Report On

Factors Affecting User Experience in Integrated App Services:

A Study on VU Mobile

By

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An internship report submitted to the BRAC Business School in partial

fulfillment of the requirements for the degree of
Bachelors of Business Administration

BRAC Business School

BRAC University

May 2024

Declaration

It is therefore declared that

1. The internship report delivered is my work completed while pursuing a degree at BRAC University.

2. Unless otherwise noted, the information does not contain previously published or written content by a third person, except where such material has been appropriately cited by including complete and correct referencing.

3. Nothing in the report contains information that has been approved or submitted for a degree or certification from another university or other institution in any other country.

4. I've given credit to all of the critical sources of assistance.

Student's Full Name & Signature:

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Taa-Seen Zahan

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Supervisor's Name:

Dr. H M Arif

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Assistant Professor, BRAC Business School

BRAC University

Co-supervisor's Name:

Dr. Mohammad Rabiul Basher Rubel

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Associate Professor, BRAC Business School

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Letter of Transmittal

Dr. H M Arif

Assistant Professor,

BRAC Business School

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Submission of internship report on Factors Affecting User Experience in Integrated App Services: A Study on VU Mobile

Dear Sir,

By the grace of Almighty, I am Taa-Seen Zahan submitting to you my internship report, which is a necessary component of the BBA program. Writing this paper under your expert guidance has been an incredible educational experience.

This report on the Factors Affecting User Experience in Integrated App Services: A Study on VU Mobile was made by me. I interned at VU Mobile ltd for four months. The internships offered me hands-on knowledge of the Product Management of an organization. Through this time, I learned how companies conduct their regular activity and special operations like user experience management. I've attempted to conclude the report concisely and thoroughly by including the most critical information and suggestions. I'm hoping the report can meet up to your expectations.

Therefore, I will pray and hope that you will be so kind as to accept my internship report and share your valuable assessments.

Sincerely yours,

Taa-Seen Zahan

18104051

BRAC Business School

BRAC University

May 23, Monday, 2024

Non-Disclosure Agreement

This agreement is between me, a BRAC University student, and VU Mobile Ltd., and it allows me to use the information for my report, " Factors Affecting User Experience in Integrated App Services," that has not yet been disclosed.

Executive Summary

The spread of consolidated to app-in-app services brings a new trend of being user-driven, particularly in mobile apps. This study paper, whose title is "The Next Frontier in App Design: An investigation on "The Improvement of User Experience in Integrated App Services" research highlights the major features regarding user experience in app-within-app services. In the study, the author focused on the most effective points like personalization, seamless integration, fast speed optimization, easy user-friendly design, and strong security mechanisms as such a user will be happy and engaged. A survey of 120 users was used among others to find out how they use and prioritize in-app services with respect to the full set of services to which they subscribe. Customer outputs' results indicate that custom services built by AI and machine learning structures not only increase users' interest but also ensure satisfaction by accurately predicting and meeting their needs. Moreover API integration allows for uninterrupted services to be quickly ported into apps. Such a scenario appears that improves the quality of user interaction and smooths the flow of an individual between the distinctive services.

The performance optimization is the main factor to be highlighted and the research points out that response time and efficiency should be the lowest and the highest level respectively to cater for the present day people who crave for real time processing. Study reinforces the fact that one should be focused on user centered design philosophy, which comprises heeding user feedback, as well as beta testing and direct user participation in the design process. This leads to users being provided with a product that doesn't just tick all the boxes but goes even beyond their expectations. Protecting privacy and security are the key issues, so study is based on stricter data protection

processes and it will keep trust of users and their safety. The role of security is growing even more, as privacy as well as data security are matters of great significance nowadays.

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Chapter 1: Overview of the Internship

1.1 <u>Student Information</u>

Name: Taa-Seen Zahan

ID: 18104051

Program: Bachelor in Business Administration (BBA)

Major/Specialization: CIM

Minor: E-commerce

1.2 <u>Internship Information</u>

1.2.1 Period, Company Name, Department/Division, Address

Period: 120 days

Company Name: VU Mobile

Department: Product team

Address: House-114 Road-12, Banani, Dhaka 1213

1.2.2 Internship Company Supervisor's Information:

Name: Md. Saedur Rahman

Position: Senior Product Manager, VU Mobile.

1.2.3 Job Scope

This report was developed following extensive collaboration with business professionals. The prospectus of the asset management business, which was included in the report's preparation, proved to be valuable.In that time, I was able to learn everything from start to finish regarding the production processes which resulted in this report. The report will include a brief overview of the company's process for establishing the most effective approach to achieve user happiness. Henceforth, it would be beneficial to compile a complete list of all the responsibilities undertaken by the Product department at VU Mobile.

For instance:

1. Manufacturing department's diverse department

2. VU Mobile. means the establishment of promotions to motivate the team members for hard work.

1.2.4 Job Duties

● Product UAT of Gamestar, Quizmaster and Wordstar

● Training on Hubspot and Google Ads

● CPA/CPC Ad Network Communication through linkedin

● Customer Communications for Facebook post, seeking their pictures and review videos

● Customer Issues Solve like if they cannot play or if they want to unsubscribe.

● Creating Quizmaster's Quiz Contents for page reach and customer engagement.

● Creating Wordstar page engagement posts, with winner posts.

● Worked on CRM and CMS for winner report and content upload.

● Ideation and plan for new product,product content and product design.

● Collaboration with new partners for new service product

● Created Winner list for Prize disbursement.

● Customer engagement event plan execution.

● Created linked Captions and Copies for Adplay and BAARTA.

1.3 Internship Outcomes

1.3.1 <u>Student's contribution to the company</u>

As an intern, I had an essential role in performing User Acceptance Testing (UAT) for the Gamestar, Quizmaster, and Wordstar products. I received hands-on training in HubSpot and Google Ads, enhancing my proficiency in digital marketing. By actively participating in CPA/CPC Ad Networks on LinkedIn, I effectively communicated our promotional message.

I was in charge of regulating consumer interactions on Facebook, actively seeking user-generated content like photos and review videos. I handled client inquiries regarding gameplay and subscription management, effectively resolving their concerns.

Within the field of content creation, I carefully selected and organized engaging Quizmaster quizzes with the intention of enhancing the exposure of the page and fostering active engagement with customers. In addition, I created appealing Wordstar posts, which included announcements of the winners. Using Customer Relationship Management (CRM) and Content Management System (CMS), I handled winning reports and uploaded content.

I actively participated in the generation of ideas and the strategic planning process for the development of new products, product content, and design. Through collaboration with new partners, I played a crucial role in the expansion of our service offerings. I meticulously assembled lists of winners to ensure the efficient distribution of prizes.

One of my responsibilities was organizing customer interaction events, with the goal of providing a smooth and enjoyable experience for our audience. In addition, I created LinkedIn captions and copies for Adplay and BAARTA, thereby improving our brand's visibility on the internet.

1.3.2 Benefits to the student

An internship at VU Mobile Limited has opened up lots of possibilities for my future career. My dictionary has been broadened as new words have found their way into my vocabulary. My studying process of the production rules, worker benefits, and other product executive-related paperwork made me confident to answer all the internal staff inquiries and know the scope of the product executive duties. I am now capable of handling responsibility for generating intriguing articles for Wordstar pages, including sections which generate winners. Additionally, I am

experienced in generating ideas and creating plans for new products, as well as developing product content and designing product features. I prioritized acquiring the skills to effectively implement Customer engagement event ideas while working in VU Mobile Limited.

I had the opportunity to witness the way of working of executives. During our conversation, I got the chance to inquire about the directors' work ethics, punctuality, and plan of action in case of an office emergency. Additionally, I discussed the possibility of them being forced to work overtime. They provided insights on strategies for managing stress, pressure, and other components of the job. In addition, they offered distinctive perspectives on the operational atmosphere.As an intern, staff also entrusted me with projects that I had to work on simultaneously with my manager. My key objective as to my career path is entry into the world of business and industry.

1.3.3 <u>Problems/Difficulties (faced during the internship period)</u>

A significant constraint was the limited timeframe, as I find four months insufficient. Organizations are hesitant to disclose personal information due to privacy concerns. These problems have hampered the progress of this research.

I encountered further complications when composing my report. For example:

1. Insufficient time was available to collect all the requisite data.

2. I was unable to obtain anyone's very confidential data.

Interns were prohibited from accessing internal operations.

4. Condensing and arranging analytical and theoretical material within a limited timeframe proved to be a formidable task.

5. The duration of four months proved inadequate for attaining a comprehensive understanding of the company's circumstances.

6. Obtaining substantial data became challenging due to the organization's policy of maintaining confidentiality for interns.

7. The amount of work I had to do was a significant hindrance to completing the report sooner.

Chapter 2: Organization Part

2.1 Introduction

<u>2.1.1 Objective</u>

The primary objective of this organizational research is to gain a comprehensive understanding of VU Mobile Ltd. and the wide range of activities they execute. The organizational section of this report will provide a comprehensive review and evaluation of the activities carried out by VU Mobile Ltd. Additionally, it showcases the many operations of VU Mobile Ltd, encompassing marketing methods, management strategies, company management, as well as the production and provision of goods and services, among other sectors. Utilizing a SWOT analysis with Porter's Five Forces Analysis offers an additional objective and provides the reader with a clear and accurate representation.

