**DECODING STUDENT RETENTION AND CHURN OF VODAFONE(TELECEL) IN KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY(KNUST). A SURVIVAL ANALYSIS APPROACH**

**CHAPTER 1  
INTRODUCTION**

**1.1 BACKGROUND OF STUDY**  
Ghana's telecommunications industry has experienced significant growth in recent years, with companies such as Vodafone playing a crucial role in providing mobile and internet services to people across the country (Bandim, 2022). The industry is highly competitive therefore making customer retention vital for sustaining market share and profitability. Obtaining new customers is more expensive than retaining existing ones as a result of marketing activities, incentives and campaigns involved. This therefore makes retaining a customer preferable to acquiring a new customer. Customer Churn, also known as customer attrition, refers to the loss of subscribers or customers who cease using a company’s service or product within a given period. (Koranchirath, 2024). Understanding the reasons behind customer churn helps to develop strategies to improve customer retention and help reduce churn rates. in the long run.  
Vodafone is one of the leading national telecommunications providers in Ghana. As of January 2020, it had over 9.3 million mobile voice subscribers thus representing 13.81% of Ghana's market share. Upon becoming the majority shareholder, Vodafone Ghana has been operating the Ghana Satellite Earth Station (GSES) since 2008. GSES allows Ghana to access and utilize communications satellites orbiting the Earth for various applications, namely telephone services, internet connectivity, television broadcasting, data transmission, disaster management and emergency communications. The operation of the earth station by Vodafone Ghana proves the company's commitment to investing and upgrading Ghana's satellite communications capabilities.  
In 2016, Vodafone partnered with Kwame Nkrumah University of Science and Technology (KNUST) to provide enhanced packages of services to the various faculties across the university's campuses to improve education services. This collaboration included telecommunications services such as SIM cards and data plans to the student and employee communities.  
In February 2023, Telecel acquired 70% shares in Vodafone, therefore rebranding the company name to Telecel in 2024. This rebranding was aimed to improve service offerings which cuts across voice and data services, money transfers, and business solutions. Telecel (founded in 1986) is an Africa-focused telecommunication company which operates primarily in Africa and converging telecommunication with fintech, e-commerce, and tech startups.  
Student churn is a major issue every telecom company encounters. It leads to a loss of revenue and increases the cost of acquiring new customers. In the highly competitive telecom market, where customers have multiple service provider options, retaining customers becomes even more challenging. Companies use modern technology, computer software and survival analysis approach models to identify at-risk students and devise strategies to enhance retention rates. This method of recognizing unsatisfied customers is known as Churn Prediction.  
On March 14, 2024, Vodaphone alongside several other telecommunications was hit by outages on several underwater fibred optical cables which led to disruption in services, particularly internet services (Ghana Web, 2023). It affected about 10 countries in West Africa, Ghana included. Initially, it was estimated that the problem should be fixed within a time interval of 3 days however, this did not prove to be so. The damage was massive as it had affected the West Coast route to Europe, West Arica Cable System (WACS) and the Africa Coast to Europe (ACE) resulting in MainOne and SAT3 going offline (AP News, 2023). The only network that was properly functioning at the moment in Ghana was AirtelTigo (AT). To quickly prevent the loss of valuable customers to AirtelTigo, Vodafone (Telecel) took the initiative to update its customers daily on their progress as well as offer various bonuses to prevent the customers from defecting to their competitors. This went on regularly until the problem was fixed on April 29, 2024 when the WACS cable was repaired.  
Previous studies have explored various factors that influence customer churn in a telecommunications company. This study aims to focus on the KNUST student population, uncover and analyze data gathered from students, apply survival analysis models to identify patterns related to churn (such as demographics, usage patterns, etc.), develop retention strategies, evaluate the success of these efforts and make informed decisions.

**1.2 PROBLEM STATEMENT**   
Regardless of efforts made by KNUST to partner with Telecel to provide affordable and accessible mobile communications services to the university’s populace, churn still persists. There is a lack of understanding about the factors driving student churn and retention, making it difficult to develop effective strategies to address this issue (Kapur, 2018).   
This research aims to investigate the factors contributing to student churn and develop a survival analysis model for detecting at-risk students and design specific strategies to improve retention rates. It also seeks to enhance Telecel’s services, improve student experience, and foster long-term relationships with Vodafone (Telecel) and the KNUST.  
  
**1.3 RESEARCH OBJECTIVES**   
Main Objective:  
• To develop a survival analysis techniques model to detect at-risk students to improve student retention and reduce churn of Telecel at KNUST.   
Specific Objectives:   
• Exploring the factors that influence student churn and retention.  
• Using survival analysis models to identify students at risk of churning.  
• Analyzing time-to-event data to understand the patterns and timing of student churn.  
• 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 (age, gender, year of study) and churn behaviour?  
• How does the churn rate vary with different Telecel services (voice service, data service, internet service)?   
• How does the quality of Telecel network and services (coverage, internet speed) influence student retention and churn?  
• How can Telecel services be optimized to better meet the needs and preferences of KNUST students?   
  
**1.5 SIGNIFICANCE OF THE STUDY**   
The study offers a comprehensive understanding of the factors impacting student churn from Vodafone. This will enable the development of precise strategies to enhance retention rates thereby minimizing churn.  
The study will empower KNUST to improve the telecom services offered to its students. By identifying the factors influencing student retention and churn, KNUST can work closely with Telecel to guarantee the delivery of top-notch, dependable services to its students, thereby solidifying the partnership between KNUST and Telecel.  
The study is all about understanding what the populace expects from Vodafone (Telecel). By knowing their specific needs and preferences, the services can be improved upon. This means improved connectivity, service plans, and less hassle from switching providers. Ultimately, it ensures a more stable and reliable service for students.  
  
**1.6 STRUCTURE OF THE STUDY**  
The study on student retention and churn for Telecel services at KNUST aims to investigate the factors that drive student’s decisions on Telecel services usage. The study follows a structured approach;  
  
Chapter one discusses the background information and the foundation for the research. The problem statement and goals are stated here.  
Chapter two of the study contains a literature review which includes several studies related to the subject at hand.  
The third chapter focuses on the methodology and data collection techniques. There are several ways of approaching this problem but the main focus of the study is using a survival analysis modeling tool.  
The fourth chapter presents the models and practical application to the dataset. Detailed analysis is presented here with the aid of figures and diagrams to determine the optimal model for the research.

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

**1.7 LIMITATION OF THE STUDY**

The limitation of this research was that the data survey only included students of KNUST who were present during the annual college elections. As a result, the coverage was limited to undergraduate students on the main campus.

**References**

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