



Optimizing User Retention for a Digital Recruitment App with CLM and the Hooked Model

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ABSTRACT: As the digital recruitment market in Indonesia becomes increasingly competitive, it is crucial for Chatterhire, a job portal tech startup, to retain a strong user base for sustainability and growth. Retention is vital for demonstrating product-market fit, monetization potential, and attracting future investments. To achieve this, Chatterhire aims to shift its focus from aggressive user acquisition to retention, by optimizing its platform for regular use. This research combined quantitative data on user in-app activities with qualitative feedback from in-depth interviews. The quantitative analysis utilized Customer Lifecycle Management (CLM) techniques, including cohort analysis, behavioral cohort analysis, and funnel analysis, to identify critical experiences that encourage users to return, reasons for user churn, and features that need enhancement for better retention. The study found that retaining users is challenging for an episodic-use app like a job portal, where engagement is sporadic and infrequent. Once users secure a job, their need for the app diminishes, leading to significant drops in engagement and even app uninstalls. Therefore, the company needs to expand the platform's features to provide additional reasons for users to return. Additionally, ensuring users perceive the app's value through repeated interactions is essential. The research revealed that users who apply for at least four jobs within the first seven days are likely to have higher retention. This research highlights the importance of integrating intrinsic value into the product to foster a sustained user journey. The Hooked Model's core elements—Trigger, Action, Variable Reward, and Investment—can encourage habitual use and sustained engagement, crucial for maintaining a competitive edge in the digital recruitment industry.

KEYWORDS: Customer Lifecycle Management (CLM), Digital Recruitment Startup, Hooked Model, Habit-Forming Product, User Retention.

INTRODUCTION

The global trend of digital transformation is reshaping the recruitment industry, changing how employers and job seekers connect. This shift has been accelerated by the COVID-19 pandemic, which has increased digital adoption, especially in remote working. In Indonesia, the fourth most populous country with over 279 million people, there is a significant need for digital competency, with around 17.2 million Indonesians requiring training to keep up with technological advancements. This highlights the growing importance of digital platforms in job recruitment. The recruitment landscape in Indonesia is adapting to this digital wave. There is a noticeable trend towards remote work and a rising demand for digital talents, emphasizing the need for digital recruitment platforms. Trends in Indonesia's digital recruitment sector include personalized candidate experiences, increased use of AI and automation, and more virtual and hybrid recruiting events. With a workforce of about 138.63 million as of February 2023 and a monthly minimum wage of around USD 322, Indonesia's stable economic growth creates a conducive job market environment.

Chatterhire (pseudonym for an early-stage startup in Indonesia's digital recruitment sector) targets the substantial job market within the low-middle income segments with its innovative chat-based recruitment app. Currently offering its service for free, Chatterhire focuses on user growth and retention to demonstrate market demand and monetization potential. User engagement and retention are crucial for attracting investors and showing scalability. To validate its product-market fit, Chatterhire is optimizing the entire customer lifecycle from acquisition to retention and referral. The goal is to exceed user expectations, reduce churn rates, and build a loyal user base. High churn and uninstall rates indicate a potential misalignment between user expectations and app functionalities. Achieving and demonstrating a strong product-market fit is essential for sustaining growth and attracting new funding opportunities.

Guy Kawasaki's principle of marketing, "Get better reality," suggests that the essence of marketing lies in the intrinsic value of the service or product [1]. This research focuses on retention, exploring users' journeys with Customer Lifecycle



Management (CLM) and integrating the Hooked Model to optimize the product for better retention and move closer to product-market fit.

In the competitive landscape of tech startups, user base growth is crucial for survival and success. Effective Customer Lifecycle Management (CLM) helps startups retain and grow their user base, driving continuous growth. Focusing on CLM enhances customer experience, enables data-driven decisions, and ensures cost-effective operations. This approach builds a loyal customer base and generates predictable revenue streams, providing a competitive edge and laying the foundation for long-term success. For Chatterhire, determining if there is a genuine demand for its product is a primary goal. A growing number of active users indicates the product addresses a real market need. Validating product-market fit involves demonstrating a healthy growth of active users, attracting investors by showing potential for future revenue. Focusing on the entire customer lifecycle improves customer retention, impacting the bottom line as retaining existing customers is more cost-effective than acquiring new ones.

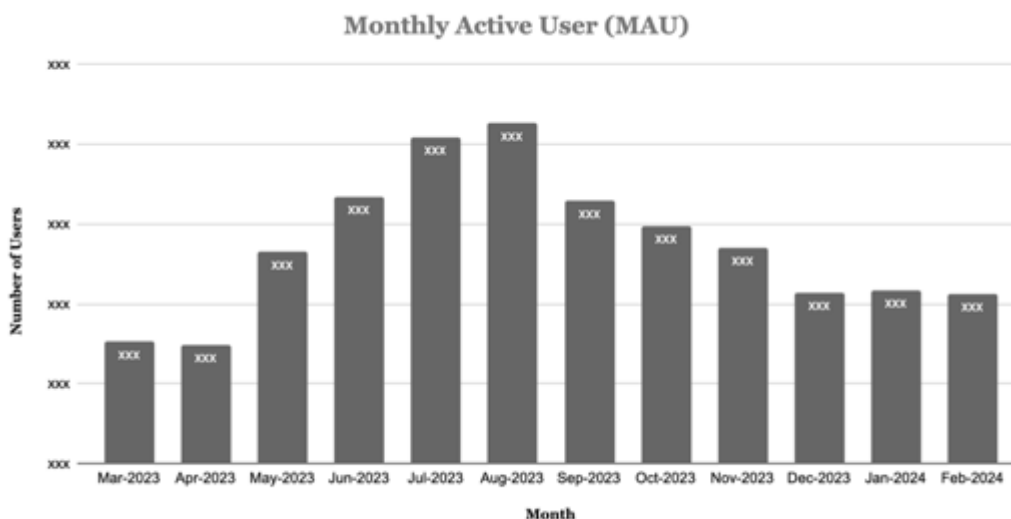


Figure 1. User Growth March 2023 - February 2024 - Masked Data

In the past year, Chatterhire's user base has fluctuated. Aggressive paid marketing in May 2023 led to a significant increase in Monthly Active Users (MAU). However, reducing paid marketing spend in September 2023 resulted in a decline, highlighting the correlation between marketing efforts and user acquisition. Long-term retention depends on engaging users meaningfully, understanding their lifecycle and behavior, and refining the retention strategy. The decline in user numbers from the peak in September 2023 suggests paid marketing was effective in attracting users but not in retaining them. The primary issue is a low retention rate, indicating a misalignment between user expectations and app functionalities. This affects Chatterhire's ability to demonstrate a strong active user base, crucial for attracting investors. Chatterhire's aggressive user acquisition strategy initially succeeded in growing the number of active users, but a substantial churn rate indicates a misalignment between the app's functionalities and user expectations. This gap impacts the company's ability to demonstrate product-market fit, affecting user growth, investor appeal, and prospective monetization. To secure future funding and achieve financial sustainability, Chatterhire must enhance user retention and align the app's offerings with user needs.