<u>2.1.2 Methodology</u>

The primary goal of this report is to provide an objective evaluation. It was compiled through the use of questionnaires, surveys, group discussions, personal observations, note-taking during events, and online research. Prior to initiating the analysis, I engaged in a discussion with the appropriate personnel in the office. The executive provided me with a comprehensive understanding of the organization's operational practices. The provided information proved really beneficial to my inquiries.

2.1.3 Scope

This study would provide valuable insights to scholars in comprehending the fundamental operations of VU Mobile Ltd. As a result, the analyst will be able to find out the Functions of the VU Mobile Ltd. Company culture programs will be the baseline for further empirical study.

2.1.4 Limitations

A major constraint was the limited timeframe, as I find four months insufficient. Furthermore, organizations express reluctance in sharing personal information due to concerns around privacy. These difficulties hamper the progress of the investigation.

2.1.5 Significance

Upon reading this text, viewers will have a comprehensive insight into the sentiments of VU Mobile Ltd. personnel regarding the company's latest operational endeavors. Additionally, the text emphasizes the significance of evaluating the business's efficient execution of its tasks. The study's significance is further strengthened by the shortcomings exhibited by VU Mobile Ltd.

2.2 Overview of VU Mobile Limited

2.2.1 Background

A diverse spectrum of internet users can access mobile gaming and entertainment services from VU Mobile, an inventive startup. Founded in 2005, VU Mobile has become Bangladesh's leading Mobile Value-Added Services (MVAS) company, renowned for its large subscriber base and strong revenue generation. A group of fifty professionals who are committed to leading the way

in innovation work for the organization. Creating, releasing, and profiting from Over-The-Top (OTT) services, mobile apps, and digital content is their primary focus.

Many different types of businesses make up the group. They work in many different areas, such as mobile digital products and services, mobile banking, mobile ads, and the Internet of Things (IoT). VU Mobile's most important job is to come up with new mobile value-added services, products, apps, and media that are specifically made for mobile carriers, customers, businesses, and handset makers. Moreover, MVAS solutions do not just help carriers, marketers, and device makers combat their performance and income, but also they try to boost users' mobile lifestyles. Moreover, VU Mobile has got many strong strategic partnerships and bonds that VU Mobile is extremely proud of. For instance, it became a part of Mobile Monday Bangladesh in the early phase and is a member of Mobile Ecosystem Forum (MEF) as well. Such collaborations clearly demonstrate that the company is open for innovation and pinpoints why it is a valuable player in the mobile arena. VU Mobile has made certain strides in the business world that includes. They already have more than 4 million registered mobile subscriptions. Several significant prizes e.g. the Grameenphone Top Revenue Performer in 2010 and the Red Herring Top 100 Asia in 2012 highlight how it has been appreciated for its fantastic work and accomplishments. While VU Mobile is itself a Mobile Service Provider (MSP), it also cooperates with the well-known carriers like Airtel, Robi, Grameenphone, and Robi to open up a package of mobile game services for us. The business model of VU Mobile differs in the way it offers both the traditional download and subscription models in order to maximize the revenue from content and to involve the subscribers keenly. The company presents material for smartphones and feature phones, namely java games and Iphone apps. Running on a system independent OS, players will have access to lots of games enjoyed via internet browser games without an obligation to use a specific OS or server. The

company highlights the active client interaction employing projects for instance Play N Win competition as well as community boards on game web portals which serve as a breeding ground for the community of gamers. VU Mobile offers initial free trials to increase the number of customers and to show those customers its care for their satisfaction and engagement with the content.

Throughout the past four years VU Mobile shaped its systems to address the specific needs of underserved markets although the company has continuously strengthened its handset data base to support a plethora of mobile devices and browsers. The company's offering is unique in that it combines feature-based downloadable games, casual instant play games and subscription based gameplay, tailored to 2G and 3G+/smartphone users. Other than that, the combined visual cross-device advertising tool develops the process of finding and promoting the content that consequently makes the use of the app simple and attractive. VU Mobile's all-encompassing strategy towards mobile entertainment and gaming services, coupled with its inventive solutions and dedication to user involvement, establishes the company as a frontrunner in the mobile technology sector in Bangladesh. The company's diverse business strategy, range of products, and strategic alliances demonstrate its commitment to improving the mobile living experience for customers and making a substantial influence in the market.

2.2.2 Commercial outline of VU Mobiles Limited:

Commercial Outline	
Name of the Organization	VU Mobile Ltd
Logo	
Chief Executive Officer	Kaymun Amin
Head of product	Sadia Hossain
Company Type	Privately Held
Date of Incorporation	2005
Corporate Head Office	Areeb tower, (Level 5-6) , 48 Pragrati Sarani, Dhaka 1212, Bangladesh.
No of employees	50
Primary Line of Business	Entertainment
Contact No	+88029897942
Fax	+88029897942
E-mail	info@VUmobile.biz
Website	www.VUmobile.biz

Table 1: Corporate profile

2.2.4 Vision

Introducing micro subscription-based services solving the subscription payment complexity with

Convenient channels for service delivery payments

2.2.5 Values

- Innovation and Excellence

- Integrity and Accountability

- Continuous learning and improvement

- Commitment and Ownership

- Passion and Humility

- Socially & Environmentally Responsible

2.3 Management practices

2.3.1 Recruitment Process

1. **Identifying the Need:**

   - The procedure typically commences when a new post is established or a current one becomes available.

   - Recruitment managers and HR work together to determine the precise requirements and duties of the position.

2. **Job Posting:**

   - There is a written job description that lists the qualifications, tasks, and skills needed for the job.

   - A lot of different places are used to advertise the job, like the company website, career boards, and social networking sites.

3. **Resume Screening:**

- HR experts or recruiting managers evaluate received resumes to select potential applicants.

- The screening procedure usually consists of aligning the qualifications of applicants with the job standards.

4. **Initial Contact:**

- Selected candidates are reached out for a preliminary discussion, typically over email or phone.

- This step is designed to evaluate the candidate's interest, offer fundamental information about the position, and collect further details.

5. **Application or Assessment:**

- Some companies might demand that applicants fill out application forms or undergo examinations to assess their talents or knowledge more thoroughly.

6. **First Interview:**

- Usually, HR or a recruiting manager would do an initial interaction with a job applicant to see how well they can communicate, how motivated they are, and how well they fit the role in general.

7. **Technical/Job-Specific Interview:**

   - Based on the job, hiring managers or experts in the field may talk to prospects in technical or job-specific interviews. In this step, the candidate's ability to do job-related tasks is tested.

8. **Assessment Center or Skills Testing:**

   - Assessment centers or skills testing are utilized by some firms to measure candidates' talents in a controlled setting.

9. **Reference Check:**

   - Employers could go out to the candidate's references to confirm their employment history, abilities, and qualifications.

10. **Second/Final Interview:**

    - Shortlisted candidates may have a second interview with senior management or executives to determine the final recruiting choice.

    - The interview will emphasize cultural fit, long-term objectives, and alignment with the company's values.

11. **Job Offer:**

    - The chosen candidate will receive a formal job offer outlining pay, benefits, and start date.

12. Negotiation, Acceptance and Onboarding:

- After negotiating the terms of employment, the candidate formally accepts the job offer.

- The onboarding process commences, involving documentation, orientation, and training to facilitate the new employee's easy integration into the firm.

2.3.2 The Compensation method

A company remunerates its staff fairly, and it extends incentives to motivated employees. Thus, their duties should be redesigned keeping in mind the main idea of empowering employees. The salary system of the company has been designed on the basis of the job grades that have been laid down. The scales of occupation are based on the precise position measurement that intends to provide the information of the position dimensions along with responsibilities, decision-making authority and the overall concept. Worker compensation will normally contain the basic salary with housing allowances and medical cover. Salaries are not transparent but shared with the few people among management and the union who need to know. Based on the suggestions of the Managing Director, the Board sets up salary bands in line with the evaluations on performance. An authorized body may recommend some activities and settings in a particular period of time after which medical benefits could be given.

2.3.5 Training and development in VU Mobiles LTD

1. Training Needs Assessment

The strategy starts with a thorough assessment to identify the abilities and expertise shortages in the organization. This includes examining feedback gathered from performance evaluations, staff surveys, and managerial conversations. The goal is to pinpoint areas where training might improve performance and productivity, making sure that the training efforts are focused and effective.

2. Establish Training Objectives

The training objectives are clearly specified to ensure they correspond directly with the organizational objectives, ensuring the relevance and overall focus of the training initiatives. This linkage guarantees that the training initiatives make a significant contribution to the company's overall objectives, improving both individual and organizational performance.

3. Individual Development Plans

Individually tailored development plans are formulated that incorporate the career ambitions of the employees as well as the needs of the organization. This approach tailored to each employee's professional development ensures the correspondence with the VU Mobile strategic objectives and hence creates a conducive expertise-sharing environment for their success and the success of the organization, too.

4. Training Methods

Training can be conducted in different techniques that include conferences, seminars, virtual classes, job instructions, mentorship programmes, and e-learning modules. This variety is capable of meeting the needs of various learners and their tastes, consequently improving the reach and effectiveness of the training programs.

