| **RESEARCH ARTICLE**

Exploring Key Determinants of Consumer Adoption in Mobile Coffee Application: An Extended UTAUT3 Analysis

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| **ABSTRACT**

This study investigates factors influencing mobile app adoption for coffee ordering in Indonesian suburban markets, addressing low digital channel utilisation where only 41.7% of transactions occur through mobile applications. Current literature reveals a gap in integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) with an explicit 'Incentive' factor for this context. This research employs the extended UTAUT3 framework, incorporating 'Personal Innovativeness' and 'Incentive' as distinct predictors of behavioural intention and usage. A mixed-method approach involved semi-structured interviews with Grounded Theory to identify the 'Incentive' construct, followed by quantitative analysis of survey data from 63 respondents using Partial Least Squares Structural Equation Modelling (PLS-SEM). Results revealed Facilitating Conditions, Habit, and Incentive as significant determinants of behavioural intention to adopt. Other UTAUT3 variables, including Performance Expectancy and Social Influence, showed no significant impact. These findings suggest that improving mobile app adoption in suburban markets requires a strategic focus on infrastructure support, habit formation, and comprehensive incentive programmes.

1. Introduction

The global coffee consumption landscape has experienced unprecedented growth, with worldwide consumption reaching a continuous expansion from 2012 to 2022, reflecting coffee's position as one of the most consumed beverages internationally. Indonesia, as both a major coffee producer and consumer market, demonstrates particularly robust domestic consumption trends, with a 5.70% Compound Annual Growth Rate (CAGR) and domestic consumption reaching 294,000 tons in 2020. This growth trajectory has catalysed a significant expansion in Indonesia's café and coffee shop industry, with establishments growing from 1,000 coffee stalls in 2016 to 2,950 coffee shops by 2019, representing a 195% increase (Statista, 2023).

The proliferation of mobile technology adoption in Indonesia, where 99.3% of internet users aged 16-64 own smartphones and spend approximately 6.05 hours daily on mobile devices, has created unprecedented opportunities for digital transformation in the coffee retail sector. This technological landscape has prompted numerous coffee chains to develop proprietary mobile applications, facilitating 'grab and go' ordering systems whilst simultaneously enabling sophisticated customer relationship management through loyalty programmes and personalised promotions.

One of the tech-enabled coffee shops, called Vivid Brew, expanded to over 932 Indonesian stores, with sales growing from $40.3 million in 2019 to $91.3 million in 2023. Despite this growth, as of 2024, mobile app transactions account for only 41.70% of total transactions, with the remaining 58.30% from food aggregators and in-store purchases. A significant challenge is the geographical disparity in mobile app use. Central business districts in Jakarta generate about 30 million rupiah daily from mobile app

transactions. In contrast, suburban areas such as South Tangerang, Cibubur, Bekasi, and Depok derive 60% of their revenue from direct in-store purchases, highlighting untapped potential in these markets where traditional buying habits persist despite high smartphone penetration.

The competitive landscape includes major tech-integrated coffee chains in Indonesia offer similar mobile app features like order for collection, delivery, cashless payments, promotions, and loyalty programmes. This similarity necessitates a deeper understanding of factors driving sustained mobile app adoption in suburban areas, where consumer behaviour may differ from urban centres.

1.1. Problem Exploration

Based on insights derived from interviews with Vivid Brew personnel and analysis of company reports, key challenges impacting mobile app adoption in suburban areas have been identified and are visually represented in a Fishbone diagram (refer to Figure 1 in the original document). This analysis highlights three principal factors contributing to lower-than-expected app uptake in these regions:

- **Limited Customer Familiarity**: A considerable number of customers in suburban settings may continue to favour traditional in-store purchasing methods, possibly due to insufficient awareness of the distinct advantages offered by the mobile application. These benefits include functionalities such as expedited pre-ordering, access to exclusive promotions, and the accumulation of loyalty points . Moreover, word-of-mouth marketing, a potent driver of app discovery, may not have achieved adequate reach or impact within these suburban communities to stimulate widespread downloads.
- **Inadequate Incentives for First-Time Users**: The initial motivation for new customers to download the Vivid Brew app and conduct their first transaction through it can be diminished by a lack of compelling introductory offers. Strong incentives, such as complimentary beverages, substantial discounts, or bonus loyalty points upon initial app use, are crucial for encouraging trial and adoption, particularly in markets where app usage is not yet ingrained .
- **Challenges in Customer Habit Formation**: Existing purchasing behaviours, where customers are accustomed to manual, in-store ordering processes, create a significant hurdle for mobile app adoption. To encourage a shift in these established routines, the mobile application must present a clear and compelling value proposition that demonstrably enhances the customer experience, making app-based ordering markedly more convenient or rewarding than traditional methods.

