GROWTH HACKING DIMENSIONS: A KEY TO UNLOCKING COMPETITIVE ADVANTAGE IN NIGERIA'S FINTECH INDUSTRY

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Abstract

The study examined the effect of growth hacking dimensions on competitive advantage of FinTech companies in South-South Nigeria. The study adopted a quantitative research method and cross-sectional survey research design. The population of the study comprised experts of FinTech companies operating in South-South Nigeria. The sample size of 384 participants was calculated using the Cochran formula. Data was collected using a well-structured questionnaire designed with a five-point Likert scale. The research instrument used in this study was validated through content and face validity. Descriptive statistics and inferential statistics were used to analyze the data collected for the study. Findings indicated that growth hacking dimensions significantly and positively affect competitive advantage of FinTech companies in Nigeria. The study demonstrates that lean experimentation, business model innovation, gamified financial literacy, and viral marketing are all vital dimensions influencing the competitive advantage of FinTech companies in Nigeria. The study recommended amongst others that FinTech companies should focus on continuously innovating their business models to stay competitive, leveraging emerging technologies and trends to offer unique value propositions.

Keywords: competitive advantage, fintech industry, growth hacking dimensions

Introduction

The growing adoption of digital technologies by organisations has resulted in a rapid growth in business opportunities. These opportunities primarily arise from the ability to improve products, acquire customers, and boost organisational and operational efficiency (Kraus et al., 2021; Li, 2020). Although the digital transformation presents numerous benefits, organisations also face significant problems when it comes to utilising data in the processes of defining and executing strategies (Assar & Hafsi, 2019). Furthermore, organisations of various kinds, across different industries and sizes, want novel innovation frameworks that are adaptable, efficient, and expeditious in their execution, enabling them to swiftly penetrate new markets (Paluch *et al.,* 2020). The pervasive nature of technology in contemporary society has caused significant upheaval (Millar *et al.,* 2018). Automation serves as a valuable resource for firms to drive growth and maintain a competitive edge, not only by streamlining processes and replacing human labour, but also from a practical standpoint (Saura *et al.,* 2022). Growth hacking is a strategy that involves doing quick experiments across several marketing channels and product development in order to achieve accelerated growth. Technology-driven firms such as FinTechs can enhance their ability to discover and capitalise on growth opportunities by employing data-driven methods and new strategies. This agile model allows companies to rapidly expand, adapt to market fluctuations, and continuously improve their products to satisfy changing consumer needs. FinTech is a collection of new technological advancements and a specific area of the economy that concentrates on using newly developed digital technology in financial services (W´ojcik, 2021). The global FinTech economies have experienced significant growth

over the past decade. The crucial factor in FinTech economies is the competitiveness surrounding innovative methods of intermediation. Companies are actively exploring the combination of social and technical knowledge, as well as business models related to "the platform." They are also striving to attract and keep consumers for their products and services, leading to intense rivalry among enterprises (Lai, 2020; Langley & Leyshon, 2021).

Gamification strategies can be crucial for FinTech businesses to attract the attention of young adult audiences, particularly those who are or have been video gamers and e-sports players. The concept of gamification in FinTech can be better comprehended by emphasizing the alterations in the institutional networks of financial capitalism that occur as a result of FinTech intermediation. As FinTech companies expand, the institutional networks of capitalist finance are incorporating new B2B enterprises that focus on different parts of digital platform technology and data analytics (Aitken 2017; Lai & Samers, 2021). PayPal, Dropbox, Uber, and AirBnB are examples of organisations that have also utilised growth hacking strategies to achieve rapid and substantial growth. Some firms have directed their attention on the hack technique, such as providing tailored discounts to a certain group of customers, while other firms have also used the concept of virality by implementing referral programs. For example, Dropbox provides free storage to users who successfully invite their friends, relatives, or coworkers to join the platform. According to Cusumano *et al.*, (2019), platforms serve to connect individuals and organisations with the aim of achieving a shared objective or accessing a shared resource. They facilitate the collaboration and interaction between individuals and organisations, enabling them to innovate and engage in ways that would not be possible otherwise. This has the potential to result in significant increases in utility and value, which may not follow a linear pattern. Therefore, these organisations rely on a digital business model (Gawer & Cusumano, 2014) and require data-driven operations in order to achieve economic and financial sustainability. Hence, it is logical to deduce that they require a growth hacking strategy in order to expand and sustain their competitive advantages.