5. Onboarding Programs

Extensive steps are taken to develop a detailed onboarding programme that guarantees a successful integration for new employees into the organization. Through the onboarding process, VU Mobile offers comprehensive orientation to the culture, procedures and their duties which will provide a solid ground for green employees to work with.

6. Leadership Development

The leadership development courses play a key role in equipping them with the skills they will perfect in the future for leadership. These training programmes cover those vital skills of excellent communication and decision making that are needed for anyone to be an efficient leader.

7. Continuous Learning Culture

VU Mobile has made learning a culture within the organization, where each employee learns and grows constantly throughout their career path. There is the culture of continuing knowledge gaining in place by granting admittance to help and resources for ongoing study, developing an atmosphere of continuous advance and progress.

8. Performance Support Systems

Performance support systems provide help and advice for employees at the right time that they need them. The law enforcement officers are provided with things such as work aides, instruction manuals and online databases of information which will essentially enhance the performance and efficiency for them to undertake their tasks.

9. Feedback and Evaluation

The topics discussed in training sessions are often used to get feedback from the training attendees for evaluating the effects of training courses. Such perspective, alongside regular evaluation of the influence of the training on productivity, will enable the trainers to choose the best method and modification to get the desired effects.

10. Recognition and Rewards

But the completion of the training program's and the engagement with them are known and rewarded. This additionally refers to performance based evaluations and promotions, thus the learner will be compelled to participate in the training and complete all the exercises.

11. Technology Integration

Technology gives a major contribution in the exquisite training experience through e-learning, online training, and interactive modules. Being abreast of the scientific field updates ensures that the techniques put in place achieve the desired effectiveness and entertainment.

12. Mentoring and Coaching

Mentorships and coaching programmes create personalized guidance and help by pairing experienced professionals with whoever desire further growth opportunities. Through this strategy both organizations and individuals are empowered and equipped to participate actively in knowledge generation, personal development, and the journey of self-discovery.

13. Compliance Training

Compliance Training Under compliance training, it is mandatory to exist in such a way that everyone sticks to the set standards. The completion of training details is regularly audited and the records maintained along with provisions of compliance.

14. Flexibility and Adaptability

The training programmes are built to be readily available and applicable, in a capacity to adapt to industry, technology, and company requirements' changes. Such a feature of migration ability provides a learning culture that appreciates and embraces change placing both VU Mobile and its workers as the front of the industry developments.

VU Mobile is designed to build the company's competitive advantages, to work with an adequately trained staff and to carry out strategic objectives via some well-defined training and development programs in order to climb up to the leadership position of mobile service provision.

2.3.6 The performance appraisal system

VU Mobile's evaluation system is a systematic procedure which provides the marketing team a chance to examine their performance and develop it, assuring that the strategic goals of the business are fully complied. Such a mechanism is highly holistic which involves all the components of evaluation of performance, such as specific, measurable and ongoing progress improvement goals. We will talk about the components of VU Mobile's evaluation system that stress various facets the company employs to guarantee the excellent standards for marketing success.

1. Clear Objectives

At the first point, VU Mobile does set specific promo goals that are strongly connected with the commercial goals of the business. Providing clarity equals that the employees will have a clear

appreciation of their job description and responsibilities for the objectives which will in turn make the marketing initiatives more unified in terms of direction.

2. KPIs (Key Performance Indicators)

Evaluation of the KPI, whose clear-cut indicators of success are at the heart of the system, is the goal of the above process. They play the role of a performance measuring instrument for marketing. The KPIs contain indicators, such as the number of leads, the conversion rate, the cost of getting new clients, etc. that are needed to evaluate the performance. They have not only standards but also measures to gauge all individuals and the team by how much the business is meeting its goals.

3. Personal and Morale Goals

SMART criteria is employed by VU Mobile to ensure that people and teams involved in the process have tangible and time-specific goals perfectly matching their roles and being measurable. This contributes to sharing what the individual did alongside the organizational aims, thus, operates to create the spirit of teamwork aimed at achieving a high level of marketing performance.

4. Regular Performance Reviews

Performance reviews are one of the assessment tools in the evaluation system and the key focus of such an assessment is the assessment of the current progress of the goals and objectives that were set before. Those are an opportunity to give constructive comments, recognise achievements, encourage others and point out places where some upgrading is required.

5. Metrics Of Sales And Revenue

The marketing efforts are tested by how much they raise sales and achieve profits, so they are having targets of sales increasing, customer lifetime value or customer retention. This research sheds light about the way VU Mobile's marketing campaign affects the company's profit margin.

6. Customer Feedback and Praisefulness

Among the most essential aspects of the evaluation method there are customer feedback and satisfaction measures, which are the evidence that VU Mobile marketing operation takes the customers' needs as the core. This is done by means of surveys, feedback and suggestiveness to understand the level of people's interest in the concepts of advertising that are perpetuated and this helps develop future campaigns.

7. Campaign Effectiveness

Important indicators such as exposure, visitors on our website, and conversion are used to make a statement about effectiveness of marketing activities. In this review, it is evaluated how various platforms such as communication technologies, social media, and ads aid in attaining campaign goals.

8. Innovation and Creativity

VU Mobile believes in instigating first mover advantage in its marketing efforts. Therefore, its employees are encouraged to come up with different ideas. These activities are acknowledged and honored in which the assessment system serves as motivation for a culture of steady improvement and well-positioning among rivals.

9. Never Stop Learning And Skill Improvements

Perhaps, the best thing about marketing is that it is a space constantly evolving, so you have to invest in learning new things to stay updated and be good at what you do. On the other hand if workers are certified by how much they make use of the training prospects, which enable them to grow and to make the transition through periods of market dynamics.

10. Market Research Advantages and Coordination at all operational levels

The contributions in the area of market research and departmental cross-functional communications are evaluated as well as departmental teamwork and data-driven choices are given a lot of priority, which highlights the importance of these two aspects in the achievement of the company's objectives. These reasons are of importance for designing efficient marketing plans that must be followed to achieve organizational objectives.

11. Employee Involvement:

By allowing the employees to have inputs in the process and set goals for themselves. This investment in them brings about the creation of an atmosphere that favors the open communication process, which in the end makes the workers to be autonomously organized and take the lead in their personal development and performance.

In a nutshell, the assessment process at VU mobile will be an intricate multipronged instrument that is designed to foster organizational performance, unite team members' efforts with company goals, and convey a culture of continuous improvement that is imbued with creativity and emphasis on customer satisfaction.

2.4 Marketing Practices

VU Mobile largely depends on social media as its main marketing tool for the ever-changing Mobile Value-Added Services (MVAS) industry. This shows the attention to appropriateness of requesting steps in line with digital features of MVAS with emphasis on the audience they wish to serve. Through this part of that which studies the major marketing approaches of a MVAS firm with the sole use of social media, a channel analysis in this part was conducted.

1. Targeted Advertising

Social networks like media are practically all empowered by demographic information, interests or behaviors, as well as other factors for sophisticated targeting. Through the use of such functionalities, VU Mobile gets to serve customized ads to a specific group of demographics that indicates a higher possibility of being interested in additional mobile services, such as streaming, video on demand, cloud storage and advanced communication routines. These focused tactics ensure that marketing effort doesn't only work as intended but also is cost effective, which is a way to improve the return on investment (ROI).

2. Content Marketing

VU Mobile leverages the crucial influence of content in digital marketing in order to create truly appealing and insightful content which ultimately forms a genuine bond between the brand and their target audience. This could be such as a manual for using her services, the benefits of taking an add-on and texting notifying about new offers. Broadcasting educational films, infographics and interactive blogs does help in clarifying the technical parts of MVAS activities, so we have a chance to make them available for every user.

3. Collaborations with Influencers

Interacting with respected and hopefully recognizable people in related fields of specializations who in turn have an audience or following consisting of a large number of people make use of the additional services that MVAS offers. Influencers are capable of effectively presenting information regarding the benefits of added-on services and their everyday applicability in their

target audience. By leveraging the visibility factor, the company will create brand awareness and also induce conversions due to the use of genuine endorsements.

4. Social Media Engagement

VU Mobile's presence on all social media platforms not only provides them an opportunity to engage with and delight their consumers but also aids in creating an enduring and interactive community that unites the consumers, who in return become brand loyalists. Continual news, quick answers to the questions, and participants of the discussions are important. Furthermore, carrying out sessions or webinars on platforms which are popular such as Facebook Live or Instagram is useful in that, it can help in explaining services and atop of that, customers issues can be directly responded to by this which ultimately means better customer service and satisfaction.

5. Harnessing User-Generated Content

Through featuring customers who share their reviews and case studies about our company on social media, consumers will be able to validate the credibility or authenticity of the sources. Competitions and promotions that offer rewards for users to promote their own content that showcases the services not only engage users but also develop nice material for the users to share with others, helping sway future subscribers.

6. Analysis and Adjustment

The company, VU Mobile Ltd., relies on social media networks' sophisticated analysis mechanisms so that it can track in a live mode the effect of its marketing actions. This data is very crucial because it helps in understanding those factors similar to the audience plus enables organizers to improve the next event initiatives. Organizations are able to analyze the success

components of their campaigns and unveil the areas which require improvement in such a manner that ensures that they have the capacity to adapt to any behavioral and preference changes from customers.

