existing tableware. The highly portable nature of this game instrument indirectly enables customers to promptly pack up or reposition the game components the moment the main courses begin to be served by the waitstaff.

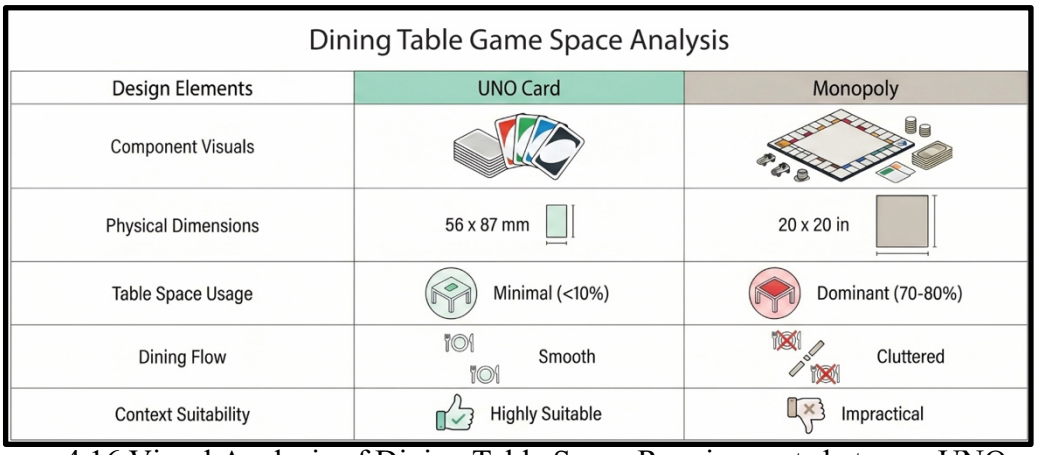

Figure 4.16 Visual Analysis of Dining Table Space Requirements between UNO and Monopoly

This situation demonstrates a highly stark contrast when compared to the physical design of the game Monopoly. The visual analysis of the Monopoly instruments indicates that this classic game requires an extensive table surface area to accommodate the large game board, banknote management, as well as the physical units of houses and hotels. Due to the abundance of these components, Monopoly's structure is categorized as a 'space-invasive' design when placed on a restaurant table. This element of physical space invasion serves as the primary factor explaining why a vast majority of respondents, amounting to 92.3% in questionnaire data, tend to avoid any type of game that could disrupt the comfort and safety of their personal dining space.

Apart from the implications of surface area constraints, the ergonomic aspect of handling through tactile experience such as component texture and thickness also plays a critical role. Visual and physical observations indicate that cards featuring a linen finish or high-grade plastic coating, such as those implemented in Uno cards, possess higher durability and are much easier to handle. This material characteristic is highly crucial for a restaurant environment, as game components run a high risk of exposure to customers' hands, which may be slightly greasy, sticky, or wet while enjoying food. This practical physical dimension is further supported qualitatively by feedback from Informant B (Customer), who stated: -

" The size of the Uno card makes it easy to hold with one hand while the other hand holds a drink. If the board is too large, it becomes difficult to focus on eating."

Overall, this comparative analysis of physical design concludes that the

optimization of ergonomic elements for a board game in a restaurant environment must be rooted in the concept of being 'minimalist and functional.' A successful interactive design within a commercial space must not only captivate customer attention solely from a visual aesthetic standpoint, but it is also imperative to ensure that its presence does not burden or restrict the customer's physical space. This balanced design approach is critical to supporting and maintaining a dining experience that is comfortable, safe, and simultaneously remains interactive.

4.5 Discussion and Data Triangulation

This sub-chapter discusses the overall synthesis of the research findings through the process of data triangulation. Triangulation constitutes a crucial aspect of mixed-methods research to ensure the validity and reliability of the study's findings. The researcher has integrated quantitative data via questionnaire, qualitative data via in-depth interviews, and visual analysis to examine the extent to which board game design elements fulfill the psychological and practical needs of restaurant customers.