Figure 1 The Fishbone Diagram of Vivid Brew Mobile App Adoption
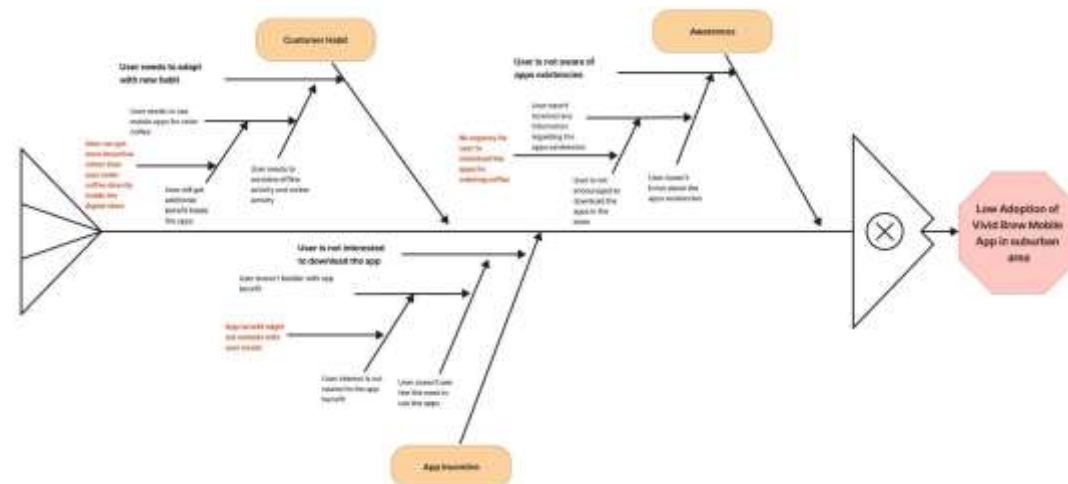
1.2 Research Questions

This research addresses the identified gap by investigating the key determinants influencing consumer adoption of the Vivid Brew mobile application specifically within Indonesian suburban contexts . The study employs an extended Unified Theory of Acceptance and Use of Technology (UTAUT3) framework, augmented through grounded theory analysis to identify contextually relevant factors that may not be captured within traditional technology adoption models . By focusing on the Bogor, Depok, Tangerang, and Bekasi metropolitan areas, this research aims to provide actionable insights for technology-enabled coffee retailers seeking to optimise digital channel performance in suburban markets.

Therefore, the research questions (RQs) of the research are :
- RQ1: What are the key drivers that are continuously influencing the adoption of the Vivid Brew mobile app in suburban areas?
- RQ2: How is the relationship between these key drivers continuously influencing the adoption of the Vivid Brew mobile app in suburban areas?
- RQ3: What improvements might be implemented in the future of the Vivid Brew mobile app?

This paper is organised as follows: Section 1 defines the introduction and business exploration. Section 2 defines a brief review of Theoretical Foundation and Conceptual Framework. Section 3 defines research method and execution, Section 4 consists of implementation initiative based on the plan and strategy developed in the previous chapter and research's findings.

2. Literature Review

The theoretical framework in this research consists of Business Strategy which involves External Factor Analysis, Industry Attractiveness, Internal Factor Analysis, Grounded Theory Analysis, Incentive and extended Unified Theory of Acceptance and Use of Technology (UTAUT3).

2.1 Grounded Theory Analysis

This research utilises grounded theory analysis to uncover new, potentially overlooked attributes influencing the adoption of the Vivid Brew mobile app. Originally proposed by Glaser and Strauss (1967), grounded theory is a systematic research method aimed at developing new theoretical insights grounded in data. Charmaz and Thornberg (2021) further define it as a structured approach involving data collection and explicit analytical strategies. This method enables the author to extend existing theoretical frameworks and generate novel concepts relevant to the research context. Grounded theory is widely employed across academic disciplines for exploring emerging fields (Bronk, 2012), understanding complex processes (Qin & Lykes, 2006), and conducting thematic analyses (Braun & Clarke, 2006). Its methodological rigour has been recognised as a valid means of theory construction (Charmaz & Thornberg, 2020).

The iterative process begins with simultaneous data collection and analysis, focusing on significant issues to develop conceptual categories. Subsequent coding stages involve classifying and synthesising data to formulate new theoretical constructs (Glaser & Strauss, 1967). Qureshi and Unlu (2020) proposed a clear four-step adaptation of classic grounded theory—coding, concept development, categorisation, and theme formation—offering accessible analytical tools especially beneficial for novice researchers. This structured approach guides the author in systematically analysing qualitative data to enrich the understanding of factors affecting Vivid Brew mobile app adoption.

2.2. Unified Theory of Acceptance (UTAUT)

To assess the adoption of Vivid Brew's mobile app, this research employs the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT is an established framework for predicting behavioural intention and the actual use of new technologies. It evolved from earlier models, notably the Technology Acceptance Model (TAM), introduced by Davis (1989) to explain user acceptance of information systems. TAM posited perceived usefulness and perceived ease of use as primary determinants of computer acceptance and has received considerable empirical support. Critical reviews of studies on TAM by several researchers have yielded that TAM and its modified versions have gained substantial theoretical and empirical support over a period of time and are most widely used (Abimanyu et al., 2024). However, TAM's limited scope, with only two main determinants, necessitated extensions for more comprehensive research, leading to the development of UTAUT.

UTAUT integrates elements from several established models, including TAM, the Theory of Planned Behaviour (TPB), the Theory of Reasoned Action (TRA), Innovation Diffusion Theory (DOI), the Model of PC Utilisation, and Social Cognitive Theory. Introduced by Venkatesh in 2003, the original UTAUT model proposed that four key constructs influence the adoption of new technology: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions.

Over time, UTAUT was extended to UTAUT2 by Venkatesh et al. (2012) to offer greater predictive power in individual consumer contexts, incorporating variables such as hedonic motivation, price value, and habit. Further development led to UTAUT3, which, as highlighted by Farooq et al. (2017), includes personal innovativeness – an individual's willingness to try new technologies. This research adopts the UTAUT3 framework, as it provides a more holistic perspective for measuring new technology adoption determinants, particularly relevant for a food and beverage business like Vivid Brew (see Figure 2 in the original document for Farooq's (2017) UTAUT3 model.