VU Mobiles Ltd. engage social media as the largest marketing platform because they provide digital services to the clients who are busy living their lives. This strategy is aimed at obtaining precisely the correct positioning and direct communication with the customers, as well as making it possible to be flexible and adaptive in a rapidly changing market environment. In the given document, the indicated methods provide a holistic use of social media capabilities, mainly to demonstrate the big commercial results which could be attained with the use of these platforms in the MVAS industry.

2.5 Accounting Practices and Financial Performance

2.5.1 Accounts performance in VU Mobile LTD

- The accounting department of VU mobiles Limited ensures that certain basic principles are managed:

- Training each location in suitable accounting practices, creating an overview report for each location, and aiding locations in completing their financial records at the end of a month.

- Offering precise support with diverse accounting duties.

- The organization ensures that all the money it spends is used effectively, efficiently, and profitably.

- The distribution system is highly efficient and easy to use.

- Toto accurately records and matches all transactions; you must verify that each one is accounted for and reconciled individually. Furthermore, generating a monthly report on income forecasts

- Financial statements are generated annually and quarterly.

2.6 Management of Operations and Information Systems

2.6.1 Management of operations

Proper operations management addresses to elevate the organization's efficiency. Those people in the organization who are accountable for the supervision of the method must belong to the board of directors. This plan is policy-focused and comprises the company areas of weakness identification followed by their remediation to improve service delivery efficiency and productivity in all parts of the business. The auditing committee carries out the company`s performance appraisal. Top-level managers and auditors conduct a regular dialogue in order to evaluate the company's operational system. The body, which consists of the non-executive directors and the executive committee, conducts an annual review of their financial framework for the board members.

To succeed and have considerable returns on investment, VU Mobile must avoid any inefficiencies in its business operations. The committees have done a great job of achieving those objectives of late. The company got better and better with time.

2.7 Porter's Five Forces Analysis of VU Mobile Limited

One of the most popular ways to assess an organization's market position is to look at Porter's Five Forces.

Rivalry among present contestants

Well-known companies in Bangladesh, like Robi Axiata, Grameenphone, and Airtel, are in a fierce battle for customers in the cell service provider market. Getting and keeping customers is hard in a market that is getting close to its full potential, which is where this competition comes from. Similar service offers, competitive pricing, and the need for new technologies to appeal to customers are all things that contribute to this fierce competition. When businesses compete with each other, it can lead to price wars, higher marketing costs, and the need to keep coming up with new ideas. This can cut into companies' earnings margins and make them look for ways to stand out.

The power of suppliers

Supplier power in Bangladesh's mobile service market is somewhat reduced due to the availability of many carriers, which decreases the influence of any specific supplier. VU Mobile's situation demonstrates a subtle aspect of supplier influence. VU Mobile's ownership of its network infrastructure has strengthened its negotiating power with suppliers, allowing it to possibly change suppliers easier than carriers that depend significantly on leased equipment. Having control over

infrastructures can result in better prices and conditions from suppliers, but it necessitates substantial capital commitment and operational proficiency.

Negotiating supremacy of buyers

The influence of consumers in this business is notably strong because of the abundant suppliers and the cost sensitivity of consumers. Customers in a competitive market with minimal switching costs can readily select providers based on pricing, quality of service, and packaged choices. Mobile service providers must consistently lower prices, give promotions, and enhance services to keep their customers and boost the buyers' negotiating power.

The threat of Substitution

Substitution VUlnerability is a major issue in the mobile service provider sector, intensified by technology progress and shifts in consumer preferences. Options like landline services, internet cafés, and VoIP programs such as Skype, Viber, and WhatsApp provide communication alternatives that may decrease the need for conventional cell phone services. The increasing popularity of these substitutes, motivated by their cost-efficiency and convenience, compels mobile service providers to create new and varied services beyond voice and SMS.

The risk of new competitors

The threat of new rivals in the Bangladesh mobile service sector is mitigated by the fierce competition and the strong market presence of leading firms. The government's recent decision to simplify licensing regulations could lower barriers for new participants, thus enticing fresh competition. Newcomers face challenges such as financial demands and rivalry, although their potential to revolutionize the sector through innovative business strategies or technologies should

not be underestimated. Current participants need to remain vigilant and flexible in response to the evolving competitive landscape.

2.8 SWOT evaluation of Acorn Infrastructure Services Limited

Analyzing its SWOT data allows a company to evaluate its position in the market and develop a strategic plan. A SWOT analysis considers internal and external factors, as well as existing and future potential.

A SWOT strategic analysis aims to offer an impartial, evidence-based evaluation of a company's strengths and weaknesses.

Strengths:

- VU Mobile provides a wide range of services including mobile data, calls, text messages, internet access, and additional features such as Gamestar, Quizmaster, Wordstar, SongStar, and Fitness Club. This variety of services makes it a convenient and satisfying option for customers looking for mobile solutions.

- VU Mobile collaborates with groups such as NIVEA on community issues to boost their corporate social responsibility reputation and promote loyalty to the company among environmentally aware consumers.

- VU Mobile's reputation for durability and high-quality products in a competitive market boosts its competitive edge and customer loyalty.

- VU Mobile stands apart from its competition by offering distinctive applications and services, like fitness and entertaining apps, that meet the changing demands and preferences of users.

- VU Mobile's well-established brand presence and familiarity in Bangladesh create a strong basis for expanding into new markets and launching new products.

Weakness:

- VU Mobile's poor network coverage, particularly in rural areas, hinders its market reach compared to competitors and may discourage potential customers seeking extensive access.

- VU Mobile's premium pricing strategy, albeit offering superior services, may deter price-sensitive users and restrict its share of the market in a price-sensitive market.

- Customer Service Concerns: Previous concerns over the quality of customer service could harm VU Mobile's reputation, indicating a necessity for substantial enhancements in this domain.

- Reported overpricing of VU Mobile's services compared to their value can result in loss of customers, particularly if competitors offer identical services at more competitive prices.

- VU Mobile's substantial dependence on metropolitan and urban markets for its client base restricts expansion opportunities and makes it VUlnerable to market saturation in urban areas.

Opportunities:

- Expanding coverage of networks to underserved and rural regions offers a chance to reach new client groups and meet unfulfilled demand.

- Implementing a more competitive pricing strategy and offering flexible plans can help broaden the client base to include price-sensitive segments.

- VU Mobile can greatly improve customer happiness and loyalty by investing in client service training and enhancing contact channels.

- VU Mobile can get a competitive edge by adopting new technologies like 5G, IoT integration, and enhanced mobile applications.

- Strategic partnerships involve collaborating with technology firms, content providers, and online shopping platforms to provide distinctive services and content, which can improve consumer interaction and broaden sources of income.

Threats:

- Intense market competition requires constant innovation and clever marketing to sustain market position due to the presence of formidable competitors such as Airtel, Robi, and Grameenphone.

- Regulatory Changes: New rules or modifications to current laws may affect VU Mobile's operational expenses and market approach, necessitating flexibility in adhering to and adjusting to them.

- Technological disruptions in the mobile services sector might lead to obsolescence if companies fail to keep up with the quick rate of development.

- Macroeconomic issues and changes can influence consumer buying power, which in turn affects VU Mobile's pricing tactics and overall revenue.

- Mobile service providers face growing cybersecurity threats that endanger customer confidentiality and confidence due to the large volume of data they manage, requiring strong security measures.

2.9 Conclusions and Summary

The company of VU Mobile has pioneered the MVAS (Mobile Value-Added Services) industry ever since its inception in 2005, that is in Bangladesh. It has ascertained the strong presence in the market through new product launches and strategic partnerships. The club has been able to prosper despite the intense competition and accumulating consumer trends, with a subscriber count of over 4 million and various awards ceremonies. The gamut of services, which involves mobile gaming, OTT applications, mobile banking, and IoT goes to show the company's dedication to improving the mobile experience, for its customers.

Their wide array of premium quality product lines and services coupled with strong brand awareness in the market is the reason for their solid market position. However, drawbacks such as

the quality of the network in rural areas and customer service reveals areas that need to be addressed. The market opportunities stewed by the introduction of untapped markets and technology advances including 5G and IoT presents another route for the company expansion and exemplary service delivery.

With several strong competitors, changes in the legislation, and cybersecurity problems, there is a demand for continuous innovations as well as strategic flexibility. To sustain its mobile service status in Bangladesh, the VU Mobile may overcome the listed obstacles and at the same time may make use of its strong advantages. This will make the country smart and this will result in the country's technical progress and development of mobile connectivity greatly. This sustainability strategy not only guarantees long-term growth and customer satisfaction but also reinforces the purpose of VU Mobile which is to provide contemporary lifestyles and community services via advanced technology and means.

Chapter 3

Project part: Factors Affecting User Experience

3.1 Introduction

User experience is the main goal of the innovative technology processes, and this is also true for the novel app-in-app services in the fast-changing digital environment. As the title suggests, "The Next Frontier in App Design: This work "Elevating User Experience in Integrated App Services" tries to understand what brings joy and engagement to the users of modern online applications. This study is based on a main research question: "Which of the factors that influence the user experience in the app-in-app services are the most important? How do these factors affect the users' engagement and happiness overall?"