Platforms businesses rely on data-driven decision making and experimentation at several levels. These firms are also referred to as digital firms. In comparison to industrial organisations, they are extensively digitalised in terms of resources and markets. As a result, they possess more scalable resource bundles (Giustiziero et al., 2022). Nevertheless, as emphasised by Troisi et al., (2020) and insights from professionals, growth hacking is not solely a method aimed at expediting expansion. Instead, it is an ongoing process of iterative experimentation aimed at enhancing activities, products, services, and other related aspects (Bargoni et al., 2024). Therefore, it is logical to deduce that traditional organisations, are sometimes referred to as industrial companies by Giustiziero et al., (2022), can also utilise growth hacking as a method of ongoing experimentation to enhance their products, services, processes, and activities. Growth hacking is a very efficient and effective strategy for generating leads and retaining customers in this particular scenario. For instance, some organisations employ viral marketing as a means to create leads and then enhance customer retention on their e-commerce platform. In addition, within a traditional framework, growth hacking can be advantageous in swiftly and effectively bolstering an omnichannel approach (Taylor et al., 2019).

Similarly, growth hacking can be employed to enhance pricing strategies by conducting customer testing and evaluating data on consumption, preferences, and criticalities, with the goal of improving existing products and services. Growth hacking can be utilised in all aspects of the value chain or in all components of the business model (Ferasso et al., 2020; Jabeen et al., 2023). The primary aim of growth hacking is not limited to increasing sales, but rather focusses on addressing issues, enhancing procedures and activities, and attaining specific objectives using data-driven strategies that emphasise adaptability and ingenuity (Bargoni et al., 2024). Growth hacking is a flexible approach that can effectively help the development process of new products or services (Gaito, 2017). The approaches of lean start-up, agile, and design thinking can either replace or provide assistance to the classic stage gate paradigm (Magistretti et al., 2019; Cooper & Sommer, 2016). These strategies can be described as complimentary approaches that Promote commercial prospects, drive innovation, and expedite time-to-market (Cocchi et al., 2021).

This study investigated the effect of growth hacking dimensions on competitive advantage of FinTech companies in Nigeria. The specific objectives are to investigate the effect of lean experimentation, business model innovation, gamified financial literacy, and viral marketing on competitive advantage of FinTech companies in South-South Nigeria.

Literature Review

Conceptual Review

Concept of Growth Hacking

Growth hacking is a practical approach that involves rapid experimenting with and implementing digital marketing strategies that are low in resources and cost-effective. The goal is to attract and retain an active user base, sell products, and efficiently scale the firm. The utilisation of traceable marketing technologies enables the analysis of data from distinct and precise stages of the customer journey, facilitating decision-making. In 2010, Sean Ellis, an entrepreneur and technology investor, emphasised the importance of incorporating big-data analysis and continuous learning into the strategy formulation process. This is necessary to enhance resilience and effectively navigate the always changing competitive landscape. The individual in question invented the notion of Growth Hacking (GH), which he elucidated in an interview with Ryan Holiday (2017) as "a method of speedy experimentation throughout the entire customer journey in order to expedite customer and revenue expansion." According to Ellis, growth hacking enables firms to cultivate the dynamic abilities necessary for achieving success (Ellis & Brown, 2017). The process of iterative experimentation and the establishment of a data-driven culture, which are essential for implementing growth hacking, facilitate the generation of new information within the organisation. This, in turn, can result in the emergence of innovation over a period of time. Growth hacking, in contrast to other lean approaches, fosters the collaborative generation of innovation among all the stakeholders, including users, employees, managers, and others. Bargoni *et al.*, (2024) stated that growth hacking is a well-established procedure that consists of four distinct stages. Initially, companies must establish a congruence between the product they are attempting to sell and the targeted market. Therefore, product innovation, including the creation of entire enterprises and business models, does not solely come from internal research and development. Instead, it arises from the need to meet a compelling need from a certain group of individuals. During the initial stage of growth hacking, companies must establish procedures for incorporating big data into the scrutiny of consumer requirements, utilising existing knowledge and heuristics. This is followed by an iterative phase of fine-tuning to ensure that the product aligns with the market (Eisenhardt & Martin, 2022). These efficient product development procedures usually require the involvement of cross-functional teams that combine several sources of expertise. Furthermore, companies that desire to implement a growth hacking methodology must identify the elusive hack.