The main objectives of this research are to understand what critical user experiences encourage users to return, identify the feature with the biggest drop-off in the customer journey, determine why users disengage or churn from the app, and develop strategies to retain users, ensure loyalty, and achieve product-market fit.

LITERATURE REVIEW

USER GROWTH

To survive and thrive, every company needs to grow its customer base. Growth "hacking" refers to achieving breakout growth without relying on expensive marketing campaigns, which are outdated and questionable in business value. Creating features



that make consumers love a product or service and spread the word to their friends, along with creative hacks to reach customers in new, measurable ways, is replacing costly marketing and ad plans, with enormous upside potential [2]. In a startup, growth means expanding the user base, directly correlating with the startup's ability to generate revenue, attract investment, and enhance market presence. It involves not only increasing the number of users but also improving the product or service to meet market needs. Growth is crucial for a startup's market acceptance and viability, attracting investors by demonstrating high growth potential. A growing user base indicates future revenue streams and profitability, enhancing the startup's bargaining position for acquisitions or strategic partnerships. Additionally, growth fuels internal capabilities and innovation. With a larger user base, startups can access more feedback and data, enabling them to refine their offerings to meet market demands. This feedback loop is vital for maintaining a competitive edge and ensuring the product remains relevant. Growth also boosts brand visibility and market presence, facilitating organic marketing channels like word-of-mouth, further accelerating user base expansion. Thus, growth is a catalyst for continuous improvement, innovation, and market adaptation, essential for a startup's survival and success.

Growth hacking has emerged as a pivotal strategy by employing data-informed marketing approaches that leverage digital tools and traditional marketing techniques to achieve rapid growth. Conway and Hemphill [3] evaluated the effectiveness of growth hacking strategies among UK technology startups, highlighting how these methods can help companies demonstrate "proof-of-concept" and achieve sustainability before securing further funding. Their study emphasizes the importance of finding individuals with the right skill set to bridge the gap between digital and traditional marketing.

Similarly, Feiz, Zarei, and Shaabani [4] examined growth hacking strategies across various stages of the growth hacking funnel in Iranian startups. Their research categorized these strategies into five groups: acquisition, activation, revenue, retention, and referral, demonstrating how each phase contributes to overall business strength and competitive performance. This comprehensive framework underscores the significance of a structured approach to growth hacking for sustainable user growth.

Furthermore, Cavallo, Cosenza, and Noto [5] discussed the scaling of business models and the role of growth hacking in digital entrepreneurship. They argued that while creating and validating an innovative product is essential, startups must also innovate their business models during the scaling phase to grow rapidly and expand globally. Their study provided a method for supporting digital entrepreneurs through business-model scaling, using PayPal as a case study to illustrate the application of growth hacking in achieving scalability.

These studies collectively illustrate the multifaceted nature of growth hacking as a strategy for user growth, emphasizing the need for a blend of digital marketing, strategic business model innovation, and a structured approach to managing different stages of the growth funnel. By leveraging these insights, startups can better navigate the challenges of rapid growth and achieve long-term sustainability.

CUSTOMER LIFECYCLE MANAGEMENT (CLM)

Customer Lifecycle Management (CLM) is crucial for attracting customers and converting them into repeat clients. CLM involves tracking and analyzing the customer journey from initial contact to becoming a loyal customer, using various tools and strategies. This approach assigns metrics to each stage of the customer lifecycle to measure business performance effectively. Since the late 1990s and early 2000s, the importance of CLM has grown due to the internet and advanced computing technologies. This era marked a shift towards a customer-centric business model, recognizing the value of personalizing and analyzing each step of the customer lifecycle. Companies like Amazon have exemplified this approach by moving from a generalist model to a curated, data-driven sales strategy. Businesses prioritizing understanding and enhancing each phase of the customer lifecycle are more likely to engage and retain customers effectively [6]. Integrating operational processes with analytical insights tailors experiences to resonate with customers at each lifecycle stage, enhancing satisfaction, optimizing marketing efficiency, and improving customer lifetime value. A well-implemented CLM strategy can significantly reduce acquisition costs by focusing on retaining and expanding existing customer relationships. CLM features five distinct stages, each analyzed with metrics to maximize a prospective customer's experience and conversion likelihood [7].



Table I. Stage of Customer Lifecycle

Stage	Description
Reach	Customers become aware of the product through targeted ads or research into a problem they need to solve. Social media marketing, SEO, and other techniques place the brand on the customer's radar. This step is successful when prospects connect with brands for more information.
Acquisition	Prospective customers become leads, contacting the business via phone, email, live chat, or by browsing the website. The goal is to secure communication with the customer by offering information, live support, and deals to keep them interested.
Conversion	A prospect becomes a purchasing customer. It's important to make the purchasing process smooth and easy, offering clear pricing, return and refund information, and minimizing steps from adding an item to the cart to receiving it.
Retention	Turning an initial purchase into a relationship involves focusing on retention so the customer sticks with the brand for future purchases.
Loyalty	Word of mouth can be excellent advertising. Turning a one-time customer into a loyal brand ambassador is valuable, extending to their friends and family buying products too.

