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"A Study on Financial Services at Wells Fargo"

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ABSTRACT
Banking is one of the biggest industries in the world. It provides services like handling cash, providing credit, and other financial transactions. Most people rely on banks to keep track of their financial records and to keep their money savings safe. Banking industry is indeed one of the key drivers of economy because it provides financial help for families and businesses to invest for the prospective future. Banks get their profit from the amount of interest on loans that people acquire from them. Given with this idea, the reputation of the banking industry has been well established all throughout the centuries. However, just like any other business, and given the fact that they are one of the most trusted industries, they still suffer from different issues and crises. However, to identify the loan default by the customers is the biggest challenging in banking sector. So, using logistic regression model, this paper highlights the importance of loan defaulters with the variables like: loan amount, loan duration and no of loans are the influencing variables in Wells Fargo bank

Keywords: Banking sector, Wells Fargo, Logistic regression, Loan defaulters, Non defaulters

I. INTRODUCTION

Wells Fargo

Wells Fargo Co., a reputable bank that was founded by Henry Wells and William Fargo. It known as one of the most prestigious banks in the United States, and since the day of its establishment; on 18 March, in year 1852, it has gained a mount full of success. At the beginning, the original plan of the founders is to serve the west part of America. Wells Fargo offered banking services in terms of buying gold and selling paper bank drafts that are considered well as gold at that time. They also manage to deliver goods that are valuable with haste. Then after, the reputation of the company hastily and steadily increased making them one of the most popular and trusted banks in the history of the United States. (History of Wells Fargo, 2018) 1860's has been a successful period for Wells Fargo, for it earned of what they thought an everlasting fame and its corporate symbol which was dubbed as the "grand adventure of the overland stagecoach line". Since then, Wells Fargo continues to grow as a bank, taking over the west with the use of the fastest means to carry business and transactions to its stakeholders.

II. OBJECTIVE

- The aim of the study is to determine the risk factors that influence loan default of customers in the banking sector.
- To develop a model for identifying the factors to credit default for any customer in the sector.

SCOPE

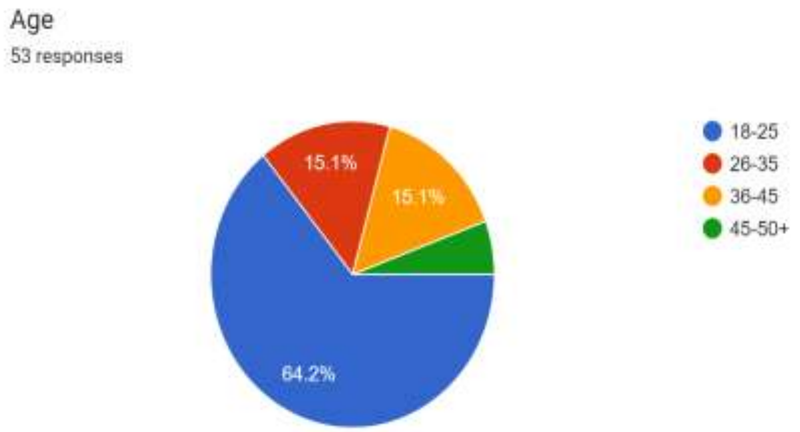
- The Scope of Study is limited to Wells Fargo.
- The scope is to understand the Banking and Financial services provided by Well Fargo Internationally.