The second step of the growth hacking process involves efficiently targeting the appropriate customers for the organisation, while minimising costs. Put simply, the Hack phase involves identifying and reaching out to the appropriate customers, at the optimal moment, and in the ideal location. During its initial stages, Uber distributed complimentary ride vouchers outside conference venues as a promotional strategy. This hacking method resulted in a significant increase in the conversion rate, leading to rapid and efficient corporate growth (Bargoni *et al.*, 2024). The third fundamental aspect of growth hacking involves using the power of virality through digital platforms, particularly social media. Fourthly, growth hacking involves promoting customer loyalty by utilising data-driven customer relationship management technologies and optimising marketing efforts connected to the execution of incentives and loyalty programs. Furthermore, figure 2 illustrated how growth hacking dimensions such lean experimentation, business model innovation, gamified financial literacy, and viral marketing influence competitive advantage.

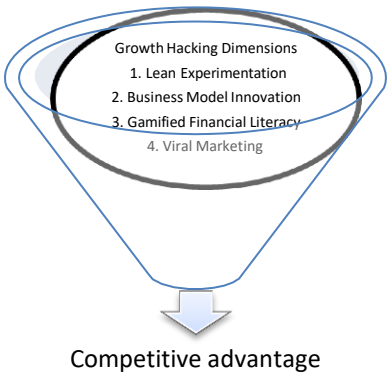

Figure 1. Growth Hacking Dimensions

Source: Bargoni *et al.*, (2024)

Lean experimentation and competitive advantage

Business experiments enable entrepreneurs to formulate and verify theories on innovative business models, facilitating the analysis of data, and subsequently leading to actions such as conducting further experiments, expanding operations, or making strategic changes (Leatherbee & Katila, 2019; McDonald & Gao, 2019). Business experimentation prioritises implementation rather than preparation, utilising assumption testing and engaging with real customers to assess ideas (Blank, 2013a). Engaging in action-oriented, agile, and cost-effective experimentation helps expedite the implementation of ideas and effectively attract and captivate the initial consumer base. These characteristics enhance the attractiveness of experimenting for both startups and established companies looking for strategic revitalisation in fast-changing contexts (Bojovic *et al.*, 2019; Cozzolino et al., 2018). Bojovic *et al.*, (2019) discovered that a major European magazine publishing company was able to transform its established organisational identity and increase its digital innovation efforts through business model experimentation. Bocken and Snihur (2020) contend that the adoption of Lean Startup principles facilitates business experimentation, which in turn reduces uncertainty and fosters the collaborative development of novel interpretations and business models with various stakeholders, not limited to customers alone. Experimentation is a collaborative process that helps organisations discover and implement new and influential ideas. It plays a crucial role in supporting entrepreneurial activities in startups and promoting strategic renewal in established organisations. Lean experimentation allows entrepreneurs to test and refine innovative business models through a cycle of implementing, analyzing, and adjusting based on real customer feedback. Thus, this paper argues that this agile approach is crucial for startups and established firms alike, especially in dynamic environments.

H_1: Lean experimentation has a significant effect on the competitive advantage of FinTech companies in Nigeria.