CUSTOMER RETENTION

Sean Ellis, in his book *Hacking Growth*, emphasizes that high retention is crucial for strong profitability. Bain & Company research shows that a 5% increase in retention rates can boost profits by 25% to 95%. Acquiring new customers is costly, especially with rising advertising costs. The more a company spends to attract new customers, the more costly the loss of each customer becomes, making retention essential. The longer a company retains customers, the better it understands their needs, tailoring services and promotions accordingly. Higher retention also boosts word-of-mouth and viral marketing, as long-term users have more opportunities to talk about and show the product to others. Effective customer relationship management leads to customer satisfaction, fostering loyalty and positive word-of-mouth. Research shows that even minor dissatisfaction significantly reduces loyalty, so exceeding customer expectations to achieve delight is crucial. Maintaining loyalty is economically beneficial, as loyal customers spend more and continue patronizing the business longer. Retaining an existing customer is five times cheaper than acquiring a new one. Losing a customer means losing the entire future revenue they would have generated through continued business [8].

User retention in digital platforms is critical for the long-term success of applications, particularly in startup and gaming industries. Sayyed-Alikhani, Chica, and Mohammadi [9] developed an agent-based system to model user acquisition and retention in startup apps, emphasizing the importance of a balanced approach between these two aspects. Their findings suggest that focusing on user retention during the early stages of adoption is more beneficial than solely prioritizing new user acquisition. Similarly, Gu, Shen, and Jia [10] explored user retention in online game replay sharing communities, highlighting that factors such as activity level, gaming performance, and social relationships are key predictors of user engagement. Their research indicates that a small fraction of highly active users significantly contributes to the community's vitality, underscoring the importance of targeting retention strategies toward these individuals. These studies collectively underscore the necessity of tailored retention strategies to maintain active user bases in digital platforms, ensuring sustainable growth and user engagement. The intrinsic value of a mobile app plays a pivotal role in user retention. Kim [11] investigated the effect of design characteristics of mobile applications on user retention from an environmental psychology perspective. The study found that user beliefs stimulated by environmental cues, such as design characteristics, significantly affect users' cognitive and affective internal states, which in turn lead to their retention. This

underscores the importance of creating a mobile application that not only meets functional needs but also provides an engaging and satisfying user experience.

AHA MOMENT

An AHA moment is when the product's utility clicks for users, making them understand its core value, why they need it, and the benefits they derive. This experience turns early adopters into power users and evangelists, being a crucial ingredient for sustainable growth. For example, Twitter struggled to sustain growth until it found that users who followed at least 30 others quickly were much more engaged [2].

THE HOOKED MODEL

For app businesses, customer retention is crucial for long-term success, requiring effective retention strategies. Genuine retention and engagement must be built into the product. The Hooked Model, developed by Nir Eyal, helps companies create products integral to users' lives. It focuses on habit-forming products essential for survival and economic value. The model emphasizes shifting from traditional advertising to intrinsic user engagement, making products part of daily routines and emotional experiences. The goal is to foster unprompted user engagement, leading users to return to the product habitually. The Hooked Model involves a cyclical four-step process as illustrated in Figure 2 below [12].



Figure 2. The Hooked Model

Trigger

The initial cue prompting the user to take action. There are two types of triggers:

External Triggers: Cues in the user's environment, such as emails, notifications, website links, or ads. Types include paid, earned, relationship, and owned triggers.

Internal Triggers: Emotional states or thoughts prompting product use. Habit-forming products aim to associate their use with internal triggers.

Action

The behavior taken in anticipation of a reward, influenced by the product's design and ease of use. Principles from BJ Fogg's Behavior Model explain how to effectively trigger actions. Simplicity elements include time, money, physical effort, brain cycles, social deviance, and non-routine.

Variable Reward

Reinforces the action taken by the user. Variable rewards introducing unpredictability and novelty are more effective in sustaining interest. There are three types of reward identified by Eyal: the tribe, the hunt, and the self.



Figure 3. Three Variable Reward Types

Investment

Involves users contributing to the product, improving the service for themselves and making them more likely to return.

Understanding and addressing internal triggers are vital for designing habit-forming products. Retention strategies should create valuable, habit-forming experiences that meet users' needs and internal triggers. As technology evolves, building habits becomes crucial for maintaining user engagement without traditional external triggers, emphasizing the importance of integrating habit-forming mechanisms into product design for long-term success and customer retention.

The application of the Hook Model in user retention strategies has been extensively studied across various digital platforms. Lukyanchikova et al. [13] conducted a detailed case study on the utilization of the Hook Model in two prominent mobile applications: Uber and Instagram. Their research reveals significant insights into how these applications leverage the Hook Model to engage users and sustain their involvement. Uber, for instance, relies on fewer trigger calls, likely because users have a specific need when using the service, reducing the necessity for frequent engagement prompts. Conversely, Instagram employs a higher frequency of internal triggers, which are pivotal in maintaining user interaction by tapping into users' intrinsic motivations and social connectivity needs. This difference in approach highlights the flexibility of the Hook Model in adapting to different user engagement contexts.

Similarly, Razi and Putra [14] applied the Hook Model to the "Kembaliin" app, which aids urban communities in managing lost and found items. Their study underscores the importance of strategic communication in habit formation and user retention. By focusing on implementation, support, and integration strategies, the researchers demonstrate how the Hook Model can be effectively tailored to build user habits, thereby enhancing the app's overall effectiveness. The findings from these studies suggest that the Hook Model not only fosters initial user engagement but also plays a crucial role in sustaining long-term user retention through strategic and adaptive application of its core principles. Integrating such comprehensive analyses into the broader discourse on user retention provides valuable insights for developing more engaging and retention-focused applications.

In addition to these applications, Filippou, Cheong, and Cheong [15] explored the integration of the Hook Model with the Fogg Behavioral Model to design features for a persuasive app aimed at improving study habits among university students. Their research illustrates how combining these models can enhance the persuasive power of educational technology, addressing three key areas: study scheduling, class preparation, and group study. This combined approach leverages the strengths of both models to build effective habit-forming behaviors in a university setting, thereby improving academic performance and student engagement.

Collectively, these studies provide a comprehensive view of how the Hook Model, alone or in combination with other behavioral models, can be instrumental in designing applications that not only engage users initially but also ensure their long-term retention and habitual use. Integrating such comprehensive analyses into the broader discourse on user retention offers valuable insights for developing more engaging and retention-focused applications.