4.5.1 The Relationship Between Customer Needs and Visual Evidence

The triangulation results demonstrate a remarkably high consistency between what customers desired in the questionnaire and the physical characteristics of popular games. For example, the demand of 85% of respondents regarding the importance of bright colors (quantitative data) is strongly supported by the results of the Visual Analysis of the game Uno, which utilizes a primary color scheme (#FF0000, #FFFF00, #0000FF).

The visual analysis proves that the utilization of these colors is not merely aesthetic; rather, it functions as visual stimuli that facilitates spontaneous interaction. This aligns with the statement by Informant A, who noted that customers are more quickly attracted to games that 'stand out' on the table.

4.5.2 Integration of Functionality and Space

Triangulation also reveals that the factors of time and ergonomics are closely interrelated. Survey data indicate that most customers prefer games with a duration of 10–20 minutes (quantitative data). Through Visual Analysis, the researcher found that simple board games such as Uno or Farkle feature minimal physical components namely cards or dice which directly supports the fast-paced nature of the gameplay.

This stands in contrast to Monopoly, which features complex and space-consuming components that, according to the interview with Informant B, are perceived as disruptive to the food service process. Therefore, the visual evidence regarding the game size of 56 mm X 87 mm empirically supports the respondents' desire not to have their dining space interfered with.

4.5.3 Summary of Triangulation

Overall, this triangulation process proves that the integration of board games in restaurants is not merely a secondary activity, but an interaction system designed through visual elements such as color and typography to enhance customer engagement. The findings from all three methods yield a precise conclusion: the ideal game in a restaurant environment is one that is rule-based simple as indicated by the qualitative findings, visually prominent as demonstrated through the visual analysis, and ergonomically practical as validated by the quantitative data.

In conclusion, this chapter has presented an in-depth analysis of the integration of board games in restaurants through a mixed-methods approach. The research findings, organized according to the research questions (RQ), provide a clear illustration that the selection of game types and design elements are two inseparable factors in the effort to enhance customer entertainment experience.

For the first research question (RQ1), the analysis consistently demonstrates that card-based board games, specifically Uno, represent the most ideal choice. The advantage of this game lies in its fast-paced gameplay duration (10–20 minutes) and a high level of familiarity among customers, which directly fills the waiting time for dishes without disrupting the smoothness of restaurant operations.

For the second research question (RQ2), the researcher has demonstrated

through visual analysis and survey data that the effectiveness of interaction is highly dependent upon specific design criteria. The utilization of vibrant primary colors, clean sans-serif typography, and compact component ergonomics constitute a 'triad' of elements that ensure the game is both practical for restricted table spaces and appealing from an aesthetic standpoint.

Most importantly, through the data triangulation process, this chapter successfully bridges the gap between design theory and practical application within the food service industry. These findings confirm that a well-designed board game can act as a social catalyst that enhances customer engagement and adds value to the customer's sensory experience. All discoveries within this chapter will be carried forward to Chapter 5 to be further discussed in the context of industrial implications and recommendations for future improvement.

CHAPTER 5
CONCLUSION AND RECOMMENDATION

5.1 Introduction

This final chapter presents a comprehensive synthesis of the entire study conducted to evaluate the effectiveness of integrating board games as interactive tools to enhance customer experience in restaurants. The primary focus of this section is to summarize the extent to which the research objectives have been achieved, namely exploring the most suitable types of board games and identifying the specific design elements capable of minimizing customer boredom during the food and beverage waiting period.

This study stems from an issue within the food service industry where prolonged waiting periods are frequently the primary cause of customer dissatisfaction, which subsequently subverts the image of and loyalty toward an establishment. Through a mixed-methods approach combining quantitative analysis via questionnaires, qualitative analysis through in-depth interviews, and visual analysis, this study has successfully gathered rich data to comprehend customer behavior and perceptions regarding external stimuli in the form of light entertainment.