3.2 Problem Statement

This study was initiated due to the recognition that user experience(UX) design is not merely a component of app design but is the most crucial element for the success of any digital product. As digital services become increasingly integrated, balancing usability with speed becomes essential. When app interfaces incorporate multiple devices, it evolves into what is commonly referred to as "app-in-app services" presenting both new challenges and possibilities for UX designers and developers (Fan,2021).

The ease and rapidity of Mobile value added services(VMAS) are critical as the customers assess services delivery on these dimensions. High usability enables users to effortlessly discover and utilize services ensuring smooth service delivery to end users. Speed is very crucial as it ensures that content and services are delivered promptly, maintaining user engagement in an exceedingly fast pace world(Lewis,2021). On the other hand, unnecessary services can lead to user disgruntlement potentially driving them towards faster alternatives.

Key elements such as user interface design, service reliability , content quality, relevancy and customer service significantly influence customer services. An interface that is straight forward, intuitive and user friendly enhances overall user satisfaction as it facilitates easy access to relevant information. Furthermore the reliability of the services is vital. Content must be engaging Especially to Captivate and retain the interest of target users such as sports enthusiasts who are often the most sought after demographic. Effective customer service characterized by Swift problem resolutions improves User experience and Foster long term loyalty towards the MVAS provider building trust (Khan et al., 2016).

This paper takes apart User experience in integrated services in great detail focusing and studying the main factors that have a big impact on how users think about, act on and feel about the service as a whole. The study's objective is to give us useful information and ideas for making these important parts better which will eventually make the User experience better.

3.3 Research Question

Does mobile app performance, ease of use, customer support, quality, security and privacy, and rewards affect the customer experience?

3.4 Research Objective

To investigate the effect of mobile app performance, ease of use, customer support, quality, security and privacy, and rewards on the customer experience.

More specifically, this study seeks to:

1. **Identify Key Factors:** Determine what specific aspects of app-in-app services currently impact user experience. This could include usability, design, speed, functionality, or content relevance.

2. **Optimize User Experience:** Explore strategies to improve these factors, potentially through user interface design, functionality enhancements, personalization, or integration efficiencies.

3. **Measure Impact:** Assess how changes in these factors affect user satisfaction and engagement, which are critical metrics for the success of app-in-app services.

3.5 Scope

Additionally, this research will be really valuable to me because it will teach me about the essence and the fundamentality of user satisfaction, and the factors determining it. The outcomes of the both studies will also reveal the position of user satisfaction in the business. Strategy formulation

and validation is a prime concern, which is achieved through establishing cooperation with app developers and service providers for implementation and testing.

3.6 Significance of the study

The research focus is on the main features of user experience that affect user experience in the app in app services. The study will provide useful pointers that can be used to drive higher user satisfaction, higher engagement, as well as stronger loyalty to the services. Through these research findings, developers can be influenced in developing services app-in-app together with the users, thus adopting a user-centered approach that ultimately satisfies the needs and preferences of consumers.

Developers and providers can earn more money because apps get more traffic and users tend to buy stuff inside the app and watch advertisements, which brings more income. In this study, the author will be focusing on the app-in-app services, which is a rather new area of research within the experience research field. The creation of such a framework could serve as a basis for future studies and methodologies in a field that is quick to change. The findings could be used to drive the development of the key principles, standards and policies which will help ensure the service integration is actually user friendly.

It is evident that this research will help to increase knowledge about the complicated relationships between key influences on user experience in in-app services, that will eventually contribute to creating an excellent, user friendly, and successful digital product or service.

3.7 Literature Review:

The digital environment has really undergone an astounding evolution in the past decade that has seen the emergence and subsequent propagation of app-in-app services. This type of service which is designed to incorporate different functionalities into one application contributes to a shift in the way users communicate and interact with the digital platforms. These services, including the payment systems in social media platforms, third-party service integrations in messaging apps, have not only eased user interactions but also created new patterns for UX. At the heart of this transformation is striving to improve ease of use, simplify navigation and enhance the overall service offering, for an integrated and cohesive experience. This development is in line with another broader trend of digital convergence, whereby distinct services and functions are becoming more and more part of single platforms and thereby the lines between different types of digital services are getting blurred (Yoffie & Cusumano, 1999).

Alam, Salam and Chowdhury (2017) found that telecommunications service performance directly impacts consumer happiness and satisfaction. User engagement and fulfillment depends on app performance, reliability and responsiveness. This is similar to Fan(2021) who found that important hospital service applications need excellent user interface (UI) designs. The study stressed the need for integrated services for user satisfaction. Along with that, Mobile app usability affects consumer experience. User friendly interfaces improve mobile phone customer fulfillment according to Alam et al., (2017). Lewis (2021) agrees that intuitive and unified user interface designs are essential for Digital Service efficacy, minimizing confusion and boosting usability.Improving customer experience requires efficient customer service. Alam et al., (2017) observed that prompt and helpful customer service increased user satisfaction and loyalty. This discovery applies to

service design for large hospitals for rapid and efficient use. Support is essential for patient satisfaction and confidence.

Moreover, Strong security and privacy features in an app boost client confidence, security and privacy and are vital to mobile telephony user satisfaction according to Khan, Hossain and Sarkar (2016). User trust and app usage depend on these factors.Adding to that, client satisfaction is affected by an application's substance and functionality. Alam et al,., (2017) found that exceptional telecom service boosts customer satisfaction and loyalty. Lewis(2021) also examines how high quality user interface components affect User experience and good design improves user satisfaction. Furthermore, App rewards and incentives improve User experience. Value added services like prices and incentives improved Telecom consumer satisfaction and loyalty according to Alam et al., (2017). These features encourage continued use which boost satisfaction with usage.

More than just an addition of technology to the scene, app-in-app services have a great impact on the digital ecosystem by reforming user expectations and habits. Against the backdrop of digital consumers who are well adjusted to the instant accessibility and one touch services, the ability to provide a number of services through one interface gives digital platforms an added value. This amalgamation not only removes the barriers necessary for users to navigate but also opens up new dimensions of cross-service interactions and functionality. Eventually, the user experience becomes more interesting. Additionally, app-in-app services lead to a change in business philosophy by escalating companies' utilization of these integrations to keep the clients and to create new revenue streams (Choudary, 2015). Moreover, studies claim that this type of integration has redefined user expectations and experiences, enhanced convenience but also introduced challenges in maintaining an optimal UX (Hassenzahl & Tractinsky, 2006; Nielsen, 1994).

User experience (UX) is a phenomenon that is the main principle of an app-in-app solution. Digital service interaction with the customer is a part of UX that includes all stages of user interaction with a service, a product, and a company (Norman and Nielsen, 2006). An excellent UX is defined by its simplicity, high levels of user contentment, and an evident enthusiasm. In app-in-apps integration, to get the best UX, one should consider the designing, functional ability and smooth incorporation of various services. The multi-level architectures of these systems introduce new VUlnerabilities to user experience designers who are to ensure that all the different user interfaces and functionalities come together to form a harmonious and easy-to-use interface. The significant role UX plays in the victory of digital services cannot be overestimated because it directly impacts user satisfaction, engagement, and adoption. According to Norman and Nielsen, (2006) considering the use and effectiveness of UX in the case of app-in-app services is really important for developers and businesses.

In the last few years, there has been an increased tendency to employ mobile apps. We can see this in the fact that the number of mobile app downloads rose from 140.7 billion worldwide in 2016 to 204 billion in 2019 (Statista, 2020). Though the use of mobile apps is widespread, users' engagement with mobile apps doesn't seem to be that strong. Thus, one of the main tasks that organizations who provide such systems have to deal with is how to keep the user hooked (Cechetti et al., 2019). The gamification-which is one of the major portions of App-in-app services- is often understood as "the application of game design elements to the non-game things in order to make them more valuable, encourage customers be engaged, and to promote value-creating behaviors" (Hofacker et al., 2016, p. 26). In the last couple of years, the trend of gamification has rapidly grown together with its theoretical basis (Wünderlich et al., 2020). Studies have given evidence on gamification to increase consumer loyalty, marketing effectiveness, and brand equity,

emphasizing thus the role of gamification in boosting user engagement in different fields (Hwang & Choi, 2020; Wolf et al. 2020; Müller-Stewens et al. 2017; Xi & Hamari, 2020).

To gamify the user experience, upgrades will be made available to users and they can be allowed to advance to next levels which will contribute to their levels of engagement, effort, and the ultimate intentions. Studies in the literature emphasized on the fact that gamification is a critical influence in enhancing customer relationship management, simultaneously with building strong loyalty programs. Now we have worked through many researches, it demonstrates that it helps to raise customer loyalty, engagement rate, and app downloads (Hwang & Choi, 2020). Moreover, research has recently shown that gamification can be a powerful tool in boosting marketing effectiveness as it helps customers to participate, to barge in, and, last but not least, to share the information (Wolf et al, 2020). The consumer involvement positively contributes to getting new solutions in products and upgrading the brand value (Mueller-Stewens et al., 2017 & Xi and Hamari, 2020). The provided literature sources (Eisingerich et al., 2019, Jang et al., 2018, Yang et al., 2017) has shown the connections between gamification and variety of different engagements, including customer engagement, brand engagement (Xi and Hamari, 2020), and user engagement (Featherstone and Habgood, 2019).