Figure 2 Unified Theory of Acceptance and Use of Technology 3 (Farooq et al., 2017)
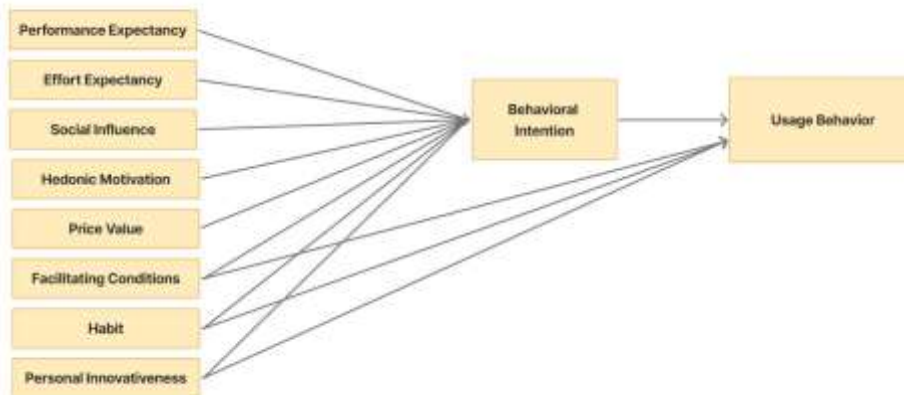
According to Figure 2, UTAUT3 Model describes determinants of the behavioral intention, following the usage behavior. As can be seen in Figure 2, Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, and Price Value are the determinants that influence Behavioral Intention, while Facilitating Conditions and Habit are the determinants that influence both Behavioral Intention and Usage Behavior. In addition, the particular extended determinant which is called Personal Innovativeness might influence Behavioral Intention and Usage Behavior. The last determinant, Behavioral Intention, has an influence on the usage behavior.

Current literature reveals a gap in specifically measuring factors influencing mobile coffee ordering app usage by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) model with an explicit 'incentive' factor, particularly concerning external variables in the coffee beverage industry. This study addresses this by employing the UTAUT3 framework, chosen for its inclusion of 'Personal Innovativeness' – defined by Farooq et al. (2017) as a consumer's willingness to try new technology for its innovation. Critically, this research also incorporates 'Incentive' as a distinct predictor of both behavioural intention and actual mobile app usage, a factor not typically isolated in previous studies. Given the shift from traditional offline coffee transactions to mobile apps offering various user benefits, this study posits that both 'Personal Innovativeness' and 'Incentive' are relevant in predicting the intention to use and actual usage of Vivid Brew's mobile app.

2.3. Hypothesis Development

Drawing on established theory and previous research in Table 1, this subsection outlines the hypotheses to be tested. The study employs the UTAUT3 model, leveraging its Personal Innovativeness dimension, to define these hypotheses and propose it as a new, comprehensive framework for investigating Vivid Brew mobile app adoption. This perspective aligns with the consumer shift to online coffee transactions and aims to provide clarity, considering the mixed findings in prior UTAUT3 research.

Table 1 Result of Testing UTAUT3 Model Factor in Previous Researches

Author	Factors in UTAUT3								Domain
	PE	EE	SI	FC	HM	PV	H	PI	
Pal, et.al, 2025	✓	X	✓	-	✓	+	✓	+	Plastic money and digital wallet adoption
Wu, et.al, 2025	✓	✓	✓		✓	-	-	+	Generative AI (ChatGPT)
Antonio, et.al, 2025	✓	✓	✓	✓	✓	✓	✓	+	Online gambling

Garcia et al., (2024)	✓	✓	X		✓		✓		AI-based Tools in Mathematical Problems
Fahmi et al. (2024)			✓			X			Learning Management System (LMS)

✓= Significant, X= Not Significant, += Influence, -= Not Influence

In this research, the author defines the hypothesis according to the applied UTAUT3 model with the additional predictor "Incentives". Details can be seen as follows :

● Performance Expectancy (PE)

Performance Expectancy refers to a consumer's perception that using new technology, such as a mobile app, will improve their performance (Antonio et al., 2025), akin to 'perceived usefulness' in the Technology Acceptance Model (TAM) (Venkatesh et al., 2003). Farooq et al. (2017) define it as the degree to which an individual believes technology will be beneficial in their activities. Higher perceived performance expectancy, such as an expectation that a coffee mobile app will streamline the ordering process, is likely to positively influence the user's intention to adopt it. This paper posits that:

H1: Performance Expectancy (PE) positively influences behavioural intention to use the Vivid Brew mobile app.

• Effort Expectancy (EE)

Effort Expectancy, analogous to 'Perceived Ease of Use' in the Technology Acceptance Model (TAM) (Venkatesh et al., 2003), concerns the degree to which an individual perceives a new technology as straightforward to understand and operate (Liao and Lu, 2008). Farooq et al. (2017) define it as the perceived ease of using applications for various activities. If consumers find an application intuitive and simple to use, this perception is likely to positively influence their behavioural intention to adopt it. Therefore, this paper posits that :

H2: Effort Expectancy (EE) positively influences behavioral intention to use the mobile app of Vivid Brew

● Social Influence (SI)

Social Influence refers to the perception that an individual's decision to use new technology, such as an app, is shaped by the opinions or actions of their close relations, like friends and family (Venkatesh et al., 2003). This factor gauges the extent of social pressure from an individual's social circle—including family, friends, and other influential figures—to adopt a particular technology (Farooq et al., 2017). Therefore, this paper posits that :

H3: Social Influence (SI) positively influences behavioural intention to use the Vivid Brew mobile app.