Overall, this introduction will guide the reader to understand that the conclusions drawn are not based merely on statistical data but are driven by psychological insights into how interactive activities like board games can buy time on behalf of the restaurant. Consequently, this chapter will elaborate on the key findings, discuss the practical implications for restaurant operators, acknowledge the research limitations encountered, and outline relevant future recommendations to ensure this service innovation can be sustained more effectively within the increasingly competitive food and beverage industry.

5.2 Summary of Key Findings

This section discusses the summary of the research findings obtained through

the analysis of quantitative and qualitative data to answer both research questions (RQ1 and RQ2). These findings reflect how physical interaction through board games can alter the dynamics of the customer experience within a restaurant.

5.2.1 Suitable Types of Board Games (RQ1)

Based on the questionnaire data from 81 respondents, the study indicates that Uno is the most preferred type of game and is deemed the most suitable for a restaurant environment, with a frequency of 54.1%. This preference is influenced by several critical factors identified through thematic analysis.

In terms of accessibility, customers tend to choose games that feature simple and universally recognized rules. This indirectly reduces their cognitive load when they intend to relax.

Regarding the duration factor, games with a fast completion cycle of less than 15 minutes were found to be the most ideal. This short duration is crucial to ensure that the gaming activity does not disrupt the primary flow of the restaurant, which is the dining activity.

As for physical space, card-based games or small-sized boards are significantly more practical. These compact physical characteristics ensure that they do not occupy the limited table space, thereby allowing food to be served without any disruption.

5.2.2 Interactive Elements and Customer Experience (RQ2)

Through visual analysis and interviews, board game design elements have been identified as the primary catalyst for customer engagement.

In terms of visual attraction, bright colors and clear typography on the game components not only captivate attention from an aesthetic standpoint but also facilitate gameplay under diverse restaurant lighting conditions.

Regarding game mechanics, the 'easy start-stop' element allows customers to interact spontaneously while waiting for their orders without feeling obligated to complete a lengthy gaming session.

As for the sensory experience, physical touch involved with the game

components such as the texture of cards or game pieces provides a distinct dimension of entertainment compared to digital devices, thereby fostering a closer and more intimate social atmosphere among customers.

In summary, these findings demonstrate that the effectiveness of board games in restaurants depends not only on their entertainment value, but also on their ergonomic aspects and suitability within the dining space context.

5.3 Discussion of Findings and Theoretical Implications

This section discusses how the research findings contribute to the existing body of knowledge and how they align with the marketing and customer experience theories previously discussed in Chapter 2.

5.3.1 Validation of Customer Experience Theory

The research findings demonstrate that board games are not merely tools for entertainment, but function as catalysts for a sensory experience. This supports the argument by Ryu and Han (2010) regarding the importance of the physical environment in shaping customer satisfaction. When customers touch the game components and interact visually with the card designs, they no longer focus solely on the waiting time; instead, they become engaged in a process of value co-creation that elevates their level of trust and loyalty toward the restaurant.

5.3.2 Customer Engagement Through Gameplay

This study proves that the interactive elements in board games fulfill the customer engagement construct put forward by Bowden (2009). The social interaction that occurs during gameplay helps bridge the communication gap between customers and service providers. This finding demonstrates that engagement does not occur solely through food quality, but also through the social space provided by the restaurant.

5.3.3 Transferability to Other Domains

Although the focus of this study is on the restaurant industry, its theoretical implications demonstrate a high potential for transferability to other service sectors facing critical waiting time issues.

In the healthcare sector, this concept can be applied through the utilization of simple card game elements within clinic or hospital waiting areas. This approach serves to mitigate patient anxiety and psychological stress while awaiting consultation.