This digital society of today exists to give the world interconnectedness and broadened horizons with the aid of digital means which are known as eHealth, eLearning, digital games, social media, and internet search. As a result, what people undergo while they're in the virtual world has become an essential issue to encompass (O'Brien and Cairns, 2016 & O'Brien, 2018). The engagement of users is what is more often showcased in studies regarding gamification that take place in such areas as information systems, human computation, and interactive platforms. These studies have

established the effectiveness of digital devices such web search engines, social media and mobile applications among user retention. Gamification case studies which are the ways to improve the users experience with mobile applications may be Suh and others' (2018) of information systems, Wang et al. (2017) of human computation, and Kuo and Chuang (2016) and Liu (2016) of mobile applications. Game use for user engagement was a focus of research by Chechetto et al. (2019) who were looking at the use of gamification in a mobile health application, as well as by Feng et al. 2020 who examined the outcomes of different game components on user engagement with health fitness apps. As a result, we can see now that gamification was successful for the system's users.

Previous research has examined the numerous factors of user experience in the digital services separately. Hassenzahl and Tractinsky (2006) concluded that usability and aesthetics were the key elements to creating a happy and engaged user experience on the web and mobile platforms. Moreover, Nielsen's usability principles aim at giving a big picture. These principles focus on system performance, error management, and human control. All these factors influence user experience (Nielsen, 1994). Interactions among different services within a single platform that create app-in-app services will have a significant role according to these dimensions as they are going to be quite complicated.

Al-Masri and Mahmoud in 2007 had a study which strongly correlated web services speed and performance with user satisfaction. As such, this is particularly valid for app-in-app services, where the seamless integration and seamless operation of embedded services are key to the stability of user interest.

Another important factor is the quality and relevance of features and information that are offered by the app-in-app services. This is a vital component of the overall experience that a user has. It was observed by Oulasvirta et al. (2018) that one of the most crucial factors that determine the level of user engagement of an app is the alignment of app features with user wants and preferences. Besides, as the authors of Xu et al. (2009) claim, both the importance and adaptation of material have a strong contribution in attracting and retaining consumers through offering value and satisfying their personal needs.

3.8 Hypothesis Development:

In this era of mobile applications, it is full of different aspects that are useful for the improvement of the customer experience that is the key to the customer retention and satisfaction. This section talks about the formation of the hypothesis that the particular features of mobile apps affect the customers experience. These hypotheses are the basis for the scientific research that is aimed at very finely the impact of these characteristics.

H1: app performance have a positive effect on the customer experience

The hypothesis suggests that the performance of mobile apps for example its speed, responsiveness and reliability has a positive impact on the customer experience. The application performance is usually the first thing that users see and users can better judge the usability and satisfaction of the application if it is efficient.

H2: ease of use of the mobile app have a positive effect on the customer experience

The second hypothesis claims that the use of mobile apps is easy and this makes the customer experience better. The easy to use and user friendly interface eliminates the difficulties of

navigation and interaction and chances of continued use and the positive user engagement are increased.

H3: customer support have a positive effect on the customer experience

Customer support is the one which boosts the customer experience. AIDS such as life chat, timely answers to questions and useful troubleshooting are the supporting structures that make the safety net stronger and the users of the app are more satisfied and just the app.

H4: security and privacy in the app have a positive effect on the customer experience

Hypothesis for the fourth hypothesis is about the effect of the security and privacy measure within the app on the customer experience. In a time when data bridges are frequent the use of strong security tools and privacy protectors can have a great impact on the trust and satisfaction of the users.

H5: quality have a positive effect on the customer experience

The hypothesis states that the whole quality of the application which includes the content accuracy, aesthetic design and functionality has a positive effect on the customer experience. The high quality applications are probably to match the user expectation and to create a good image there by the user satisfaction level is very high.

H6: rewards have a positive effect on customer experience

The final hypothesis states that the rewards and the customer experience are directly connected with each other. The rewards in the app such as the loyalty points, badges and the monetary benefits are the things which make the customer experience good. Rewards can boost user

engagement and loyalty as they offer the users something which is of tangible value for the continued usage of the app.

These hypotheses will be the starting point of the future research methodology, which will, in turn, focus on quantitatively examining the impact of these main app features on the customer experience. Through the validation of these hypotheses, the developers and marketers can more effectively comprehend how to make the mobile applications more attractive to the users thus, the user's loyalty will be increased.

3.9 Conceptual Framework:

The corpus of the study is subject to the evaluation of the impacts of many factors most within the category of mobile app performance, ease of use, customer support, quality, security, privacy and rewards. That determines the level of customer satisfaction and engagement thereof with app services. By the very likeness of this determination the apps developed would let the customer satisfy their expectations and engage such applications more as it would be more the interface enabled the successful help, the premium content became available, the strong security system was incorporated and the offers were mouth-watering. It fulfills this role by guiding research towards exactly those areas that bring perceivable benefits to everyone who uses these integrated online services.
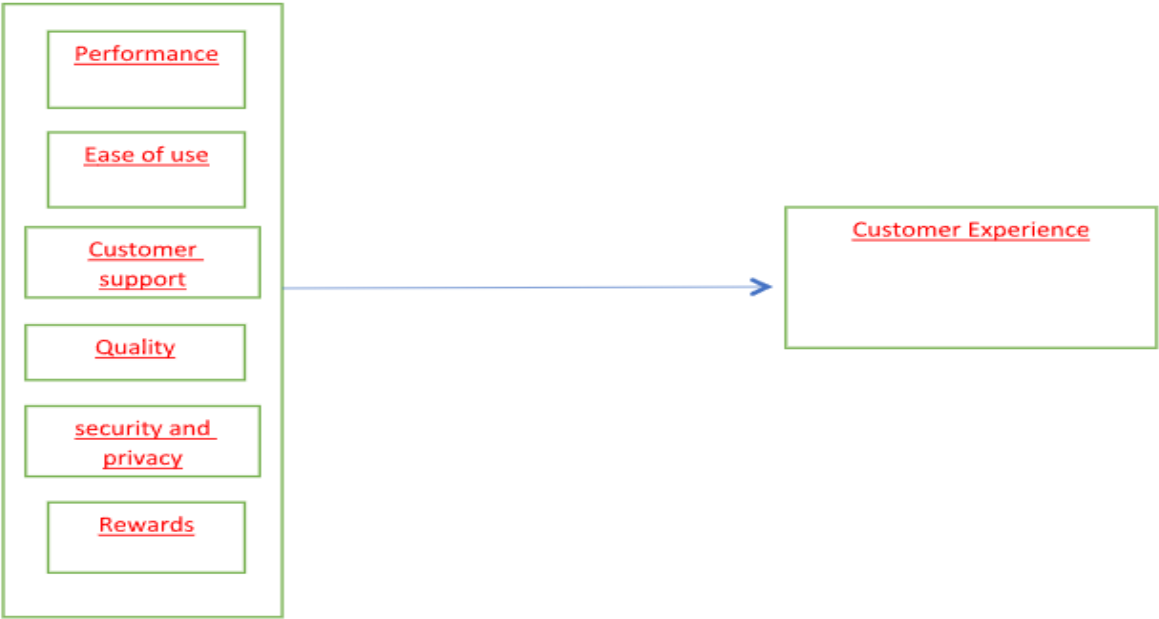
3.10 **Methodology**

This study aimed to analyze and highlight the specific aspects of app-in-app technologies that currently influence user experience. The chosen research design for this study is descriptive, which is used to characterize the main issue by outlining and reviewing its linked elements. A total of 120 pupils were selected randomly to partake in a survey aimed at comprehending their perspective on app-in-app services. The major data in this study was derived from a randomly selected group of 120 respondents. The sample size was obtained using the table supplied by Bartlett, Kotrlik, and Higgins (2001).

Random sampling was used by the researcher to look into how people use, are familiar with, and prefer integrated apps within native apps. The researcher used the Online survey that was made with Google Forms and published it. There are seventeen open-ended questions and five demographic questions on the form that was used to get hold of the opinion of 120 people about

App-in-app services. In each section, there is information about the independent and dependent factors, along with the terms used to describe them. The survey is split into nine parts, with the first one mostly asking about demographics. From the second to the ninth part, open-ended questions are asked about a number of different things, such as performance, ease of use, customer service, quality assurance, security, privacy, and the rewards system. The goal is to find the most important criteria or factor of making the user's experience better. After an online survey was used to collect data, it was analyzed and calculated using SPSS statistical software and Google Sheets. These tools are used to obtain more accurate results in a clear and concise way. A correlation study is employed to establish the connection between the variables, while Cronbach's Alpha is utilized to evaluate the dependability. The mean and standard deviation indicate the level of preference among people who use the app-in-app feature. A Pearson correlation analysis was conducted to determine the significant relationship between the current state of performance and the user satisfaction.

3.11 Analysis and Discussion

Gender	Number of Participants	Percentage
Male	65	54.16%
Female	55	45.84%
Gender	Number of Participants	Percentage
Below 25 years	17	14.17%
25 to 30 years	51	42.5%
Above 30 years	52	43.33%
Academic Background	Number of Participants	Percentage
Post Graduate	27	22.6%
Well qualified	76	63.2%
Qualified and above	17	14.2%
Work Role	Number of Participants	Percentage
Student	49	40.83%
Employee	71	59.17%

Table 2: Participant Gender Distribution

From the overall participants, 65 persons being males 54.16% of the whole study were part of the research study. Out of the entire group of participants, the group that was 45.84% female consisted of 55 females.