● Hedonic Motivation (HM)

This attribute forms the enjoyment and entertaining aspect the user perceives to have by using the new technology (Venkatesh et al., 2012). This attribute represents the dynamic between the consumer and the new apps as the new technology brings a sense of delight towards positive behavioral intention. When users find a system that feels fun or engaging, they are more likely to integrate it into their routines and recommend it to others (Garcia et al., 2025). Hence, the paper suggests that :

H4: Hedonic Motivation (HM) positively influences the intention to use the mobile app of Vivid Brew

● Price Value (PV)

Antonio et. al., (2025) stated that price value reflects the result of what the consumer has purchased to have the benefit of the technology. If it means positive, then the benefits give above expectation outcome. Venkatesh et al. (2012) explain Price Value as a cognitive trade-off between the benefits and monetary cost. Therefore, this paper hypothesized that :

H5: Price Value (PV) positively influences the intention to use the mobile app of Vivid Brew

- Facilitating Condition (FC)

Facilitating Conditions relate to a consumer's perception of the available resources and support needed to use a technology (Venkatesh et al., 2012). In practice, the presence of adequate support and infrastructure can empower users to adopt and maintain technology use, while a lack thereof can create obstacles, even if other motivating factors are present. For coffee app consumers, this involves their assessment of the resources and support available from their environment and social circle to use the app. Hence, this paper posits that :

H6: Facilitating Conditions (FC) positively influences behavior intention to use mobile app of Vivid Brew

- Habit (H)

'Habit', as defined by Venkatesh et al. (2012), refers to the tendency of consumers to use a particular technology automatically due to established patterns and learning. It signifies the extent to which individuals perform certain behaviours without conscious thought, as a result of prior knowledge and repeated use (Farooq et al., 2017). When technology use becomes habitual, it typically requires minimal conscious effort, and continued engagement is probable even if explicit intentions are not strong. In the context of this study, this attribute reflects the established patterns of mobile app usage among coffee app consumers.

H7: Habit (H) positively influences the intention to use mobile app of Vivid Brew

- Personal Innovativeness (PI)

'Personal Innovativeness', a predictor introduced in the extended UTAUT3 framework by Farooq et al. (2017), is defined as an individual's propensity to try out newly developed or established technologies, often being among the first in their social circle to do so. Consumers exhibiting high Personal Innovativeness are typically more inclined to experiment with and adopt novel systems, frequently acting as early adopters within their communities.

H8: Personal Innovativeness (PI) influences the intention to use Vivid Brew mobile app

- Incentive (I)

'Incentive' refers to an additional benefit users receive when using mobile apps. This concept aligns with Vroom's (1964) Expectancy Theory, which posits that individuals are motivated by the anticipated outcomes of their actions. Stocchi et al. (2021) affirmed that incentive theory offers a valuable framework for examining the determinants of mobile app adoption. Further supporting this, Faizah et al. (2021) found that incentives positively affect an app's perceived usefulness. Initial qualitative findings from this study, derived from grounded theory analysis of user interviews, also indicated that individuals are more inclined to use coffee shop apps if they offer additional incentives.

H9: Incentive (I) positively influences the intention to use the mobile app of Vivid Brew

2.4 Conceptual Framework

While previous research applying the Unified Theory of Acceptance and Use of Technology 3 (UTAUT3) framework across various industries offers valuable insights, its applicability in specific contexts, such as the mobile app-integrated coffee shop sector, remains underexplored . This study addresses this gap by focusing on the adoption of Vivid Brew's mobile app.

Figure 3 Conceptual Framework
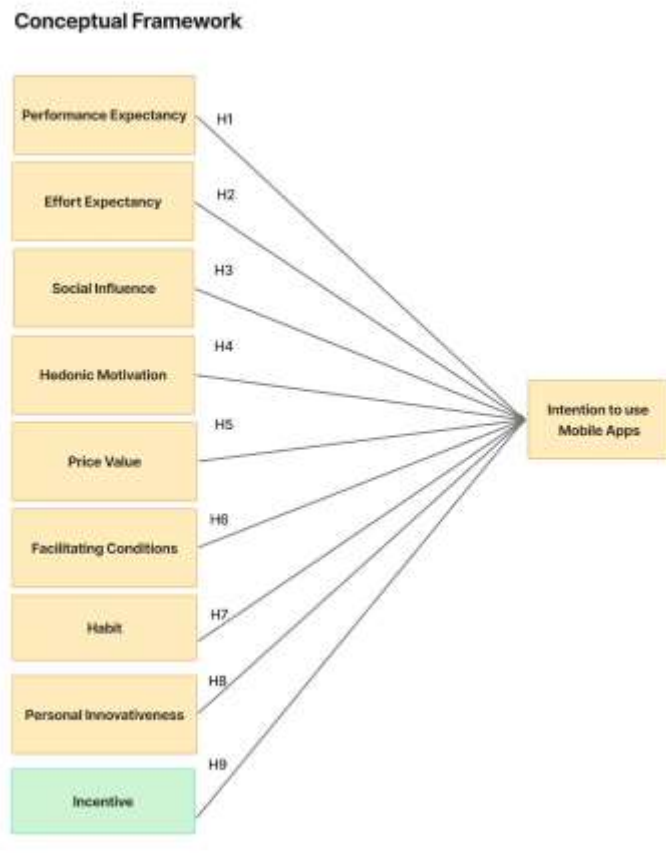
The UTAUT3 model's inherent flexibility has seen it widely adapted in diverse technological studies, often by introducing new factors or modifying existing ones to suit particular research aims. For instance, Pal et al. (2025) incorporated 'perceived risk' for plastic money and mobile wallet adoption, while Wu et al. (2024) excluded 'facilitating conditions' when studying generative artificial intelligence adoption, and Antonio et al. (2025) added variables like 'perceived risk and return' for online gambling intention . Building on this precedent of customisation, and supported by findings that incentives can significantly influence mobile app adoption , this research introduces 'incentive' as a key determinant in the context of Vivid Brew mobile app adoption.

