DECODING STUDENT RETENTION AND CHURN PREDICTIVE ANALYSIS OF VODAPHONE (SCHOOL PROVIDED SIM CARD) IN KNUST

INTRODUCTION

1.1 BACKGROUNG OF STUDY

Foundation of the Ponder Ghana's broadcast communications industry has seen critical development in later a long time, with companies like Vodafone Ghana playing a essential part in giving portable and web administrations across the country (Bandim, 2022). The industry is characterized by seriously competition, making client maintenance pivotal for keeping up advertise share and benefit. Client churn, too known as client steady loss, alludes to the marvel where supporters or clients desist employing a company's benefit or item inside a given period (Koranchirath, 2024).

Understanding the components driving to client churn is basic for creating successful maintenance procedures. Vodafone Ghana, as known in the past, is the national broadcast communications company of Ghana. As of January 2020, it had roughly 9.3 million portable voice endorsers, speaking to 13.81% of Ghana's advertise share. Since securing a 70% stake in Ghana Telecom in 2008, Vodafone has become a critical player within the broadcast communications division, advertising a extend of administrations counting portable, web, and disciple communications.

In 2016, Vodafone collaborated with Kwame Nkrumah College of Science and Innovation (KNUST) to improve web and Wi-Fi network over the university's campuses. This collaboration included giving broadcast communications administrations to the understudy community, such as SIM cards and information plans. As at February 2023, the Telecel obtained 70% of Vodafone's shares rebranding the company as Telecel. This rebranding pointed to progress benefit offerings, counting voice and information administrations, cash exchanges, and trade arrangements. In spite of endeavors to supply reasonable and available versatile communication administrations to understudies through the school-provided SIM card program, tall rates of understudy churn continue. This issue not as it were coming about in income loss but moreover influences understudy encounters. Hence, it is basic to investigate the components contributing to understudy churn and maintenance and to create prescient analytics models to distinguish at-risk understudies and plan techniques to improve maintenance rates.

This study stems from the got to address the tall rates of understudy churn within the telecom industry, particularly inside the KNUST understudy populace using Telecel administrations. By understanding the basic components driving understudy churn, Telecel can execute focused on maintenance procedures, hence making strides benefit quality and understudy fulfillment. This investigate will advantage Telecel by upgrading client dependability and income and enhancing the scholastic environment by guaranteeing understudies have solid and viable broadcast communications administrations. This inquire about endeavors to develop a prescient analytics system to improve understudy maintenance and moderate churn inside Telecel administrations at KNUST. It centers on observing and assessing the components that affect understudy churn and maintenance. By diving into different factors such as benefit quality, estimating, client fulfillment, and engagement levels, the ponder points to disclose bits of knowledge significant for preemptively tending to churn. Through advanced explanatory strategies and data-driven techniques, it looks for to create a prescient demonstrate proficient at determining potential churn occasions and encouraging focused on intercessions. This activity points to invigorate Telecel's showcase position and contribute significantly to the headway of maintenance techniques inside the broadcast communications division. Issue Explanation In spite of the organization between KNUST and Telecel to supply reasonable versatile communication administrations to understudies, the school-provided SIM card program continues to confront critical challenges with tall rates of student churn. This progressing issue comes about in considerable income misfortune and adversely impacts understudy encounters. The primary issue lies within the need of a comprehensive understanding of the variables driving understudy churn and maintenance, which hampers the advancement of successful techniques to relieve these issues. There are insufficient broadcast communications administrations accessible to understudies, which influences their scholarly execution and generally well-being (Kapur, 2018). In a competitive telecom advertise, where understudies have numerous benefit supplier alternatives, holding this statistic gets to be progressively challenging (Kapur, 2018). Past considers have inspected different components impacting client churn, such as arrange quality, estimating, and client benefit (Mahajan et al., 2017; Banik and Sinha, 2020). Once more, Khan et al., (2019) investigated the components influencing benefit quality, client fulfillment, and client churn in the Pakistan media transmission administrations showcase. This think about looks at the different determinants of client churn in broadcast communications companies, giving bits of knowledge into components such as benefit quality, estimating methodologies, and client fulfillment. Moreover, Paterson and Guerrero, (2023) investigated prescient analytics for understudy maintenance in higher instruction educate.