CONCEPTUAL FRAMEWORK

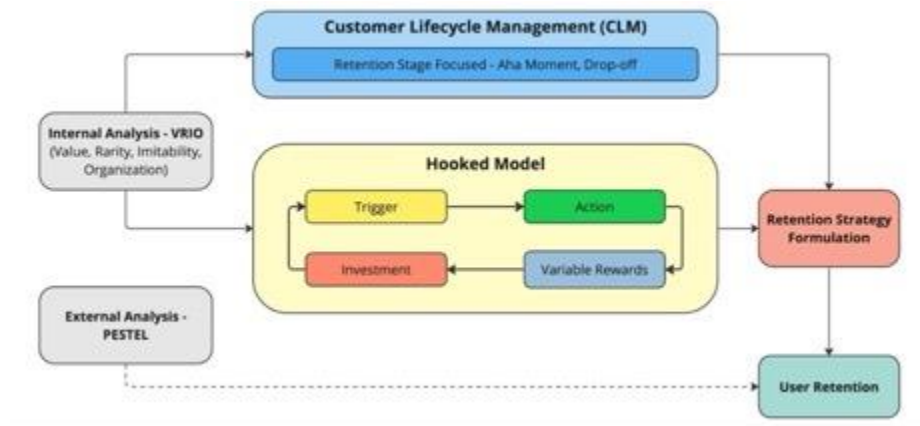


Figure 4. Conceptual Framework

METHODS

Adopting a Mixed-Method Research approach, the methodology blends quantitative and qualitative techniques. Quantitative research involves collecting and analyzing numerical data to uncover patterns, relationships, and trends. This part of the research taps into the company's internal databases to extract user in-app activity data, which is then analyzed using Customer Lifecycle Management (CLM) tools like Behavioral Cohort Analysis and Funnel Analysis. These tools help identify user engagement patterns and pinpoint where users tend to drop off. However, numbers alone cannot explain why users behave in certain ways. To complement the quantitative data, qualitative research dives deeper into user experiences, motivations, and barriers to sustained platform use. This involves conducting in-depth interviews with users, aiming to gather rich, detailed narratives that provide context and depth to the numerical findings. By understanding the underlying reasons behind user behavior, the research offers a more profound insight into the intricacies and nuances that quantitative data might miss.

DATA COLLECTION METHOD

Quantitative Data Collection

The collection of quantitative data starts with identifying the specific data requirements needed to answer the research questions. This includes details like user identifiers, sign-up dates, activity names, and timestamps. To manage this data, the Extract, Transform, and Load (ETL) process is used, facilitated by AWS Glue. This process begins by extracting data from various sources, transforming it into a structured format, and then loading it into a target data store for analysis. Once the data is prepared, SQL scripts are written and executed using the DBeaver application to analyze the data. The findings are then visualized using tools like Google Spreadsheets to better understand patterns and trends.

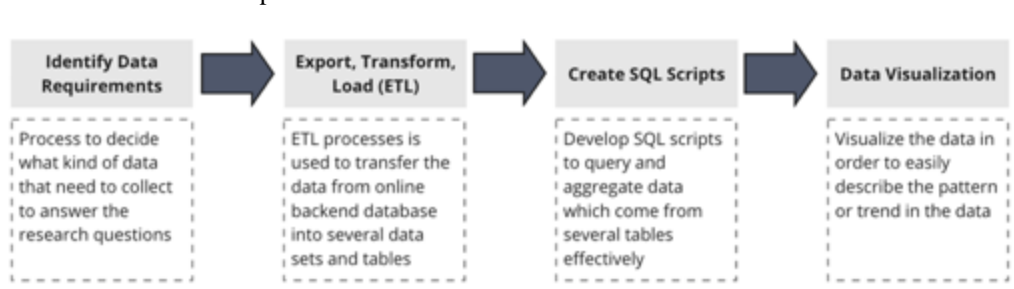


Figure 5. Quantitative Data Collection Process

Qualitative Data Collection

For the qualitative phase, the researcher selected six participants for an in-depth interview. The participants are chosen based on their engagement levels and active status in the app to ensure the data is not biased to a specific type of user only. The

selected users were invited for in-depth interviews via calls or messaging platforms. These interviews were carefully conducted by prompting a series of questions to understand the participants' experiences, motivations, and challenges with the app. This qualitative data collection aimed to uncover the deeper insights that numbers alone cannot provide.

DATA ANALYSIS METHOD

Quantitative Data Analysis

The researcher used three steps of CLM analysis tools, e.i. Cohort Analysis, Behavioral Cohort Analysis, and Funnel Analysis. Cohort analysis is conducted to understand retention rates among different user groups and behavioral cohort analysis to compare retention based on specific user behaviors. Funnel analysis is used to identify where in the user journey users are most likely to drop off, providing critical insights into improving user retention.

Qualitative Data Analysis

On the qualitative side, narrative analysis is employed to interpret the stories and accounts given by users during the interviews. This process involves transcribing the interviews, familiarizing oneself with the content, identifying key narrative elements, and systematically coding and categorizing the data. Thematic analysis then reveals common threads and unique stories across different narratives, helping to reconstruct a comprehensive account of user experiences.

By integrating quantitative data on user engagement and retention with qualitative insights into user experiences, this mixed-methods approach provides a holistic view of user behavior. This comprehensive understanding is essential for making informed decisions and developing effective strategies to enhance user retention in the digital recruitment platform. Through this meticulous and multifaceted research design, the goal is to align the app's offerings with user needs, ultimately ensuring long-term success and sustainability in a competitive market. The research methodology diagram can be seen in Figure 6.