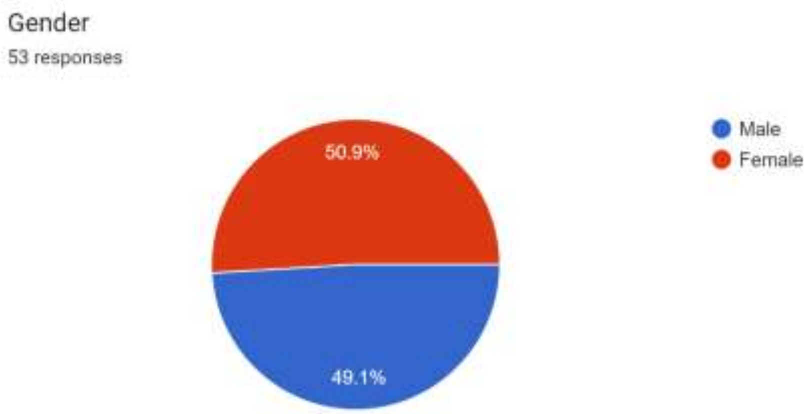
SOURCES OF DATA COLLECTION

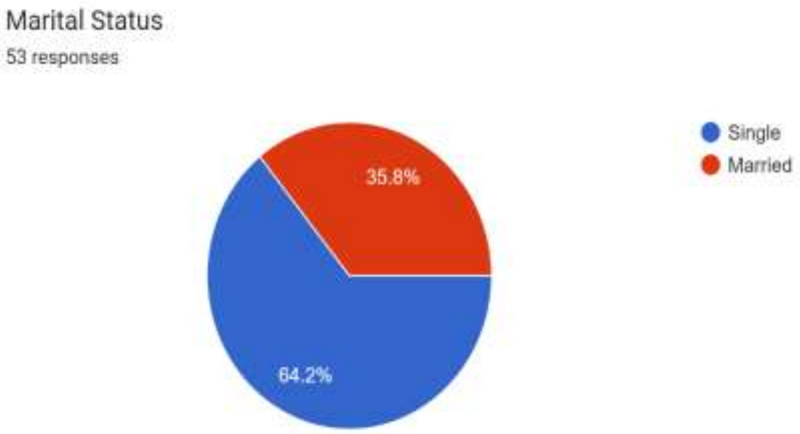
- Primary data collection using questionnaire
- Secondary data collection through records

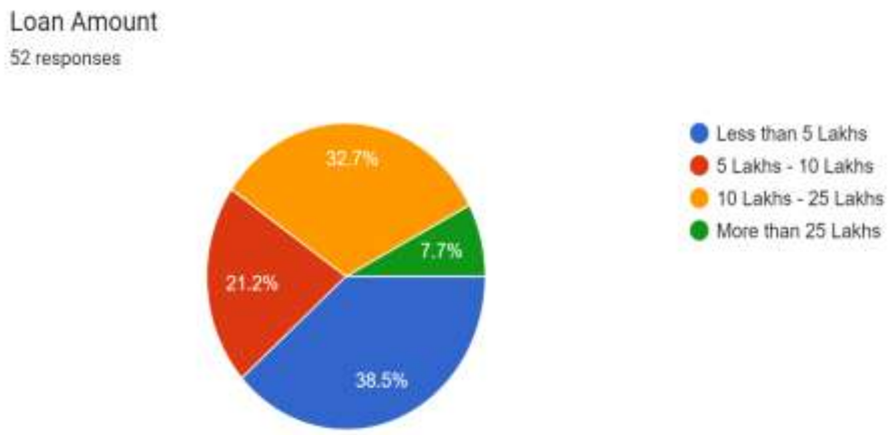
III. RESEARCH METHODOLOGY:

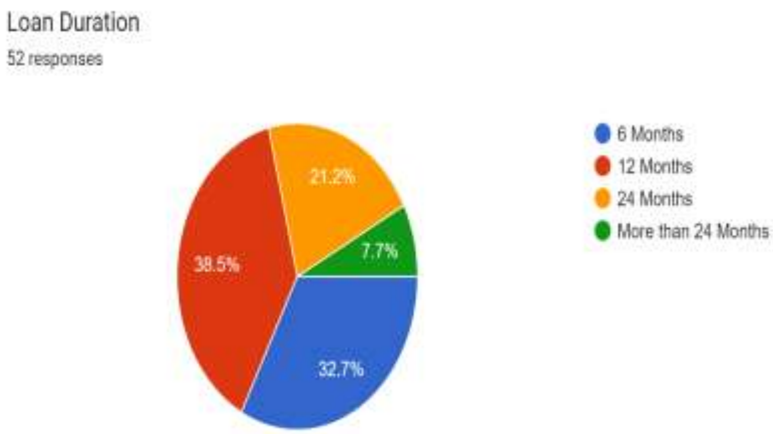
i. Descriptive Analysis:

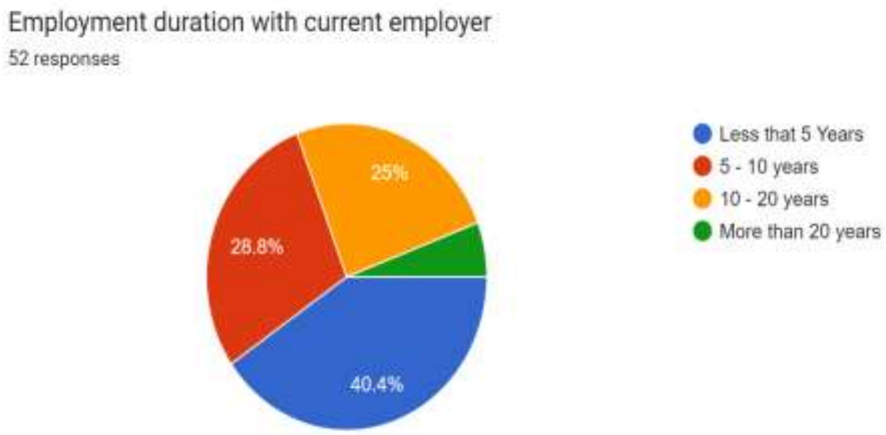







Loan Amount
52 responses
32.7%
7.7%
21.2%
38.5%
Less than 5 Lakhs
5 Lakhs - 10 Lakhs
10 Lakhs - 25 Lakhs
More than 25 Lakhs


Loan Duration
52 responses
21.2%
7.7%
38.5%
32.7%
6 Months
12 Months
24 Months
More than 24 Months


Employment duration with current employer
52 responses
25%
28.8%
40.4%
Less that 5 Years
5 - 10 years
10 - 20 years
More than 20 years

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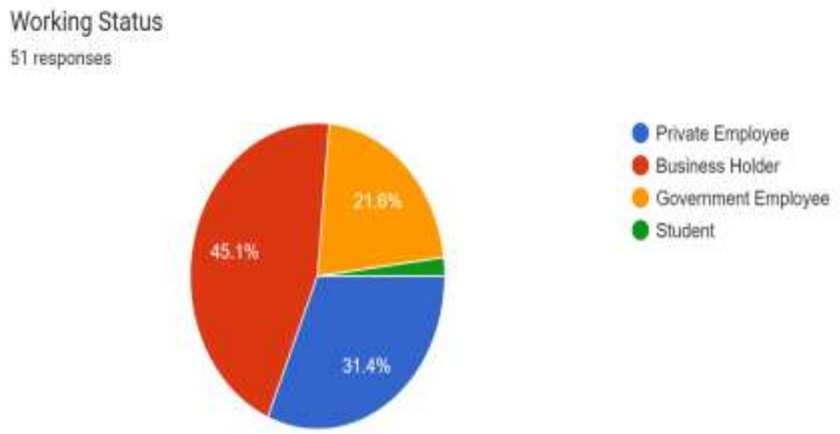