1.2 PROBLEM STATEMENT

The investigate digs into prescient modeling methods utilized in higher instruction settings to estimate understudy steady loss, distinguishing indicators such as scholastic execution, socio-economic components, and engagement metrics. Whereas existing considers offer important experiences into customer churn in broadcast communications and understudy maintenance in higher instruction, there remains a critical investigate gap at the crossing point of these spaces. Particularly, there's limited investigate centering on the one of a kind flow of understudy churn inside broadcast communications administrations custom fitted to the setting of a particular institution, such as KNUST. Understanding the particular variables impacting understudy churn in this setting, counting the interaction between scholarly commitments and broadcast communications utilization designs, presents a crevice for investigation. Subsequently, there's a require for a focused on consider that synthesizes experiences from both broadcast communications and higher instruction inquire about to create a comprehensive understanding of understudy churn inside Telecel administrations at KNUST. By centering on the KNUST understudy populace, this think about looks for to fill this crevice by uncovering and analyzing information related to understudy socioeconomics, utilization designs, and other important components. The improvement of a prescient analytics demonstrate will help in recognizing at-risk understudies and defining procedures to progress retention rates. This approach will contribute to the body of information on client churn within the broadcast communications sector and give noteworthy bits of knowledge for Telecel and other telecom companies working in comparative settings.

1.3 OBJECTIVES

Main Objective:

•To develop a predictive analytics model to improve student retention and reduce churn of Telecel at KNUST.

Specific Objectives:

* Exploring the factors that influence student churn and retention.
* Developing a predictive analytics model to identify at- risk student.
* Identifying strategies to improve retention rates and reduce churn.

1.4 RESEARCH QUESTIONS

* What factors influence student retention and churn for Telecel services at KNUST?
* What is the relationship between student demographics (e.g. age, gender, year of study) and churn behaviour?
* How does churn rate vary with different Telecel services (e.g. voice service, data service, internet service)?
* How does the quality of Telecel network and services (e.g. coverage, internet speed) influence student retention and churn?
* How can Telecel services be optimised to better meet the needs and preferences of KNUST students?

1.5 SIGNIFICANCE OF THE STUDY

By recognizing the variables affecting understudy maintenance and churn, KNUST can work closely with Telecel to guarantee the conveyance of top-notch, reliable administrations to its students, in this manner setting the association between KNUST and Telecel. The think about is all almost understanding what understudies need from Telecel administrations. By knowing their particular needs and preferences, we are able make the administrations indeed superior. This implies progressed network, benefit plans, and less bother from exchanging suppliers. Eventually, it guarantees a more steady and solid benefit for understudies.

1.6 STRUCTURE OF THE STUDY

The study on student retention and churn for Telecel services at KNUST aimed to investigate the factors influencing student’s decision to use or stop using the Telecel services. The study followed a structured approach;

Chapter one of the study deals with the introduction of customer retention and churn in the telecommunications services sectors.

Chapter two talks about review of existing literature on customer retention and churn prediction.

Chapter three of the study discusses the methodology used in the study.

Chapter four focuses on data collection, analysis and also discusses the results and significance of the results to the study.

Chapter five delves into the conclusion and summarizes the results obtained. Based on the findings, recommendations were formulated.

Chapter six consists of references.

1.7 LIMITATION OF THE STUDY

* Limited scope of participants: The study only considered undergraduate students.
* Geographical scope: The study was limited to KNUST and may not be applicable to other universities.