Business model innovation and competitive advantage

Grasping the notion of a business model is essential for understanding how a company generates, delivers, and acquires value. Bachmann and Jodlbauer (2023) provide a concise definition of business model innovation as the systematic procedure of recognising the necessity for a novel business model and subsequently devising, assessing, and executing it to generate value for both the organisation and its intended business. There is a difference between business model innovation in startups, called business model design, which means creating a brand new business model, and business model innovation in established companies, known as business model reconfiguration, which means making changes to an existing business model (Casadesus-Masanell & Zhu, 2013). Business model innovation involves a broad spectrum of actions, including the development of novel products and services, the establishment of fresh

distribution channels, the adoption of new technology, and the formation of new partnerships (De Reuver et al., 2013). Landoni et al. (2020) discovered that business model innovation enables firms to take advantage of business opportunities. This is achieved by organising resources to establish a strong reputation, utilising new distribution channels, and continuously generating and testing new ideas to update the product portfolio. There is a clear and predictable connection between the creation of business models and the advancement of the industry lifecycle, specifically from its early stages to the phases of growth. Emerging industries require frequent adjustments to their business models, known as exploratory activities. For existing companies, the process of innovating their business model involves making small, gradual modifications to their present model while making sure it still works well with their existing methods and systems (Lantano et al., 2022). The incumbents must possess flexibility and adaptability in order to successfully negotiate the complexity of business model innovation and effectively respond to changing market conditions. Thus, this paper argues that digital technologies play a significant role in facilitating business model innovation, enabling firms to adapt and thrive in evolving industries.

H_2: Business model innovation has a significant effect on the competitive advantage of FinTech companies in Nigeria.

Gamified financial literacy and competitive advantage

'Gamification' refers to the integration of video game mechanics, metrics, and feedback loops into non-game digital economies that primarily function through smartphone applications ('apps') (Goggin, 2021). Researchers have recently started to recognise the existence of a positive and hopeful perspective on gamification in the digital financial technology sector, referred to as the 'techno-optimist' discourse (van der Heide & ˇZelinský, 2021). However, the marketing and design of apps in the FinTech platform intermediation sector is not only focused on enhancing comfort, convenience, and optimising user experiences for speed. This is particularly true when FinTech companies enhance their competitive intermediary positions by creating and implementing gamified applications. Gamification incorporates game-like elements into non-game contexts, such as financial literacy, to engage and motivate users. In the FinTech sector, gamification is used to attract and retain customers by making financial interactions more engaging and rewarding. It is especially effective in appealing to digital natives. Thus, this paper argues that by gamifying financial services, FinTech companies can enhance user engagement and competitive advantage.

H_3: Gamified financial literacy has a significant effect on the competitive advantage of FinTech companies in Nigeria.

Viral marketing and competitive advantage

FinTech companies leverage viral marketing by creating engaging and shareable content that resonates with their target audience. By utilizing social media platforms and other digital channels, they craft compelling narratives or promotional messages that encourage users to share with their networks, thus amplifying the reach of their brand. This strategy often involves the use of eye-catching visuals, videos, and interactive content that tap into current trends or address common financial challenges. Additionally, FinTech companies incorporate incentives, such as referral bonuses or discounts, to motivate users to spread the word. By doing so, they enhance brand awareness, attract new customers, and build a community around their services, all while benefiting from the organic growth that comes from user-driven promotion. Virality is a notion that originated from the widespread use of social media in daily life (Argyris & Monu, 2015; Wagner et al., 2014). Olannye and Onobrakpeya (2017) asserted that viral marketing is a technique that extends the promotional mix by creating contents about a product or service and motivating target consumers to share it with colleagues, friends, and family in order to increase brand awareness. Viral marketing is a widely used and successful approach for promoting products or services by encouraging people to share a message on social networks and generate viral content through word-of-mouth communication (Moh'd et al., 2024). The effectiveness of viral marketing efforts is contingent upon a multitude of elements. The utilisation of digital technology has significantly enhanced the level of

engagement and participation in social media platforms (Varis & Blommaert, 2018). Thus, this paper argues that viral marketing is a widely used and successful approach to creating brand awareness.

H_4: Viral marketing has a significant effect on the competitive advantage of FinTech companies in Nigeria.