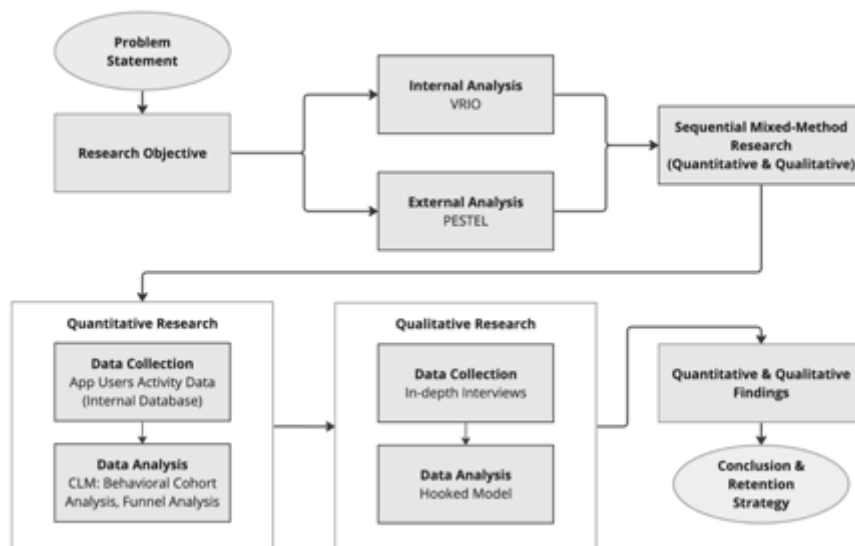


Figure 6. Research Design

FINDINGS AND DISCUSSION

COHORT ANALYSIS

The researcher used the Cohort Analysis method to determine the current condition of retention in Chatterhire in general level. This retention data is crucial for understanding user behavior and app's performance over time. It suggests areas where Chatterhire may need to investigate the causes of drop-offs and develop strategies to improve long-term engagement. By analyzing retention data from January to February 2024, the researcher created a retention cohort that displays the percentage of users from each weekly cohort who remain active over a 12-week period. Significant drops in user activity are noted after the first week across



all cohorts, with retention rates stabilizing by Week 5 and tapering off to under 1% by Week 12 as shown in Figure 7. Variation in initial retention of the cohorts could be due to different marketing campaigns and/or app updates that happened during that time.

Week	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Feb 26	100.00%	23.25%	15.92%	11.53%	2.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Feb 19	100.00%	24.77%	15.39%	11.84%	9.05%	2.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Feb 12	100.00%	25.99%	16.90%	12.09%	10.07%	8.20%	1.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Feb 05	100.00%	26.05%	18.74%	13.55%	10.84%	8.97%	7.17%	1.87%	0.00%	0.00%	0.00%	0.00%	0.00%
Jan 29	100.00%	22.77%	17.34%	13.44%	10.89%	8.26%	7.58%	6.05%	1.77%	0.00%	0.00%	0.00%	0.00%
Jan 22	100.00%	27.84%	17.47%	14.33%	11.55%	9.85%	8.03%	7.62%	5.80%	1.97%	0.00%	0.00%	0.00%
Jan 15	100.00%	24.96%	19.00%	12.29%	10.84%	8.65%	7.81%	6.73%	5.34%	4.41%	1.27%	0.00%	0.00%
Jan 08	100.00%	24.67%	16.96%	14.63%	9.84%	9.04%	8.09%	7.01%	5.96%	5.32%	4.29%	1.42%	0.00%
Jan 01	100.00%	23.87%	17.33%	12.95%	12.27%	8.58%	7.66%	7.31%	6.22%	5.29%	4.80%	4.48%	0.93%
Overall	100.00%	24.86%	17.17%	13.05%	10.77%	8.86%	7.84%	6.98%	5.95%	5.09%	4.74%	4.48%	0.93%

Figure 7. Chatterhire’s Retention Cohort January - February 2024

The overall retention rate spanning from January to February 2024 is plotted as a line chart as shown in Figure 8. This retention will be used as a baseline to compare with other cohorts in the next phase.

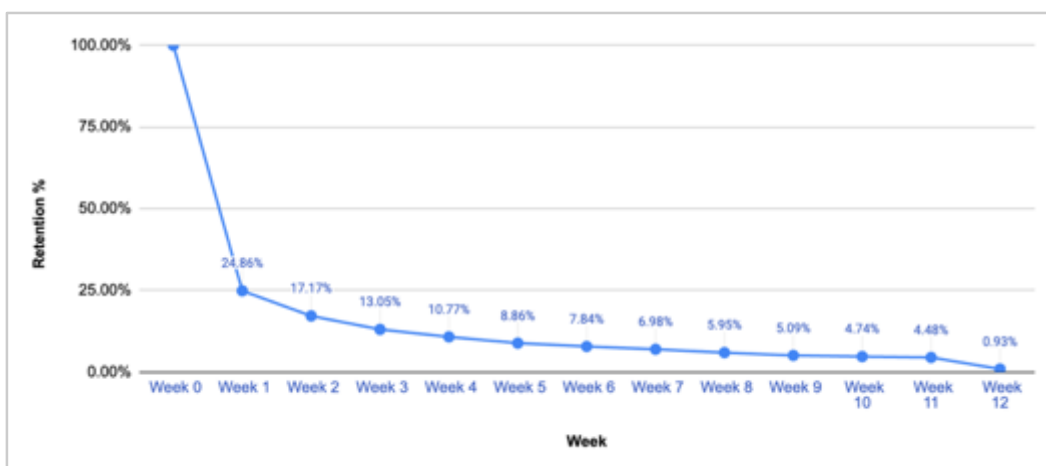


Figure 8. Weekly Retention from January - February 2024

BEHAVIORAL COHORT ANALYSIS

After the baseline for retention has been identified, now it’s the time to figure out what actions affect the retention rate. The researcher utilizes behavioral cohort analysis to identify the a-ha moment that will give insights on what set of actions that separate customers who find value in Chatterhire from those who don’t. Since the Aha Moment should be near the top of the funnel, the researcher starts by figuring out what actions a user takes during the first week (first 7 days) in the app from their first sign-up. In the case of Chatterhire, several key actions that might be taken by users and also have value to the users are:

1. Apply for a job
2. Save a job for later
3. Follow job provider’s account
4. Update profile
5. Accept interview invitation

The remaining question is “Do these actions affect user retention?”. To answer this question, the researcher uses behavioral cohorts to compare each action’s impact on weekly retention. Behavioral cohorts allow us to understand which actions are driving value and retention for the users. The retention rate for each action is charted alongside the baseline retention as seen in Figure 9.