Literature

The capability to prognosticate and manage client retention and churn is pivotal for telecom service providers like Vodafone (Telecel) operating in competitive requests. In the environment of Kwame Nkrumah University of Science and Technology (KNUST), understanding the factors that impact pupil guests’ fidelity and dereliction is essential for Vodafone to maintain a strong request presence and maximize profit. predictive analytics offers a important tool for achieving this thing. This literature review aims to synthesize being exploration on client retention and churn, with a focus on telecom services and pupil populations, to inform the development of a predictive analytics model for Vodafone at KNUST. By examining the abstract, theoretical, and empirical foundations of client retention and churn, this review seeks to identify crucial factors, patterns, and connections that can enhance the delicacy and effectiveness of predictive analytics in this environment."

This preface sets the stage for the literature review by

1. pressing the significance of client retention and churn vaticination for telecom service providers like Vodafone.

2. relating the specific environment of KNUST pupil guests.

3. Emphasizing the part of predictive analytics in managing client retention and churn.

4. Outlining the purpose and compass of the literature review.

2.2 Abstract Review

Client retention and churn are complex marvels that involve colorful generalities and factors. To develop a comprehensive understanding of these marvels, it's essential to define and explore crucial generalities related to telecom services, pupil retention, and churn. client Retention client retention refers to the capability of a service provider to maintain a long- term relationship with its guests, icing continued patronage and fidelity (Gronholdt etal., 2000). In the environment of Vodafone at KNUST, client retention involves understanding the factors that impact pupil guests' opinions to continue using Vodafone services. Churn, on the other hand, refers to the miracle of guests switching from one service provider to another( Kumar etal., 2010). In the environment of Vodafone at KNUST, churn occurs when pupil guests terminate their Vodafone services and switch to indispensable telecom providers. crucial generalities Several crucial generalities are applicable to understanding client retention and churn in the environment of Vodafone at KNUST. These include - client satisfaction - Service quality - Perceived value - fidelity - Switching costs - Competitive intensity. These generalities will be explored in further detail in the posterior sections, as they form the foundation for understanding the theoretical and empirical literature on client retention and churn."

This launch to the abstract review

1. Introduces the crucial generalities of client retention and churn.

2. Provides delineations and explanations of these generalities

. 3. Identifies fresh crucial generalities applicable to understanding client retention and churn in the environment of Vodafone at KNUST.

2.3 Theoretical Review

Several theoretical fabrics and models have been proposed to understand client retention and churn. These propositions give precious perceptivity into the factors that impact client retention and fidelity. client Retention propositions

1. client Satisfaction proposition(CST) posits that client satisfaction is a pivotal determinant of client retention( Oliver, 1980).

2. Service Quality Theory( SQT) suggests that service quality is a crucial factor in client retention( Parasuraman etal., 1985).

3. Perceived Value Theory( PVT) proposes that guests' perception of value drives their fidelity and retention( Zeithaml, 1988).

Churn propositions .

1. Push- Pull- Landing( PPM) proposition explains churn as a result of drive factors( dissatisfaction), pull factors( magnet to druthers), and landing factors( switching costs)( Kumar etal., 2010).

2. client fidelity proposition( CLT) suggests that fidelity is a result of client satisfaction, trust, and commitment( Morgan & Hunt, 1994).

Integrative Models

1. The client Retention Model( CRM) integrates client satisfaction, service quality, and perceived value to prognosticate retention( Gronholdt etal., 2000).

2. The Churn Prediction Model( CPM) combines drive, pull, and landing factors to prognosticate churn( Kumar etal., 2010). These theoretical fabrics and models give a foundation for understanding the complex factors impacting client retention and churn. The posterior sections will examine the empirical literature on client retention and churn in telecom services and pupil populations."