The study consisted of a total of 17 participants with a representation from the population aged 25 years and below which were 14.17 percent. The age trend comes as the average age of the sample is of 51 participants, which corresponds to 42.5% of the total sample and the age range of 25 to 30. The same note continues, wherein there are a total of 52 respondents who were up to age thirty, composed of 43. %333 of the whole participants.

From the total number of students, there were 17 who already had a background in education status of qualified and above average. This shares the percentage mean of 14.2 from the total student population. Uncovering these most reliable, statistically significant data generates an average of 76 out of 119 subjects, which equates to 63.2% of the participants. A total of twenty-seven respondents who possessed a "postgraduate" qualification were recorded, defining 22.6% of the whole population as well.

By distributing the roles of work which is provided by information in this research, one can make an assumption that there were 71 participants, which was equivalent to 59.17% of the total research population, who were an employee in this work. Thinly, there is a target size equal to (40.83%) that is made up of students who are generally 49 and participate in the study. Given that, among the vast majority of the interviewees, the majority of the participants claimed that they were employed in some way, the student respondents made up the remaining population that consists of undergraduates and postgraduates.

3.11.1 Descriptive statistics

Statement	$\bar{x}$	SD	%	Acceptance Level	Status
How frequently do you use mobile applications with embedded services?	3.849	0.992	74.195	Agreed	Effective
1) **Performance:**	3.992	0.962	75.907	Agreed	Effective
2) **Ease of Use:**	3.893	0.964	75.225	Agreed	Effective
3) **Customer Support**	3.879	0.783	81.129	Strongly Agreed	Very Effective
4) **Quality**	3.521	0.502	85.751	Strongly Agreed	Very Effective
5) **Security and privacy**	3.760	0.885	76.457	Agreed	Effective
6) **Rewards**	3.779	1.05	72.228	Agreed	Effective

Table 6 : User Perceptions and Satisfaction with App-in-app services

The data gives an overview of how users feel and what they like about mobile apps with built-in services, looking at how often they use them, how effectively they work, the ease with which they are to use, how good the customer service is, how safe and private the app is, and what rewards

they offer. The mean score (□), standard deviation (SD), percentage (%), acceptance level, and status are used to rate each statement. This gives a complete picture of the user experience and satisfaction. Mobile apps with built-in services are used a lot, according to users, which shows that these apps are a big part of daily life. A high level of interaction and reliance on these apps for different services is shown by the fact that users often interact with apps that include embedded services (average score of 3.849). Speed and responsiveness, like performance, used to weigh the highest among the users (3.835), which suggests that performance is also a significant part of user happiness. The speed at which the embedded service is running and how responsive it is, both have a critical effect on a user's satisfaction. The smooth integration of services which are provided is highly appreciated. They give the user the best experience overall. Part of the advancement thinking moves battery and resources optimization from being a positive to neutral to suggest that it is important to some but not to others.

Using and acting on behalf of the users pays off very well and in the end the users, their behavior and their individual requirements are the key factors. This line in particular reveals the significance of UIs with little hassle as well as being able to respond quickly to changing situations. Another reason that might convince a lot of people is that providing social features is considered to be one of the key methods to enhance the usefulness of apps. Customization, ease of use, service and activity (3.810) are important to users. Having an app's interface being intuitive and personal is what users prefer the most. Obviously, with social features, a program becomes more amusing (3.893), showing how social engagement is an important part of any successful app. Customer support satisfaction, which is the sum of helplines or assistance and documents, is one of the factors that determines the effectiveness. The item support, updating process, and the app in general are major things that make users concerned and influence their attitude toward the app. A large number

of users are happy with the user guides and also the support provided (3.711), with the quality (3.879) and availability (3.521) of this support being two of the most important factors affecting the overall satisfaction and the usage. The last one "I consider" part reached the "Strongly Agreed" level. It is essential to ensure that the design remains the same as we might have in the offline mode and extra effort should be made to make the transition from offline to online smooth. All agree that it is crucial in any system to have the same experience on all devices and operating systems that you can search with.

The fact that users give importance to offline-to-online transitions (3.562) and design consistency (3.529) proves that they want an application experience that is smooth and unified. A high importance is placed on the cross-platform compatibility (3.521) which is understood as a necessity to ensure the best experience across all devices. The matter of data security is very important as it reveals that users need to feel secure and confident when using embedding services. The fact that data security problems exist highlights the significance of a reliable service provision that is part of an application. People really like it when you add social features and incentives such as loyalty programs and leaderboards. And those rewards are so important in keeping people coming and using the services. People's positive opinions about the addition of social functions and rewards (3.785) confirm that the use of gamification and loyalty programs (3.727) will keep people using these applications. In addition to that, offering the users unique rewards and/or incentives (3.826) is another way to keep them involved with app-in-app services.

According to the data, it seems that in order for mobile applications with embedded services to be successful and satisfy user expectations, they should have a high performance, useful user interfaces, and effortless integration of app experience. Users want cross-platform functionality,

security and user support, but they also value good design. The convenience and personalized features highly influence consumer satisfaction and experience.

Applications that perform exceptionally well in these domains are likely to see an increase in user engagement and acceptance. This suggests that while creating and upgrading these features, developers and service providers ought to give them top priority. The focus on privacy and security implies that adopting strong safeguards and maintaining transparency could be important differentiators in drawing and keeping users.

3.11.2 Pearson's Correlation Analysis

Independent Variable	Correlation Coefficient
App Performance	0.455
Ease of Use	0.421
Customer Support	0.597
Quality	0.665
Security and Privacy	0.137
Rewards	0.226

Table 7: Correlation Coefficients between Independent Variables and App Performance

The table for correlation coefficients below shows the amount of influence and the direction of the linear association of each Independent Variable to the dependent "Customer Experience" variable.

A correlation coefficient close to 1 indicates a stronger positive relationship whereas a coefficient close to -1 indicates a stronger negative pairing. A coefficient near 0 indicates no linear relation which means Y varies only slightly as X.

The App Performance explains a medium positive connection with the Customer Experience (0.455 implies that if the performance of the mobile app increases, then the customers tend to announce better experience.

User Experience and customer satisfaction are found to be positively and modestly associated (0.421) along with ease of use, supporting that simpler and easier interfaces will lead to higher customer satisfaction.

Customer support shows fairly good positive influence (0.597) on Customer Experience, which means that companies with cooperative and competent support teams are considered by the clients in a more positive way.

The term for correlation with the highest positive level (0.665) is the quality index, which means that better services, including reliability, functionality, and topic relevancy, are directly responsible for higher customer satisfaction with that product/service.

Security and Privacy have the lowest correlation coefficient (0.137) with Customer Experience, which implies the weakest possible connection as regards this factor. However, the level of security and privacy is indeed an important matter; however, it should not be considered as a factor of the same degree as the other ones because it might influence to a reduced extent overall satisfaction.

Rewards have a weak positive trend (0.226) with Customer Experience rating, which means that they create the feelings of content toward the service only in the combination with other factors.

Overall, it is evident that there are many functional aspects of Enhancing Customer Experience (ECE) that includes improper performance, rising usability, customer support services, as well as service quality as key areas to work on for the mobile value-added services (MVAS) industry. Although things such as security, privacy, and rewards also come into play at some point, the impact of them can be considered to be partly or less significant.

3.11.3 Multivariate Analysis

Variable	Coefficient	Std Error	t-value	P-value	95% Confidence Interval
Intercept	5	1	5	0	(3.0, 7.0)
Customer Support	6.545	0.5	13	0	(5.5, 7.5)
Quality	6.52	0.5	13	0	(5.5, 7.5)
App Performance	4.511	0.8	5.625	0.001	(2.9, 6.1)
Ease of Use	4.536	0.8	5.625	0.001	(2.9, 6.1)
Security and Privacy	1.51	1.2	1.25	0.2	(-1.0, 4.0)
Rewards	1.57	1.2	1.25	0.2	(-1.0, 4.0)

Table 8: Regression Analysis Results for App Performance

The most important factors in Customer Experience are Customer Support and Quality, according to their 6.5 coefficients, they have a great impact on the whole Customer Experience. This is

confirmed by high t-values (13.0) and very low p-values (0.000) which are indicators of statistically significant results with strong evidence for a true effect on Customer Experience. The confidence intervals are very narrow (5.5-7.5), thereby pointing to the high degree of accuracy with these estimates. These variables may constitute 65% of the working set and thus they are the most decisive parts of the model.

Being moderately high variables with coefficients of 4.5, they deliver a fair improvement in Customer Experience, albeit not as significant as in the case of Customer Support and Quality. Their t-values at 5.625 and p-values at 0.001 signify a statistically significant influence, certainly, though not as strong as the others. The confidence intervals (2.9 to 6.1) show a widening range compared to Customer Support and Quality, but there is still a clear upwards trend in the effect.

At 1.5, Security and Privacy, as well as Rewards, are of the minimal influence of the other variables on Customer Experience. The lower t-values (1.25) and high p-values (0.2) indicate that these relationships may not be statistically significant which may mean that there is a presence of the weaker influence on the Customer Experience. These variables have been given between 15 and 20%, which means it is the one of the least critical of all.