Within the banking and automotive sectors, the integration of interactive activities at service centers or bank branches can be implemented to elevate positive customer perceptions. This strategy directly improves their assessment of service quality during queuing periods.

As for the field of education, the concept of board games as social interaction tools can be adapted within university lounges or library common spaces. Such initiatives are vital to foster communication and social integration among students from diverse backgrounds.

Theoretically, this study expands the understanding that gamification elements can be utilized as an effective waiting time management strategy across any service-oriented business model:

5.4 Practical Implications for the Restaurant Industry

The findings of this study provide several practical guidelines for restaurant owners and managers to integrate board games as a strategy to enhance customer experience, as elaborated below.

5.4.1 Waiting Time Management Strategy

Restaurant operators should view board games not merely as accessories, but as tools for managing time perception. By providing fast-paced games such as Uno or simple card games, restaurants can effectively mitigate customer boredom while orders are being processed. This indirectly reduces complaints related to service delays and

enhances customer patience through positive distraction.

5.4.2 Establishing a Unique Selling Point (USP)

In a highly competitive market, the integration of visually appealing, well-designed board games can serve as a unique identity for a restaurant. Restaurants can market their premises as "socially friendly" spaces or "digital device-free zones," where customers are encouraged to engage in physical interaction. This strategy is highly effective in attracting family segments and youth groups seeking a unique experience that extends beyond mere dining.

5.4.3 Spatial and Operational Optimization

Based on the research findings regarding spatial constraints, restaurant operators are recommended to adopt several strategic measures to ensure smooth daily operations. In terms of selecting compact components, operators should choose games that do not require expansive table space. This measure is essential to ensure that the game components do not interfere with the arrangement of dishes once the orders arrive.

Regarding staff training, management is advised to train restaurant crews to act as brief facilitators capable of explaining game rules to customers. This initiative indirectly enhances positive staff-customer engagement.

As for equipment maintenance, the cleanliness of game components such as laminating cards or utilizing easily sanitized materials must be strictly maintained. Consistent upkeep is critical to guarantee hygienic standards, which remain the highest priority within the food and beverage industry:

5.4.4 Enhancing Customer Loyalty

When customers enjoy their time through game interaction, they tend to prolong their stay and develop positive emotions toward the restaurant's brand. This enjoyable atmosphere increases the probability of repeat visits and generates positive recommendations through word-of-mouth or social media sharing.

5.5 Research Limitations and Their Consequences

Although this study has provided valuable insights into the integration of board games in restaurants, several constraints must be acknowledged. These limitations not only define the boundaries of the research but also carry specific consequences for the interpretation of the findings.

5.5.1 Sample Size and Generalizability

This study involves a relatively small sample size of 81 respondents, with data collection focused strictly on a specific geographical area.

Consequently, the findings of this study may not be completely generalizable to the entire population of restaurant customers in Malaysia, particularly within rural communities or other states that exhibit distinct dining cultures and varying perceptions of entertainment.

Therefore, the outcomes of this research should be viewed and evaluated as an exploratory study that primarily represents an urban context.

5.5.2 Focus on Physical Games (Analog)

This study specifically focuses on physical (analog) board games and does not encompass digital gaming applications or Augmented Reality (AR) technologies.

Consequently, the findings regarding the aspect of customer engagement in this research may be limited solely to tactile-based interactions.

Therefore, the conclusions drawn cannot be assumed to represent the latest technological trends within the rapidly evolving digital gamification industry.

5.5.3 Context of Restaurant Types

The data for this study were collected predominantly from customers visiting casual dining restaurants and cafes.

Consequently, the strategies proposed through these findings may not be suitable for application in fine dining or luxury restaurants, where customers hold much more formal expectations regarding etiquette and ambiance.

This limitation implies that the board game entertainment model developed in this study is specific and restricted to casual dining environments only.

5.5.4 Time Constraints and External Factors

This study was conducted within a limited timeframe, which may not capture shifts in customer behavior influenced by seasonal changes or long-term trends.