Review of empirical studies

Bargoni *et al.,* (2024) proposed that growth hacking, which is a data-driven and iterative testing approach, plays a crucial role in reducing the probability of innovation failure in companies. The study utilised a qualitative methodology that integrates the Gioia method with phenomenography. The study demonstrated that the successful implementation of growth hacking techniques across four levels of analysis: market, organisation, project, and product. The results emphasised the significance of implementing growth hacking strategies in order to decrease the probability of failure in innovation within these specific areas. Lai and Langley (2024) investigated the impact of digital gamification approaches on the fundamental principles and activities of intermediation in FinTech economies. These techniques involve integrating video gaming aspects into apps, rather than developing whole games. Findings indicated that gamified apps are implemented to enhance competitive intermediary positions by engaging users in a humorous manner and shaping their behaviour. Moh'd and Alawneh (2024) performed a study on the effective Model of Viral Marketing for e-commerce Enterprises in Jordan. The framework was empirically validated by the analysis of a sample of 135 respondents using the structural equation modelling technique. The study's results demonstrate that the intensity of social connections and the psychological inclination of customers have a substantial impact on the creation and widespread sharing of marketing content across various networks. In their study, Paiola *et al.,* (2022) examined the successful management of the concurrent development of a new business model based on the Internet of Things (IoT) and an existing one by incumbent small and medium-sized firms (SMEs). They discovered that the process of business model innovation is gradual, involving the improvement of resource allocation through the iterative process of trial-and-error learning. This innovation is not a one-time event but a continuous process, essential for both startups and established companies. Bitrian *et al.,* (2021) investigated the impact of gamification on users' motivation and intention to use personal financial management apps, as well as its role in facilitating their adoption. Analysed utilising partial least squares structural equation modelling, data from 208 users of the Mint app were examined. The findings indicated that incorporating gamification into personal finance management applications fulfils users' desires for competence and autonomy, hence increasing their intrinsic motivation to utilise these applications.

Methodology

Research Design

The study adopted a quantitative research method and cross-sectional survey research design. The cross-sectional survey research design is ideal for studying the effect of growth hacking dimensions on competitive advantage of FinTech companies in Nigeria because it provides a real-time snapshot of current practices and challenges. This design allowed the researchers to efficiently gather data from multiple companies.

Population of the Study

The population of the study comprised experts of FinTech companies operating in South-South Nigeria. The study focused on key personnel from five (5) selected FinTech companies such as PalmPay, Flutterwave, Kuda, Opay and Moniepoint. These FinTech companies have a significant presence and recognition in the South-South region of Nigeria with multiple offices, merchandise and agents. These companies are involved in the development, implementation, and utilization of innovative digital solutions to improve financial services. The study targets key personnel within these companies, such as

99 managers, 146 marketing strategists, and 139 innovation officers, who are knowledgeable about the company's growth hacking strategies.

Sample and Sampling Technique

The sample size of 384 participants was calculated using the Cochran (1977) formula, given the total population size is not known to the researchers. Onobrakpeya and Bayagbon (2024) asserted that the use of the Cochran formula involves creating assumptions about the required level of precision, the desired level of confidence, and an anticipated proportion of the population displaying a particular attribute. The formula for the Cochran sample size calculation is as follows:

$n = z^2(PQ) / e^2 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$

Where:

n = sample size

z = z-score corresponding to the desired level of confidence

p = estimated proportion of the population with the characteristic or behavior of interest

q = 1 - p

e = level of precision desired (margin of error)

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

$$n = \frac{3.8416 \times 0.5 \times 0.5}{0.0025}$$

$$n = 384$$

The study employed a purposive sampling technique, selecting FinTech companies in South-South Nigeria that are actively engaged in growth hacking practices. This non-probability sampling method ensures that the sample includes respondents with the relevant knowledge and experience necessary to provide valuable data on how these growth hacking dimensions influence competitive advantage.

Data Collection Method

The data for the study was collected using a well-structured questionnaire designed with a five-point Likert scale to capture responses specific to the research objectives. The questionnaire was validated through both content and face validity, involving industry stakeholders and academic experts to ensure its accuracy and relevance in eliciting the required factual and interpretive information. To ensure the reliability and consistency of the instrument, a test retest reliability method was employed, administering the survey twice within a two-week interval to measure the stability of responses over time. The reliability of the responses was evaluated using Cronbach's alpha, which yielded a value above 0.76, indicating a high level of internal consistency among the questionnaire items. This process ensured that the instrument was robust and capable of effectively capturing data on the dimensions of growth hacking.