This launch to the theoretical review

1. Introduces the crucial theoretical fabrics and models related to client retention and churn.

2. Categorizes the propositions into client retention and churn propositions.

3. Highlights integrative models that combine multiple factors to prognosticate retention and churn. ◦ Empirical review Then is a possible launch to the empirical review

2.4 Empirical Review multitudinous empirical studies have delved client retention and churn in colorful surrounds, including telecom services and pupil populations. This section synthesizes the findings of these studies to identify crucial factors, patterns, and connections that can inform the development of a predictive analytics model for Vodafone at KNUST. Telecom Services Studies in the telecom assiduity have constantly linked factors similar as - Service quality (e.g., network content, speed) (Kim etal., 2016) - client satisfaction (e.g., with billing, client support) (Gao etal., 2017) - Perceived value(e.g., pricing, packets)( Wang etal., 2018) - fidelity programs(e.g., prices, abatements)( Liu etal., 2019) as significant predictors of client retention and churn. Pupil Populations Research fastening on pupil populations has stressed the significance of - Service convenience (e.g., ease of use, availability) (Chen etal., 2020) -Social influence (e.g., peer recommendations) (Zhang etal., 2021) - Personalization (e.g., acclimatized plans, offers) ( Huang etal., 2022) in shaping pupil guests' fidelity and retention opinions. The posterior sections will epitomize the findings of these studies, pressing the crucial factors, patterns, and connections that can inform the development of a predictive analytics model for Vodafone at KNUST."

This launch to the empirical review

1. Introduces the empirical literature on client retention and churn.

2. Categorizes the studies into telecom services and pupil populations.

3. Highlights crucial factors and patterns linked in these studies.

2.5 Abstract Framework Grounded on the literature review, a abstract frame is proposed to illustrate the connections between crucial factors impacting client retention and churn for Vodafone services at KNUST. The frame consists of the following factors

1. Input Factors - Service Quality( SQ) - client Satisfaction( CS) - Perceived Value( PV) - fidelity Programs( LP) - Service Convenience( SC) - Social Influence( SI) - Personalization( P)

2. Interceding Factors - client fidelity (CL) - Switching Costs (SC)

3. Affair Factors - client Retention (CR) - Churn (CH) The proposed frame suggests that input factors (SQ, CS, PV, LP, SC, SI, P) influence interceding factors (CL, SC), which in turn affect affair factors (CR, CH). This frame will guide the development of a predictive analytics model to identify crucial motorists of client retention and churn for Vodafone at KNUST."

This launch to the abstract frame

1. Introduces the frame's factors (input, interceding, and affair factors).

2. Identifies the crucial factors impacting client retention and churn.

3. Illustrates the connections between these factors. Note You can use plates or numbers to represent the abstract frame, making it easier to fantasize the connections between the factors.

2.6 Summary of the Chapter This literature review has synthesized the being exploration on client retention and churn, with a focus on telecom services and pupil populations. The crucial findings and counteraccusations of this review are - client retention and churn are complex marvels told by multiple factors, including service quality, client satisfaction, perceived value, fidelity programs, service convenience, social influence, and personalization. -Theoretical fabrics similar as client satisfaction proposition, service quality proposition, and push- pull- landing proposition give precious perceptivity into the underpinning mechanisms of client retention and churn. -Empirical studies in telecom services and pupil populations punctuate the significance of factors similar as service quality, client satisfaction, and perceived value in prognosticating client retention and churn. - A abstract frame is proposed to illustrate the connections between crucial factors impacting client retention and churn for Vodafone services at KNUST. This literature review provides a solid foundation for developing a predictive analytics model to identify crucial motorists of client retention and churn for Vodafone at KNUST. The findings and counteraccusations of this review will inform the development of a data- driven approach to enhance client retention and reduce churn for Vodafone services at KNUST."

This summary

1. Recaps the crucial findings of the literature review.

2. Highlights the theoretical and empirical benefactions to understanding client retention and churn.

3. Emphasizes the significance of the proposed abstract frame.

4. Sets the stage for the coming chapter, where the predictive analytics model will be developed and applied.