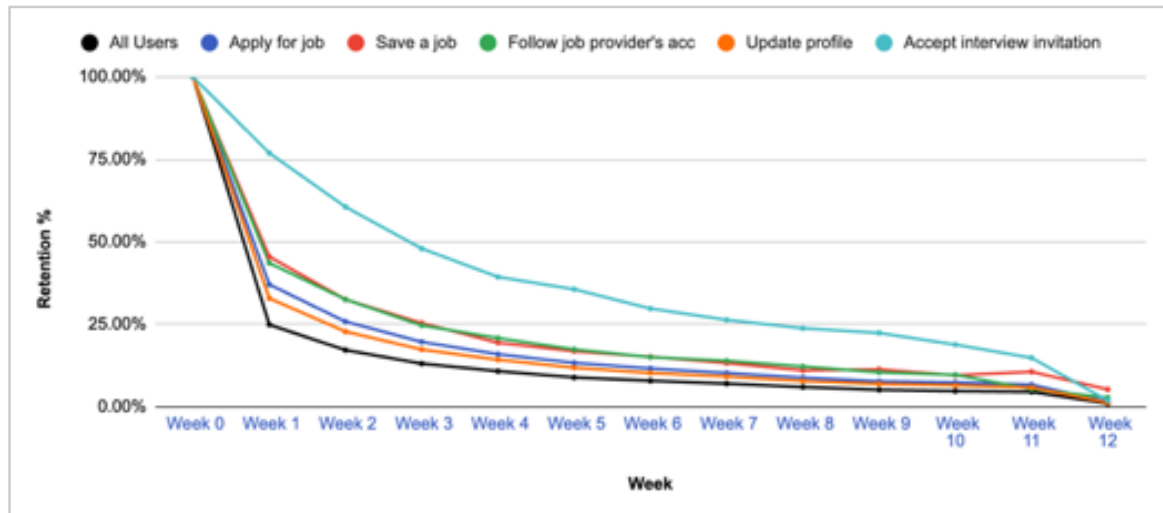


Figure 9. Retention Rate by Cohorts

In Figure 9 it is clearly seen that Accept Interview Invitation is the action with the highest retention rate of all. It is tempting to conclude that the product should push users to accept interview invitations. But referring to the Aha Moment concept by Stencil, the goal is to find “an action that’s taken by most people who retain and isn’t taken by most people who are churn.”

To find that overlap, the researcher collected the data of each group (1,2, and 3) and then visualized the data in bar charts that show percentages of each group to be able to see which action and amount has the highest percentage of overlap that is shown as a blue bar in each chart.

1. Number of users who retained and took action
2. Number of users who retained but did not take action
3. Number of people who took action

Because the researcher wants to find the maximum overlap between the two groups, the researcher is not looking for the largest number of users in the overlap, but looking for the highest percentage of overlap instead.