Consequently, there is a possibility that the novelty effect may have influenced the gathered data. Customers might find the experience entertaining simply because the presence of board games is a novel concept to them within that specific restaurant setting.

However, due to these time constraints, this study is unable to confirm whether the same level of engagement would remain consistent over a prolonged period of long-term usage.

5.6 Recommendations for Future Research

Based on the identified findings and limitations, several recommendations are put forward for future research to strengthen and expand the scope of investigation in this field, as elaborated below.

5.6.1 Integration of Digital Elements and Augmented Reality (AR)

Given that this study focused primarily on physical (analog) board games, future research is recommended to explore the application of digital games or AR technology at the dining table. This alignment corresponds with the emerging "Smart Restaurant" industry trend. Future researchers could examine how digital visual elements can enhance the sensory experience without requiring physical table space, as well as its specific impact on the engagement of Generation Z customers, who exhibit a higher

inclination toward technology.

5.6.2 Cross-Cultural and Locational Comparison (Urban vs. Rural)

Future studies should expand the geographical scope by involving respondents from rural areas or states with diverse socio-cultural backgrounds. A comparison between customers in urban restaurants and those in rural areas could provide a more holistic overview of the acceptance of gaming activities during dining, given that social norms may vary.

5.6.3 Longitudinal Study on Brand Loyalty

It is recommended that a long-term (longitudinal) study be conducted to measure whether the utilization of board games genuinely contributes to brand loyalty and the frequency of repeat patronage. This will help determine whether the impact of board games is sustained over time or merely a "novelty effect" that will eventually fade after a certain period.

5.6.4 Cost-Benefit Analysis for Operators

Future research from a business management perspective could be conducted to analyze the return on investment (ROI) for restaurants providing gaming amenities. This includes examining the relationship between gameplay duration and the average transaction value per customer. Specifically, future studies could investigate whether playing customers exhibit a higher tendency to order additional side dishes or desserts.

5.6.5 Exploration within Other Service Sectors

Taking into account the examiner's recommendations regarding transferability, future researchers are encouraged to test this interactive gaming model within other sectors, such as hospital waiting rooms, automotive service centers, or government

offices. Future studies could focus on how gamification elements can effectively reduce customer stress levels within more formal waiting environments.

5.7 Final Conclusion

In conclusion, this study successfully demonstrates that the integration of board games in restaurants is not merely a decorative trend or a marketing gimmick; rather, it constitutes a scientific intervention strategy for managing customer experience. This research has addressed the core question regarding the most effective types of games, revealing that simple, fast-paced games with strong visual appeal such as Uno and playing cards are the most compatible with dining room dynamics.

This study emphasizes that in the era of experience economy, customers no longer evaluate a restaurant solely based on the quality of food and beverages. Emotional factors such as joy, social interaction, and stress reduction while waiting have now become key benchmarks for overall customer satisfaction. By utilizing games as a sensory experience, restaurants can transform the waiting duration typically perceived as a negative experience of wasted time into a positive form of added value, namely quality time.

Theoretically, this study has strengthened the relationship between game design elements and the construct of customer engagement. From a practical standpoint, it provides a framework for restaurant operators to innovate their services at a minimal cost while yielding a significant impact on customer loyalty. Although this study is limited by its sample size and geographical focus, the principles of interaction discovered hold substantial potential to be adapted across various other service sectors to enhance the community's quality of life through wholesome entertainment elements.

Ultimately, this study hopes that the food service industry in Malaysia will continue to explore the potential of creativity and interactive design to enhance their competitiveness. Board games have proven to be a bridge that connects people in the physical world, thereby balancing the dominance of digital devices and creating a more meaningful social atmosphere at the dining table.

REFERENCE

Anderson, M., & Lee, S. (2019). Tabletop games as experiential marketing tools in the food and beverage industry. Journal of Retailing and Consumer Services, 48, 201–212.