3. Research Methodology

This research commences by defining business issues and objectives, followed by a comprehensive literature review. Subsequently, qualitative data will be gathered via semi-structured user interviews to understand user perspectives and identify potential predictive variables using Grounded Theory Analysis. Insights from this qualitative phase will inform the quantitative stage, which involves creating and distributing an online questionnaire. This survey, utilising Likert scale questions, will test hypotheses derived from the Extended Unified Theory of Acceptance and Use of Technology 3 (UTAUT3). The questionnaire will target students, workers, and other coffee-drinking communities who have purchased from mobile app-based coffee shops in the Bogor, Depok, Tangerang, and Bekasi areas. Once a sufficient number of responses are collected, the data will be analysed using the established theoretical framework, leading to conclusions and actionable recommendations for the business.

Figure 4 Research Design Framework

3.1 Data Collection Method

This research employs a robust, multifaceted data collection strategy centred on gathering original, first-hand data to achieve its objectives. A sequential mixed-methods approach will be utilised, beginning with qualitative data collection through direct observation and semi-structured user interviews. This initial phase aims to uncover user perspectives and identify predicted determinants of mobile app adoption, which will then inform the quantitative stage as additional variables for hypothesis testing. Subsequently, primary quantitative data will be collected via online surveys distributed to target participants. This primary data will be the main information source, supplemented by secondary data from previous business articles and research to provide a holistic understanding.

3.2 Sampling Plan

For this research, participants were selected using a dual sampling strategy. In the qualitative phase, purposive sampling was employed to recruit 10 participants capable of providing rich, in-depth insights relevant to the research questions (Moser & Korsthens, 2017; Alaba, 2024; Al-Busaidi, 2008; Palinkas et al., 2013). The quantitative phase utilised a non-probability convenience sampling approach, chosen for its cost-effectiveness and ease of access (Sekaran, 2016; Golzar et al., 2022). An a priori power analysis conducted with G*Power, using linear multiple regression and considering a large effect size ($f^2 = 0.35$), an alpha level of 0.05, statistical power of 0.80, and 9 predictor variables (Roscoe, 1975; Priyanath et al., 2020; Riley et al., 2020; Cohen, 1988), indicated a minimum required sample size of 54 participants. This aligns with established guidelines and similar UTAUT3 studies (Farooq et al., 2017; Fahmi et al., 2023; Garcia et al., 2025). Consequently, 63 respondents were surveyed for the quantitative data collection for this research. Respondents for the quantitative phase will answer questions using a Likert scale, an ordinal measure used to evaluate beliefs or understandings (DeVellis, 2017). This research employs a six-point Likert scale, as studies suggest this can enhance response depth by encouraging respondents to make a definite choice rather than opting for neutrality, and can provide more nuanced information when measuring complex situations (Liang et al., 2023; Abdul, 2010; Allen & Seaman, 2007).

3.3 . Data Analysis Method

Qualitative data will be analysed using Grounded Theory. This iterative approach commences with data collection and initial analysis (Glaser and Strauss, 1967), followed by coding data from diverse sources (e.g., interviews, articles) to identify patterns and concepts (Du et al., 2024). The coding procedure, as outlined by Qureshi & Unlu (2020), involves: Open Coding (initial concept labelling); Axial Coding (refining data into codes, concepts, categories, and themes); Selective Coding (establishing relationships

between core themes and categories); and Thematisation (linking categories to applied theory). Resulting hypotheses or theories are then integrated with existing literature to inform determinants for subsequent quantitative hypothesis testing.

For quantitative data, Structural Equation Modelling (SEM) will be used to test the hypotheses, with SmartPLS applied for data analysis and to assess questionnaire reliability and validity. Partial Least Squares SEM (PLS-SEM) is well-suited for modelling complex relationships between observed and latent variables, combining factor and path analysis, and is robust with small to medium sample sizes and non-normal data (Hair et al., 2019). Reliability and validity will be evaluated using Composite Reliability (CR > 0.60) and Average Variance Extracted (AVE > 0.50) (Hair et al., 2019). Hypothesis testing will be conducted via bootstrapping with 5,000 subsamples, with significance indicated by t-values above 1.966 and p-values of 0.05 or less (Sarstedt et al., 2017).

4. Findings

4.1 Grounded Theory Analysis

The analysis of Grounded Theory provided is based on Qureshi and Unlu (2020) explanation about four-step coding instruments for Grounded Theory. The process will use the following steps: Code, Concept, Category, and Theme.