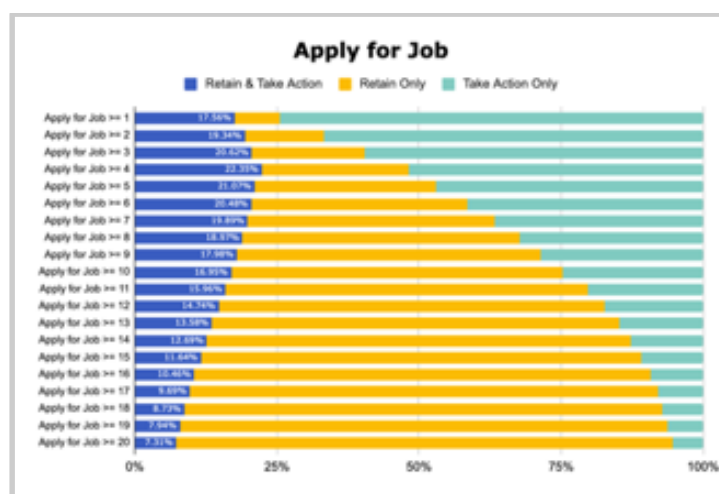


Figure 10. Overlapping Percentage: Apply for Job

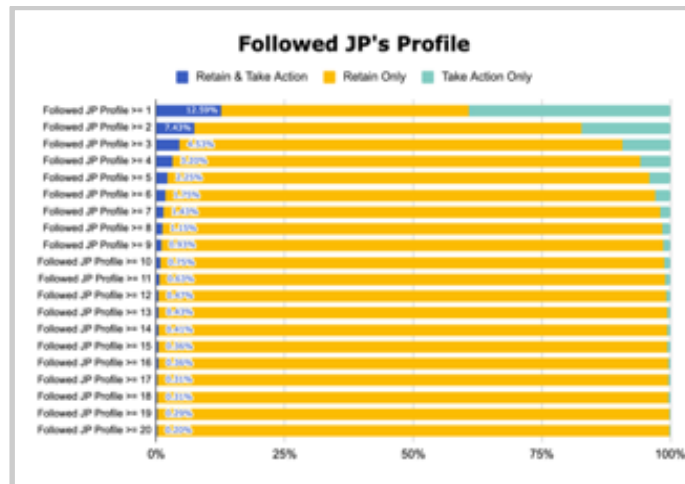


Figure 11. Overlapping Percentage: Followed JP's Profile

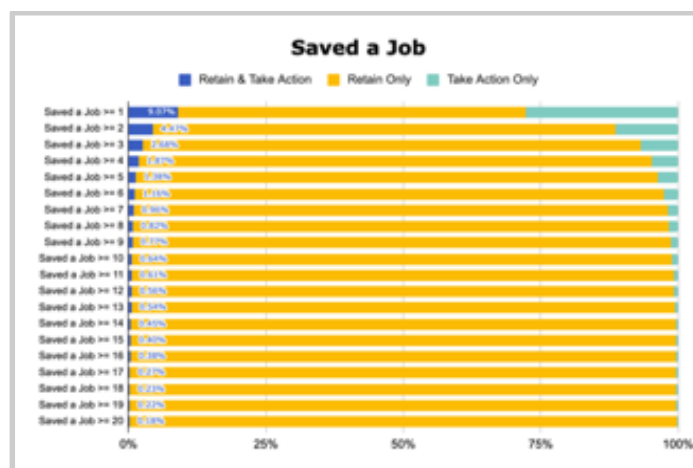


Figure 12. Overlapping Percentage: Saved a Job

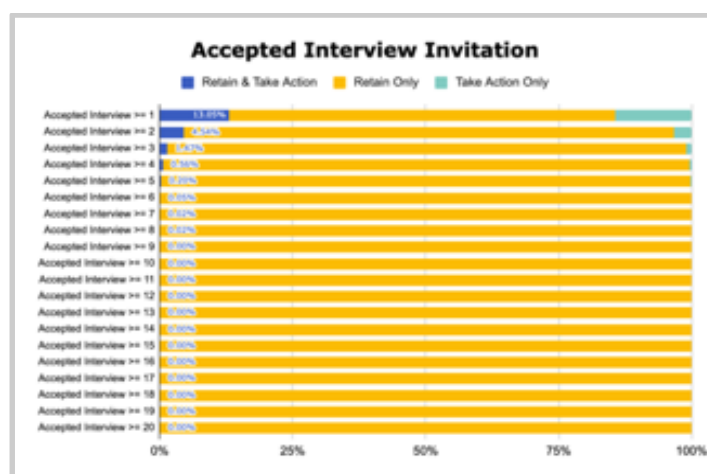


Figure 13. Overlapping Percentage: Accepted Interview Invitation

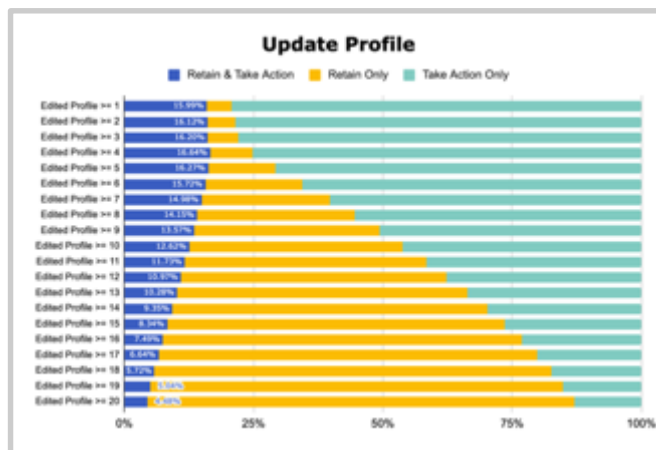


Figure 14. Overlapping Percentage: Update Profile

Based on Figure 10, 11, 12, 13, 14 above, it can be seen that applying for 4 jobs had the biggest percentage of overlap. This means that applying for 4 jobs in the first 7 days is the optimal amount of actions for a user to take in order to increase retention in the next following weeks. Now that the action and the optimal number of actions a user should take to correlate to retention are identified, the researcher will validate if there is a significant increase over the baseline retention. The comparison is charted in Figure 15.

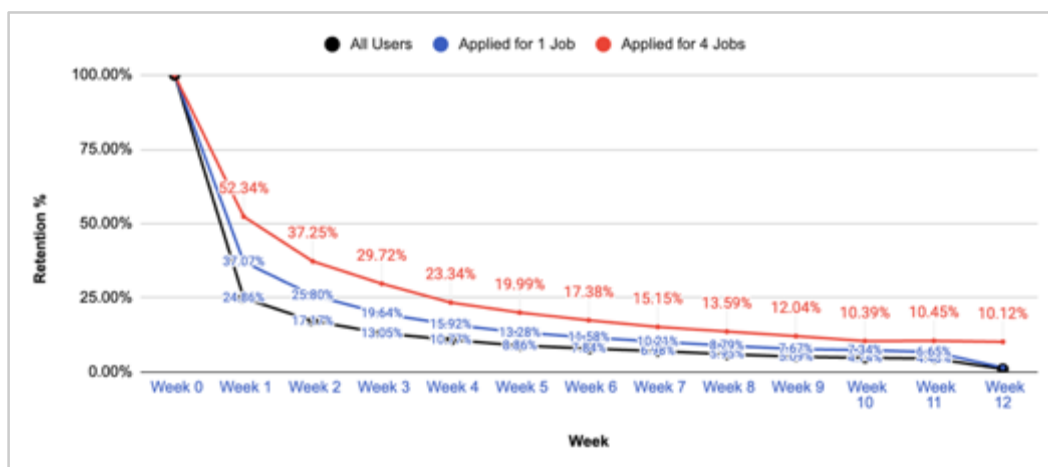


Figure 15. Behavioral Cohort Analysis

As seen in Figure 15, there is a significant increase in retention among the baseline cohort, Apply for 1 Job, and Apply for 4 Jobs. Hence, it is clear that Chatterhire needs to develop a product-based initiative with the objective of driving more users to Apply for 4 Jobs in the first 7 days.

FUNNEL ANALYSIS

Now that critical experience is identified, the researcher wants to investigate what is the biggest drop-off in the customer journey to arrive at the “aha moment” after the user signed up in the app. The users’ journey to “Aha moment” as identified in the previous section as Apply for 4 Jobs are as follows:

1. User created new account
2. User completed onboarding
3. User searched for any job
4. User apply for the first time (1st job)



5. User apply for the fourth time (4th job)

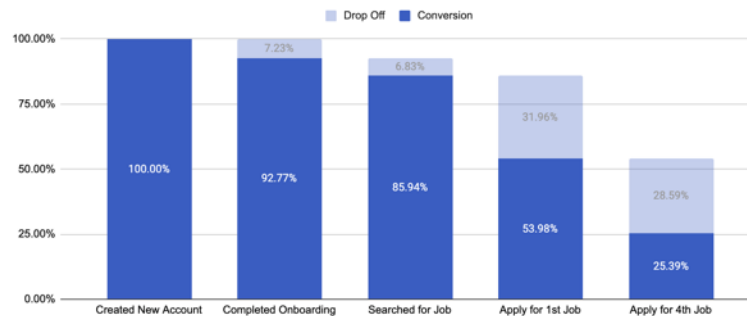


Figure 16. First 7 Days Funnel Analysis

From the funnel analysis above it can be seen that the biggest drop-off for a user to achieve the “Aha moment: Apply for 4 Jobs in the first 7 days” are between:

1. Searched for Job to Apply for the 1st Job
2. Apply the 1st Job to Apply for the 4th Job

Also it can be seen that 85.94% users searched for a job meanwhile there was only 53.98% who finally applied for the first job, suggesting that the user might find it difficult to find the job that they want, hence the 32% drop off. The second biggest drop-off is between applied for the 1st job to applied for the 4th job.