Table 1 Reliability coefficients of study constructs

Growth hacking dimensions	Items	Cronbach's Alpha
Lean experimentation	4	0.775
Business model innovation	4	0.764
Gamified financial literacy	4	0.771
Viral marketing	4	0.776
Competitive advantage	4	0.762

Source: Field Survey, 2024.

Based on the data shown in Table 1, it can be inferred that the Cronbach's alpha for each variable are greater than 0.7. Based on these results, it can be inferred that each of the variables has satisfied the necessary criteria, leading to the conclusion that all indicators employed to measure the variables are deemed reliable.

Data Analysis

Descriptive statistics was used to analyze the respondent's profile. The regression analysis technique was employed to test the hypotheses. Specifically, the study utilized multiple regression analysis. The null hypothesis (H0) was rejected if $p < 0.05$ and accepted otherwise.

Model Specification

The following model specification was developed for the study:

$Y = F(\mathrm{X})$.....(2)

$CA = F(LE, BMI, GFL, VM)$ ……(3)

$CA = \beta 0 + \beta 1LE + \beta 2BMI + \beta 3GFL + \beta 4VM + \mathrm{s}$ ..... (4)

Where:

$\beta 0 = Constant\ Coefficient$

$\beta 1 - \beta 4 = Coefficients$

(Note: CA—Competitive Advantage, LE—Lean Experimentation, BMI—Business Model Innovation,GFL—Gamified Financial Literacy, VM—Viral Marketing)

Results of Data Analysis

This section is dedicated to the analysis of the data obtained from the participants.

Table 2 Response rate

S/N	Description of Response	Number	Ratio (%)
1	Total questionnaires administered	384	100
2	Questionnaires retrieved	379	98.7
4	Questionnaires analyzed	377	98.2

Source: Field Survey (2024)

A total of 384 questionnaires were distributed to the study's respondents, of these, 379(99%) of the questionnaires were retrieved, while 377(98%) were valid and used for analysis.

Table 3 Sample demographics (n= 377).

Variable	Category	Number	Ratio (%)
Gender	Male	192	51
	Female	185	49
Age	18-28	19	5
	29-38	91	24
	39-48	132	35
	49-58	109	29
	59-68	26	7
Marital status	Single	158	42
	Married	200	53
	Divorced	19	5
Education level	OND	79	21
	HND/ B.Sc.	222	59
	Postgraduate degree	75	20
Key personnel	Managers	98	26
	Marketing Strategists	143	38
	Innovation Officers	136	36

Source: Field Survey, 2024.

Table 3 shows that 51% of the samples were male, whereas 49% were female. The survey found that 5% of the participants were between the ages of 18 and 28, 24% were between the ages of 29 and 38, 35% were between the ages of 39 and 48, 29% were between the ages of 49 and 58, and 7% were between the ages of 59 and 68. The survey found that 42% of the participants were unmarried, 53% were married, and 5% were divorced. 59% of the respondents possess an educational background consisting of either a Higher National Diploma (HND) or a Bachelor of science (B.Sc.) degree. The key personnel within the selected companies' showed that 26% of the respondents are managers, 38% are marketing strategists and 36% are innovation officers.

Table 4 Effect of growth hacking dimensions on competitive advantage.

Predictors	Standardized Coefficients			Collinearity Statistics		ANOVA[a]		Model Summary	
	Beta	T	Sig.	Tolerance	VIF	F	Sig.	R Square	Adjusted R Square
						167.523	.000[b]	.643	.639
(Constant)		-4.242	.000						
Lean experimentation	.261	7.480	.000	.790	1.266				
Business model innovation	.132	3.950	.000	.864	1.158				
Gamified financial literacy	.215	5.700	.000	.672	1.489				
Viral marketing	.502	14.755	.000	.829	1.206				

a. Dependent Variable: Competitive Advantage

b. Predictors: (Constant), Lean experimentation, Business model innovation, Gamified financial literacy, Viral marketing

Source: Field Survey (2024)