Table 1 The Raw Data of Respondent

No	Subject	Age	Profession	Have used coffee app to order coffee	Consideration Factor to Use the Mobile Apps
1	Respondent 1	30	Professional worker	1 time	- Don't want to have lots of app in the phone - No interesting offer such as promo, coupon, voucher
2	Respondent 2	34	Housewife	More than 1 time	-Use the app because of additional benefit and promotion
3	Respondent 3	34	Master degree student	More than 1 time	-Use the app because of further benefit and promotion
4	Respondent 4	40	Freelancer	More than 1 time	-Use the app because of habit and outlet availability
5	Respondent 5	33	Lecturer	1 time	-Use the app because user wants to drink coffee -Don't want to have lots of app in the phone
6	Respondent 6	32	Professional worker	1 time	-Prefer cafe ambience and direct interaction with the barista because barista can offer new menu variation of bean even

					though the price is higher - Might interest to use app again if there's additional promo
7	Respondent 7	24	Professional worker	More than 1 time	-Always use the app for order, because user doesn't want to wait too long for order
8	Respondent 8	27	Professional worker	1 time	-Prefer order coffee through food delivery app (not the brand directly) -Prefer the taste of coffee to buy frequently
9	Respondent 9	29	Professional worker	More than 1 time	-Interest to use apps because of promotion -User can't custom the order through apps
10	Respondent 10	33	Professional worker	1 time	-The UI and UX factors -No visibility of further benefit

Table 2 Qualitative Data Process

Code	Concept	Category	Theme
I don't want to use because I already have a lots of app in my phone	Too many apps	App size	**Effort expectancy :** a consumer perception towards resources and support to use the technology (Venkatesh et al., 2003)
There's no interesting promotion and benefit for me to use the app	Additional benefit	Benefit and Incentive for user	**Incentive** : a consumer perception towards additional benefit or reward that user might receive

I use the mobile app that has multiple service, not only for coffee	Multiple features inside the apps	Features variability	**Performance expectancy :** a perception towards performance improvement by using the new technology (Venkatesh et al., 2003)
I prefer drinking coffee in the cafe directly due to its working and seating space while I'm talking with barista	Ambience and social interaction in the cafe	Social interaction	**Social Influence :** a perception of the consumer to use the new technology which will be applied by the people around them (Venkatesh et al., 2003)
I want to use mobile app because I don't have to wait for so long to have my coffee ready	Faster time to wait for the coffee	Time-efficiency	**Performance expectancy :** a perception towards performance improvement by using the new technology (Venkatesh et al., 2003)
I use because I love the taste of the coffee	Coffee taste	Product performance	**Performance expectancy :** a perception towards performance improvement by using the new technology (Venkatesh et al., 2003)
I don't want to use due to limitation of customized order	Limited features	Features variability	**Performance expectancy :** a perception towards performance improvement by using the new technology (Venkatesh et al., 2003)
I don't like the UI and UX	UI and UX navigation	User experience	**Effort expectancy :** a consumer perception towards resources and support to use the technology (Venkatesh et al., 2012)

I use the app because of my habit to order coffee using the app	Routine activity	Habitual	**Habit** : a perception that user engage in a particular behavior automatically due to its learning experience (Tamilmani et al., 2021)

Analysis of user interviews using Grounded Theory indicates that the identified categories align with UTAUT3 determinants, specifically Effort Expectancy, Performance Expectancy, and Social Influence. Additionally, "Incentive" emerged as a new variable and will be included for further hypothesis testing using the SEM-PLS method.

4.2. Descriptive Statistics

The study surveyed 63 respondents from Indonesian suburban regions, predominantly female (62%), with a notable male representation (38%). Age distribution revealed a majority (57%) aged 26–34, followed by 35–43 years (29%), 17–25 years (11%), and individuals over 43 (3%). Geographically, respondents resided in Tangerang (39.7%), Jakarta (28.6%), Bekasi (11.1%), and Depok (11.1%), with minor representation from Bandung, Bogor, and Belitung. Occupationally, 69.8% were employed professionals, 9.5% housewives, 9.5% entrepreneurs, and 7.9% students, with marginal participation from civil servants and fresh graduates.

Coffee consumption patterns indicated 50.8% consumed 1–3 cups weekly, while 27% drank 4–7 cups. A smaller segment (17.5%) reported less than one cup weekly, and 4.8% exceeded seven cups. Notably, 79.4% had prior experience using mobile apps for coffee purchases, underscoring suburban familiarity with digital ordering platforms. This demographic profile highlights Vivid Brews' primary consumer base as tech-savvy, working-age adults in urban satellite areas, aligning with Indonesia's mobile-first consumer trends.

Table 3: The mean and standard deviation from the quantitative data

Variable	Indicator	Mean (Indicator)	Mean (Total)	St. Dev
Performance Expectancy (PE)	PE1	4.81	4.78	1.25
	PE2	4.84		1.29
	PE3	4.70		1.20
Effort Expectancy (EE)	EE1	4.98	4.76	1.17
	EE2	4.63		1.18
	EE3	4.67		1.02
Social Infuence (SI)	SI1	3.13	2.99	1.53
	SI2	2.84		1.58

Facilitating Condition (FC)	FC1	5.63	5.63	0.68
	FC2	5.63		0.60
Hedonic Motivation (HM)	HM1	4.60	4.47	1.06
	HM2	4.33		1.22
Price Value (PV)	PV1	4.44	4.43	1.19
	PV2	4.41		1.20
Habit (H)	H1	4.38	4.27	1.62
	H2	4.46		1.66
	H3	3.98		1.79
Personal Innovativeness (PI)	PI1	4.49	4.33	4.49
	PI2	4.62		4.62
	PI3	3.89		3.89
Incentive (I)	I1	4.25	4.40	1.25
	I2	4.54		1.25
Intention to Use Mobile App	IUM1	4.51	4.41	1.25
	IUM2	4.32		1.25

Through Table 3, the descriptive analysis revealed Facilitating Conditions as the strongest determinant (Mean=5.63, SD=0.60–0.68), indicating unanimous agreement on technical infrastructure adequacy. Performance Expectancy (Mean=4.78, SD=1.20–1.29) and Effort Expectancy (Mean=4.76, SD=1.02–1.18) demonstrated high perceived utility and ease of use, while Social Influence scored lowest (Mean=2.99, SD=1.53–1.58), suggesting peer recommendations minimally impacted adoption. Habit (Mean=4.27, SD=1.62–1.79) and Incentive (Mean=4.40, SD=1.25) showed moderate integration into routines and reward responsiveness. Notably, Personal Innovativeness exhibited variability (PI3=3.89 vs. PI2=4.62), reflecting divergent attitudes towards new technologies. The intention to adopt (Mean=4.41, SD=1.25) aligned with core UTAUT3 predictors, emphasising infrastructural and behavioural factors over social dynamics in suburban contexts.