IN-DEPTH INTERVIEW ANALYSIS

Table II. In-Depth Interview Results

Aspects	Interview Findings
App Usability and Experience	Participants found the app innovative and user-friendly with an appealing design for easy navigation and quick job searching. However, some felt that the jobs lacked variability. Most participants rated the app highly for ease of navigation. The job search and chat features were the most used for their simplicity. Some participants reported occasional glitches like crashes and slow loading times.
Job Matching and Effectiveness	Participants' opinions varied based on their qualifications and expectations. Most felt that job listings were relevant to their skills, enhancing trust in the app. The application process was straightforward and efficient.
Engagement and Retention	Continuous updates, reliable job listings, and the need for new jobs kept participants returning. Those who stopped using the app had secured employment or were not actively looking for jobs. Participants suggested adding forums and work-related articles to increase engagement. The interface was appealing but could benefit from a more vibrant color theme. Updates were well-received, improving functionality and content.
Comparative Assessment	Participants felt that Chatterhire offered a simpler job application process and better user experience compared to competitors like JobStreet, Kupu, and Kita Lulus. Personalization of job alerts and proactive customer service distinguished Chatterhire from other platforms.
Personal Impact and Value	Participants credited the app with positively impacting their job search, offering numerous opportunities and valuable career advice. The chat feature and profile information were considered the most valuable, facilitating quick interactions with recruiters.

Future Use and Recommendations	Most participants planned to continue using the app, citing its relevance and helpfulness in career development. The likelihood of recommending the app was high. Participants desired more interactive elements like in-app video call interviews and community forums, and improvements in job listing trust and safety.
Overall Satisfaction	Participants satisfaction was high, with many appreciating the app for streamlining the job search process and providing valuable job market insights.

From the in-depth interview it can be seen that the main reason why the users churn in the first place is because the users already got a job, currently employed hence no urgency to look for a new job. This suggests that Chatterhire has a disadvantage in offering only one core value to the users. Another use case for the app should be considered to be able to keep engaging the users even though the users are not currently looking for a new job.

Based on the findings that are gathered from the quantitative and qualitative method, the researcher is mapping out the feasibility of the Hooked Model for each of the elements to be implemented as illustrated by Figure 17. The recommendation considers triggers (both external and internal), actions, variable rewards, and investment. External triggers include notifications from the app about new job postings and recruiter messages, while internal triggers tap into users' need for employment and job security. Actions are simplified to ensure users can easily engage with the app, such as creating an account and applying for jobs. Variable rewards include application status updates, recruiter responses, and job offers, which keep users engaged. Investment involves users committing time or resources to the platform, such as completing their profiles and initiating chats with recruiters.

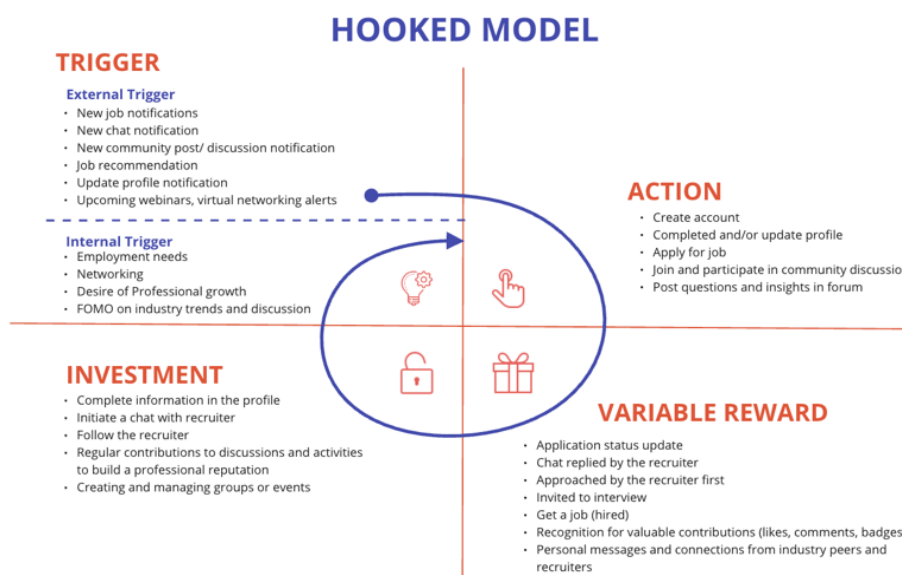


Figure 17. Proposal Hooked Model

CONCLUSIONS

The study identified that applying for a job by chat at least 4 times in the first 7 days as the critical user experience that incentivizes users to return to the app in the following weeks. The sufficient number of actions set the user up to realizing the value that they can get from the app. The chat feature as the app’s core value of simplifying the recruitment process creates meaningful connections between job seekers and recruiters. The journey between searching for jobs and applying for the fourth job exhibited the highest drop-off rates. While initially engaging, the drop-off occurs when users fail to find relevant or satisfactory job listings, highlighting the need for improved matching algorithms, searching experience, and recommendation to accelerate the time to value. The research pointed out that while users are quite satisfied with their experience within the app, it does not mean they will continue



to use the app for a long time. Other than job availability, volume and variability, the absence of other functionality besides a mere job portal failing to engage the users who are not actively looking for jobs, leads to reduced app use, even uninstall post-employment. The research suggests key improvements include introducing a professional community feature, simplifying job applications, and encouraging profile updates. Triggers such as job notifications and community alerts prompt user engagement. Actions like applying for jobs and participating in community discussions are streamlined for ease. Variable rewards include application status updates and recruiter responses, providing unpredictable, gratifying experiences. Investments involve users completing profiles, engaging with recruiters, and contributing to community discussions, increasing their commitment to the app.

Future research could extend the application of the Hooked Model beyond digital recruitment platforms to other digital services targeting similar market segments, evaluating its effectiveness across various contexts. Studies could specifically explore how different elements of the Hooked model, such as personalized triggers and rewards, impact user engagement and retention across platforms. Additionally, experimental designs could be employed to test the direct impact of specific model interventions on user behavior, providing a more empirical assessment of the Hooked Model's effectiveness in enhancing user retention. These studies would offer valuable insights into generalizing the model's applicability and refining its components for broader digital marketplace applications.

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Cite this Article: Rini Paskah Br Barus, Iwan Setiawan (2024). Optimizing User Retention for a Digital Recruitment App with CLM and the Hooked Model. International Journal of Current Science Research and Review, 7(6), 3646-3660