Beltrami, D. (2020). A board game design process: A game is a system. UX Collective. Retrieved from https://uxdesign.cc/a-board-game-design-process-a-game-is-a-system-5469dfa4536

Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. Journal of Marketing, 56(2), 57–71. https://doi.org/10.1177/002224299205600205

Bowden, J. L. H. (2009). The process of customer engagement: A conceptual framework. Journal of Marketing Theory and Practice, 17(1), 63–74. https://doi.org/10.2753/MTP1069-6679170105

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Carter, S., & Brown, L. (2022). Creating unique dining experiences through interactive entertainment: A competitive advantage strategy for restaurants. International Journal of Hospitality Management, 98, 103-115.

Chang, X., & Cheng, Y. (2023). Sensory brand experience and consumer behavior in the experience economy: The mediating role of innovative brand image. Journal of Retailing and Consumer Services, 72, 103-116.

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). SAGE Publications.

Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). SAGE Publications.

Csikszentmihalyi, M. (1990). Flow: The psychology of optimal experience. Harper & Row.

Hui, M. K., & Tse, D. K. (1996). What to tell them when they wait: The effects of informational and attentional cues on consumers' wait experience. Journal of Marketing, 60(2), 81–93. https://doi.org/10.1177/002224299606000206

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of

mixed methods research. Journal of Mixed Methods Research, 1(2), 112–133. https://doi.org/10.1177/1558689806298224

Jones, R., & Miller, T. (2020). Enhancing social engagement among restaurant customers through physical board games. Journal of Foodservice Business Research, 23(4), 312–325.

Koster, R. (2013). Theory of fun for game design (2nd ed.). O'Reilly Media.

Krippendorff, K. (2018). Content analysis: An introduction to its methodology (4th ed.). SAGE Publications.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. SAGE Publications.

Merriam, S. B., & Tisdell, E. J. (2015). Qualitative research: A guide to design and implementation (4th ed.). Jossey-Bass.

Morgan, D. L. (1997). Focus groups as qualitative research (2nd ed.). SAGE Publications.

Omar, M. S., Ariffin, H. F., & Ahmad, R. (2015). The role of visual sensory elements in shaping dining experiences and satisfaction. Procedia - Social and Behavioral Sciences, 201, 122–130. https://doi.org/10.1016/j.sbspro.2015.08.139

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(1), 12–40.

Patton, M. Q. (2015). Qualitative research & evaluation methods (4th ed.). SAGE Publications.

Robinson, P., & Clark, D. (2021). Experiential dining: Fostering customer loyalty beyond food quality through shared social activities. Hospitality & Society, 11(2), 145–163.

Rose, G. (2016). Visual methodologies: An introduction to researching with visual materials (4th ed.). SAGE Publications.

Ryu, K., & Han, H. (2010). Influence of the quality of food, service, and physical environment on customer satisfaction and behavioral intention in quick-casual restaurants: Moderating role of perceived price. Journal of Hospitality & Tourism Research, 34(3), 310–329. https://doi.org/10.1177/1096348009350624

Saldaña, J. (2015). The coding manual for qualitative researchers (3rd ed.). SAGE Publications.

Schmitt, B. (1999). Experiential marketing. Journal of Marketing Management, 15(1-3), 53–67. https://doi.org/10.1362/026725799784870496

Seidman, I. (2019). Interviewing as qualitative research: A guide for researchers in education and the social sciences (5th ed.). Teachers College Press.

Taylor, S. (1994). Waiting for service: The relationship between delays and evaluations of service. Journal of Marketing, 58(2), 56–69. https://doi.org/10.1177/002224299405800205

Yee, N. (2016). The Gamer Motivation Profile: What we learned from 250,000 gamers. Quantic Foundry.

Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). SAGE Publications.

Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2017). Services marketing: Integrating customer focus across the firm (7th ed.). McGraw-Hill Education.

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