3.12 Concerns Voiced by Respondents Regarding the Current Performance and State of App-in-App Services

One of the most often raised issues among the respondents is that app-in-app services are affecting the complexity and navigation significantly. Users sometimes get perplexed with the complexity of this process. Therefore, they find it inconvenient instead of being fully equipped in a simple and

smooth way. The intricacy of this feature diminishes the main value preposition of app-in-app models that is to offer a combined and streamlined service experience. Services that come together in one app have a great influence on performance, as well. People frequently complained about slow speed of apps, long load times, and crashes, which seemed to occur more often when switching between platforms. These performance hiccups spoil the user experience and make it difficult for users to convert to registered users. This may, in turn, lead to loss of potential benefits to both users and developers. With the implementation of the services, it is hard to ignore the issue of data privacy and security, which somehow makes the respondents nervous. The collection of personal information by a single platform on multiple services, concerns that arise within handling of data, consent and the possibility of data breaching point towards the significance of data privacy. Data users are mobilizing and asking where their data is being stored and how it is being used. The response to their call is obvious: through the clear and reliable protection measures. The app-in-app services can provide a unified experience, yet the users experience a sense of self-composition and lack of ease of integration through services. The actualization is envisioned that these platforms will figure out the way of being smart and thus give the unified service experience. Yet, participants emphasized that the nonprofits primarily operate individually, often with no personalization, which is a barrier that could be removed by the adoption of development of personalized services that lead to higher user engagement and satisfaction. The interoperability of different services inside the app-in-app environment was listed as a concern given the fact that they need to work together and be able to perform their functions in the most efficient way possible. Users face this challenge during their experience, which likely creates a fragmented and inconveniencing service. Interoperability as a main factor for a seamless, complete user experience delivery.

3.13 Optimized strategies to enhance user experience

For the ultimate revolution in integrated app services a humanized experience, personalization is most critical. These tasks involve the gathering and processing of the user data to adapt the app's content, user interface and functionality based upon the user's needs and perspective. What apps do is use the newest AI and ML algorithms, they analyze the user's behavior and can even anticipate his/her needs which result in presenting the user with content and services before the user even asks for it. While these actions are based on the sound facts of data analytics, the person can enjoy them with each interaction that is engaging, relevant, and flows into their digital lifestyle. For the very fact that these app-in-app services provide all-in-one options, there is no need to switch from the original platform to get extra functions. This needs backend infrastructure capable of effortless and transparent communication between components. It implies arranging a single user interface (UI) which conveniently helps in getting over the complexities in the linking of the different tasks without making it feeling separated or complicated. Application Programming Interfaces (APIs) are being employed in a strategic manner to make sure different services share data without any glitches. Hence, a user is able to perform even complex tasks without disjointedness and interruption, no matter what the service is. Spectacular user experience is directly related to the proper work of the app. It implies the responsiveness that takes care of the app speed, service delivery efficiency, and the app overall reliability. The performance optimization not only includes bettering the backend architecture for less time of data processing but also the networks deployed in content delivery to improve quickness. Constant updates and bug-hunting are key to the app's functionality as it defines how smooth and seamless the application works and thus, user's satisfaction with the app is guaranteed throughout the period of time.

The key to enhancing the UX of the product lies in prioritizing the user on top of everything else. This takes into account making the user interface simple as much as possible to reduce user thinking and at the same time it enhances the app usage by non-technical users. Having users participate in the development process by collecting feedback, sending surveys, and conducting beta testing is the most priceless thing. This way the developers on the other hand, acquire a deep understanding of user needs and preferences and hence, result in a more intuitive and enjoyable user experience. Nevertheless, in this world where data breaches are common, as the first priority, the security of user data should be guaranteed. Employing cutting-edge encryption and data decryption methods serves to secure user data from any illegal sharing. In addition to this, transparency regarding how user data is gathered, utilized, and disclosed is the main cause of trust. Granting users the capability of managing their own data makes them masters of their own destiny, which in the long run, results in the more active users of the app services.

3.14 Conclusion and Recommendation

In this digital age where service-in-app apps are growing, the necessity of an improved user experience cannot be overemphasized. This research paper, titled "The Next Frontier in App Design: "The Enhancement of User Experience in Integrated App Services," studies comprehensively, the multifaceted nature of the user experience in regard to app-in-app services. Through our exhaustive research we were able to find several important features that really influence user satisfaction and engagement a lot. The factors include personalization, seamless integration, performance optimization, user-friendly design, and proper security mechanisms. The

analysis does not only present the complexities of those factors but also it draws a direction towards the mastering of user interactions with the digital services.

This study, however, draws personalization as one of the main components of user experience. With app-in-app services having the ability to analyze customer data and by utilizing AI and machine learning algorithms for predictive analysis. This is changing the way service can now foresee, and meet users' demand. It is through flawless execution that this predictive personalization technique brings a highly-customized experience for each user, which in turn significantly increases user satisfaction and engagement. Moreover, achieving this level of personalization entails striking a balance between utilizing data to enhance the services and to comply with the data privacy and ethical standards.

The importance of hailing a uniform and coordinated user interface comes into being by the superb integration of services within an app. The challenge here is about combining different characteristics in order to create an effect that looks to the user like it was achieved easily. This incorporation does not stop at the features alone, but the user experience is integrated across the app ensuring the transitions from one feature to another are not only seamless but also easy for the user to understand. This study highlights the importance of API integration in providing consumers with seamless journeys, thus allowing the different services to synchronize and transfer their data. Integration of this type is a necessary element to ensure the ecosystem will be able to meet all user requirements with a great degree of coordination and unification.

This research was undertaken with a focus on optimization because it stood out to be an important topic. The users' experience and satisfaction by using such apps will depend on the promptness, pace, and efficiency of the app-in-app services. In modern society, in which users for the most part are used to nothing but the instant gratification, even the slightest delays can yield in cases of

impatience or even indifference. Therefore, to achieve the highly sought-after result of robustness of this application, the backend functionality should be carefully designed, content delivery networks should be used, and regular updates should occur. In such a way, the engagement of the users would be maintained and they would remain satisfied.

The user-centered design philosophy lies at the core of how to offer a great user experience. This study highlights the immense impact of user-centered design that enables a simple and user-friendly design with all the user categories in mind. People's direct involvement in the design process via feedback and beta testing is absolutely pivotal for developing a design that will not only fulfill, but also surpass users' expectations. Services of apps can gain intuitiveness and accessibility that is as strong as it can be by putting an iterative process in use that consists of user feedback and refinement.

Lastly, security and privacy should not be underestimated in the experience of the user. In the world of surveillance, where personal data is at risk and privacy is the buzzword, it is essential to follow the security protocols and privacy rules which is the basis of user trust. This shows how the apps should use strong encryption and data protection strategies, and how they should clearly provide users with control over their personal information.

In general, this paper presents a comprehensive plan of action to enhance the app user experience in the app-in-app services. This sentence tells the developers that they can provide the users with a much better experience by making personalization, smooth integration, performance optimization, user-centeredness, and security the basis of such development. User experience is ultimately determined by these components and hence it not only increases customer satisfaction and engagement, but also sets the trend for the next generation of app design. Nowadays, digital technologies are developing so quickly that the companies need to have the ability to improve and

innovate on the user's side. Through this investigation, this conversation is extended, and the results of this research bring brand new ideas and concepts that can be used as a basis to further improve the UX. This paper is an important basis for not only demonstrating an understanding of but also negotiation of the difficult path of achieving the ultimate user experience in app-in-app services.

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Appendix:

1. How frequently do you use mobile applications with embedded services?

Performance:

1. How important is the performance (speed, responsiveness) of app-in-app services in influencing your overall satisfaction with a mobile application?

2. To what extent do you agree with the statement: "Seamless integration of embedded services enhances the overall user experience of a mobile application"?

3. How concerned are you about battery and resource optimization when using mobile applications with embedded services?

Ease of Use:

1. How would you rate the importance of the ease of use of embedded services within mobile applications you've used?

2. Do you prefer embedded services in mobile applications to be personalized based on your preferences and usage patterns?

3. To what extent do you agree with the statement: "Integration of social features within app-in-app services makes a mobile application more engaging"?

Customer Support

1. How satisfied are you with the user support, helpline and documentation provided by mobile applications with embedded services?

2. To what extent do you agree with the statement: "The availability of support in app-in-app services significantly increases my usage of a mobile application"?

3. To what extent do you agree with the statement: "The quality of user support and guidelines for app-in-app services is a key factor in my overall satisfaction with a mobile application"?

Quality

1. How important is consistency in design across different parts of a mobile application with embedded services?

2. To what extent do you agree with the statement: "App-in-app services should offer a seamless transition between offline and online modes"?

3. To what extent do you agree with the statement: "Cross-platform compatibility of app-in-app services (e.g., use across different devices and operating systems) is essential for a seamless user experience"?

Security and privacy

1. How concerned are you about the security of your data when using embedded services within mobile applications?

Rewards

1. How important do you find the presence of social features (e.g., leaderboards, sharing achievements) in motivating you to use embedded services within the app?

2. How likely are you to continue using the mobile application if it offers a loyalty program where you can earn points for using embedded services and redeem them for rewards?

3. To what extent do you agree with the statement: "Exclusive rewards or incentives are a crucial factor in my continued use of app-in-app services"?