4.3. Reliability and Valdity of All Respondents

Following data collection from all 63 respondents, the study assessed measurement model reliability and validity using established psychometric criteria. Composite reliability, prioritised in Partial Least Squares Structural Equation Modelling (PLS-SEM) analyses, exceeded the 0.60 threshold across all constructs (Fornell & Larcker, 1981), confirming internal consistency. Convergent validity was verified through Average Variance Extracted (AVE) values surpassing the 0.50 benchmark, demonstrating adequate construct representation. These tests ensured the instrument's robustness for evaluating adoption determinants within the extended UTAUT3 framework.

Table 4: Result of Validity & Reliability Analysis

Variable /Constructs	AVE (>0.5)	Conclusion	CR(rho_a) (>0.6)	CR(rho_c) (>0.6)	Conclusion
Performance Expectancy	0.893	Valid	0.945	0.962	Reliable
Effort Expectancy	0.625	Valid	0.787	0.833	Reliable
Social Influence	0.943	Valid	0.950	0.970	Reliable
Hedonic Motivation	0.905	Valid	0.903	0.950	Reliable
Price Value	0.919	Valid	0.955	0.958	Reliable
Facilitating Conditions	0.882	Valid	0.976	0.937	Reliable
Habit	0.512	Valid	0.702	0.751	Reliable
Personal Innovativeness	0.747	Valid	0.853	0.898	Reliable
Incentive	0.901	Valid	0.910	0.948	Reliable
Intention to use mobile app	0.908	Valid	0.900	0.952	Reliable

Figure 5 Model Measurement
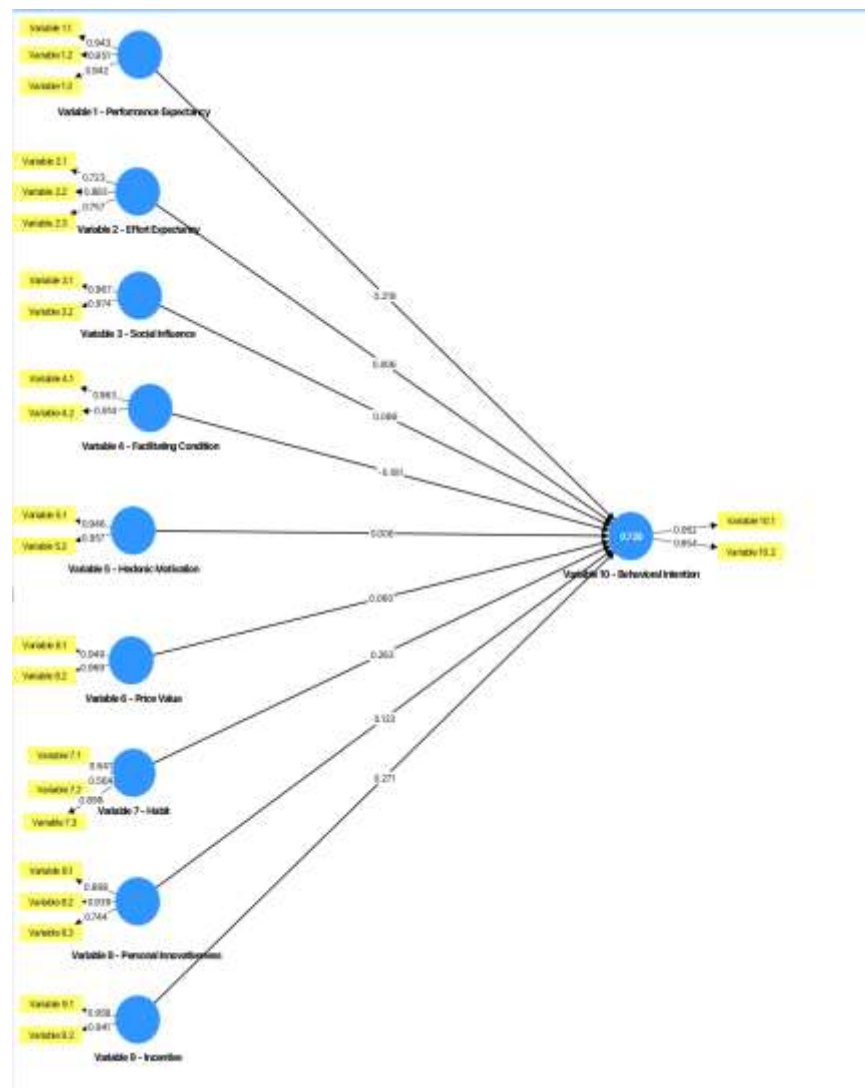
4.4. Hypothesis Testing Results

This study employed bootstrapping, a non-parametric resampling technique in PLS-SEM, to evaluate hypothesis significance. Following methodological recommendations (Mendez-Suarez, 2021), 5,000 bootstrap samples were generated. Path coefficients were deemed statistically significant if their t-values exceeded 1.96 (5% significance level) and relevant if valued between -1 and +1.