Table 4 indicates that lean experimentation has a positive effect on competitive advantage ($\beta = 0.261$, $p < 0.05$). Business model innovation has a positive effect on competitive advantage, as indicated by a significant beta coefficient of 0.132 ($p < 0.05$). Gamified financial literacy has a positive effect on competitive advantage ($\beta = 0.215$, $p < 0.05$). Viral marketing has a positive effect on competitive advantage ($\beta = 0.502$, $p < 0.05$). The analysis revealed that there is no multicollinearity, since the Variance Inflation Factors (VIF) for the dimensions of growth hacking in relation to competitive advantage are all below the threshold of 10. In addition, the tolerance level exceeds 0.1. Nevertheless, the Predictor variables served as reliable dimensions of growth hacking. This was corroborated by the F measurement of 167.523 and the p value (0.000), which was below the significance level of 0.05. Hence, the model exhibited statistical significance. Moreover, the Predictors of growth hacking were considered to be significant factors in explaining the variances in competitive advantage, as indicated by the adjusted R square value of 0.639. However, the predictors of growth hacking accounted for 64% of the variations in competitive advantage.

Discussion

The findings from Table 4 and Table 5 indicated that various growth hacking dimensions significantly impact the competitive advantage of FinTech companies in Nigeria. Based on the findings, all the null hypotheses (H_{01}, H_{02}, H_{03}, and H_{04}) are rejected, as the results indicate significant positive effects of lean experimentation, business model innovation, gamified financial literacy, and viral marketing on the competitive advantage of FinTech companies in Nigeria. Specifically:

Lean experimentation shows a positive effect on competitive advantage with a beta coefficient of 0.261. Bojovic *et al.,* (2019) discovered that a major European magazine publishing company was able to transform its established organisational identity and increase its digital innovation efforts through business model experimentation. The strong positive correlation and significant effect of lean experimentation on competitive advantage suggest that FinTech companies prioritize iterative testing and agile approaches. This approach can lead to rapid innovation and adaptation, which are crucial in the fast-paced financial technology sector. However, business model innovation has a positive effect with a beta coefficient of 0.132. Paiola *et al.,* (2022) study discovered that the process of business model innovation is gradual, involving the improvement of resource allocation through the iterative process of trial-and-error learning. This innovation is not a one-time event but a continuous process, essential for both startups and established companies. Although business model innovation has a moderate correlation with competitive advantage, its positive effect highlights the importance of continually evolving business models to maintain competitiveness.

Gamified financial literacy shows a beta coefficient of 0.215. The result aligned with Bitrian *et al.,* (2021) study findings that incorporating gamification into personal finance management applications fulfils users' desires for competence and autonomy, hence increasing their intrinsic motivation to utilise these applications. Lai and Langley (2024) findings indicated that gamified apps are implemented to enhance competitive intermediary positions by engaging users in a humorous manner and shaping their behaviour. The strong positive correlation indicates that gamified financial literacy programs significantly contribute to competitive advantage. FinTech companies can invest in creating engaging and interactive financial literacy tools to enhance customer engagement and build loyalty. Furthermore, viral marketing has the strongest effect with a beta coefficient of 0.502. The result agreed with Moh'd and Alawneh (2024) study findings that the intensity of social connections and the psychological inclination of customers have a substantial impact on the creation and widespread sharing of marketing content across various networks.

With the highest correlation and effect on competitive advantage, viral marketing is crucial for expanding brand reach and customer acquisition.

Conclusion

The study demonstrates that lean experimentation, business model innovation, gamified financial literacy, and viral marketing are all vital dimensions influencing the competitive advantage of FinTech companies in Nigeria. The significant positive effects and strong correlations of these dimensions with competitive advantage underscore their importance in driving growth and maintaining a competitive edge in the financial technology industry. FinTech companies can leverage these insights to enhance their strategies and focus on these key areas to achieve sustainable competitive advantage.

Recommendations

The study therefore recommended that FinTech companies should:

i. invest in refining their lean experimentation processes to quickly test and iterate on new ideas, improving their ability to innovate and adapt to market changes.

ii. focus on continuously innovating their business models to stay competitive, leveraging emerging technologies and trends to offer unique value propositions.

iii. implement gamified financial literacy programs to engage customers more effectively, increase their financial knowledge, and enhance customer retention.

iv. develop and execute robust viral marketing strategies to boost brand visibility and customer acquisition, utilizing social media and other digital platforms to maximize reach and impact.

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