Table 5: Result of Hypothesis Testing

No	Hypotheses	t-stat	p-value	Results
H6	Facilitating Condition (FC) positively influences behavioral intention to use mobile app of Vivid Brew	2.306	0.021	Accepted
H7	Habit (H) positively influences behavioral intention to use mobile app of Vivid Brew	2.508	0.012	Accepted

H9	Incentive (I) positively influences behavioral intention to use mobile app of Vivid Brew	2.368	0.021	Accepted
H1	Performance Expectancy (PE) positively influences behavioral intention to use mobile app of Vivid Brew	1.330	0.183	Rejected
H2	Effort Expectancy (EE) positively influences behavioral intention to use mobile app of Vivid Brew	0.045	0.964	Rejected
H3	Social Influence (SI) positively influences behavioral intention to use mobile app of Vivid Brew	0.709	0.478	Rejected
H4	Hedonic Motivation (HM) positively influences behavioral intention to use mobile app of Vivid Brew	0.044	0.965	Rejected
H5	Price Value (PV) positively influences behavioral intention to use mobile app of Vivid Brew	0.623	0.533	Rejected
H8	Personal Innovativeness (PI) positively influences behavioral intention to use mobile app of Vivid Brew	0.699	0.484	Rejected

The bootstrapping procedure results revealed that Facilitating Condition (FC), Habit (H), and Incentive (I) positively and significantly influence behavioural intention to use the Vivid Brews mobile app, whereas other tested variables did not demonstrate a significant positive influence. These findings establish FC, H, and I as the key determinants for adopting the Vivid Brews mobile application.

4.5. Discussion and Implications

Following hypothesis testing within the UTAUT3 framework, this research presents a comprehensive solution and implementation plan. This plan is specifically designed to leverage the determinants identified as enhancing user adoption of the Vivid Brew mobile application. Grounded in established technology adoption theories, the proposed solution incorporates findings from these analyses, alongside valuable suggestions and feedback gathered from respondents. The research findings underscore opportunities for Vivid Brew as a mobile app-based brand in the 'grab-and-go' coffee industry. Crucially, the extended UTAUT3 analysis identified Facilitating Conditions, Habit, and the additional variable of Incentive as the pivotal determinants for mobile application adoption.

While the existing features inside the app have facilitated initial adoption, the research findings from UTAUT3 and consumer pain points suggest opportunities for enhancement through targeted interventions in areas below :
- Enhancing Facilitating Conditions
  Key improvements include optimising app performance and size, introducing offline functionality, ensuring fast in-store Wi-Fi, and bolstering user support through trained staff and interactive in-app onboarding.
- Developing Habit-Forming Features
  To integrate the app into daily routines, implement intelligent contextual notifications, one-tap reordering, a simplified, progressive user interface, and significantly enhanced gamification with clearer VIP membership benefits and achievement systems.
- Optimising Personalized Incentive Structures
  Incentives should be refined through a progressive VIP programme offering both frequent and milestone rewards, supplemented by experiential benefits and AI-driven personalised offers. Clear communication of the app's value proposition and further gamification are also crucial.

5.   Conclusion

The findings of this paper provide a comprehensive understanding of the key determinants influencing the adoption of the Vivid Brew mobile application, as well as the relationship between each determinant. The research findings revealed several factors that need to be considered by the business team and stakeholders of Vivid Brew to increase the adoption of the Vivid Brew mobile app, particularly in the Bogor, Depok, Tangerang, and Bekasi areas.

This paper contributes to the understanding of technology adoption in the Indonesian coffee retail sector by addressing specific gaps in current literature. Existing studies have not extensively measured factors influencing mobile coffee ordering app usage by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) model with an explicit 'incentive' factor, especially concerning external variables within the coffee beverage industry . Furthermore, while the UTAUT3 framework has been applied across various industries, its applicability in the specific context of the mobile app-integrated coffee shop sector remained underexplored.

This study addresses these gaps by employing the extended UTAUT3 framework, which was chosen for its inclusion of 'Personal Innovativeness'—a consumer's willingness to try new technology . Critically, this research also incorporates 'Incentive' as a distinct predictor of both behavioural intention and actual mobile app usage, a factor not typically isolated in previous studies . Given the shift from traditional offline coffee transactions to mobile apps offering various user benefits, this study posited that both 'Personal Innovativeness' and 'Incentive' are relevant in predicting the intention to use and actual usage of Vivid Brew's mobile app.

The UTAUT3 framework used in this research has eight variables, which are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic Motivation, Price Value, Habit, and Personal Innovativeness, with Incentive as an additional variable. The author analyzes the impact of a total of nine variables on the intention to use mobile applications. The research shows that the variables of Facilitating Condition, Habit, and Incentive significantly shape user's willingness to adopt and use the mobile application of Vivid Brew.

Based on the research result, the Facilitating Condition was found to be a crucial enabler, as users are more likely to adopt the app when they perceive sufficient support, infrastructure, and ease of use. Habit is also found as a strong predictor, indicating that users with established routines involving mobile coffee ordering are more likely to continue using the app. Incentives also played a vital role in motivating both initial adoption and sustained engagement, with users responding positively to additional rewards, discounts, loyalty programs, and other intangible benefits.

To improve the adoption of the Vivid Brew mobile app, the company needs to enhance Vivid Brew to be a well-designed mobile app, by optimizing technical infrastructure, implementing habit-forming features, and optimizing the incentives structure. These improvements are believed to significantly enhance customer engagement and business performance for Vivid Brew.

Conflicts of Interest: The authors declare no conflict of interest.
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