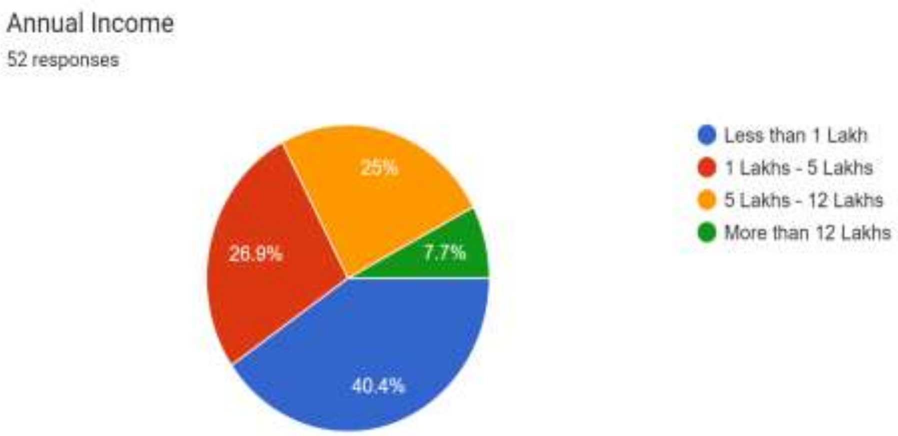

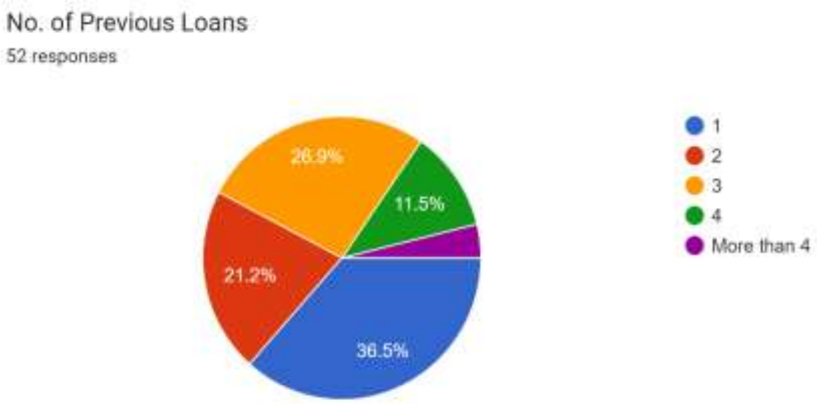

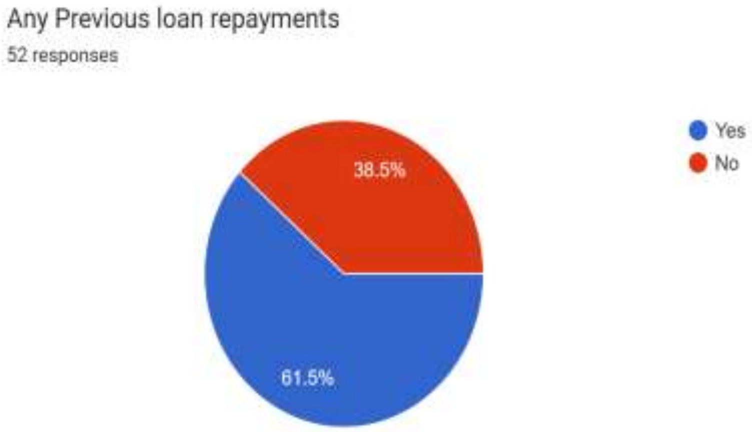

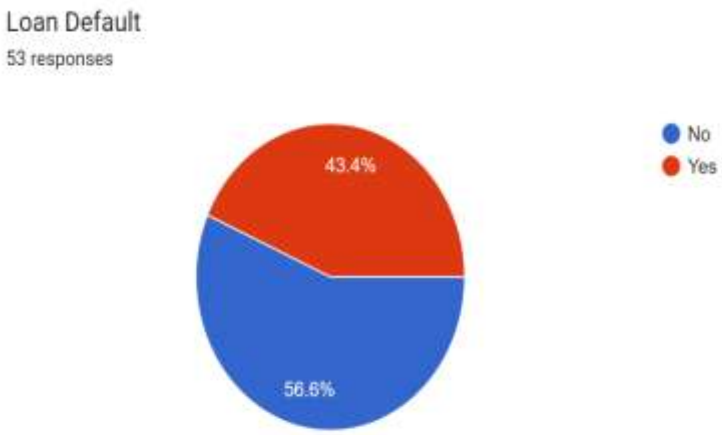

ii. Statistical Model- Logistic Regression

This type of statistical model (also known as logit model) is often used for classification and predictive analytics. Logistic regression estimates the probability of an event occurring, such as voted or did not vote, based on a given dataset of independent variables. Since the outcome is a probability, the dependent variable is bounded between zero and one. In logistic regression, a logit transformation is applied on the odds—that is, the probability of success divided by the probability of failure. This is also commonly known as the log odds, or the natural logarithm of odds, and this logistic function is represented by the following formulas:

Logit (pi) = 1/ (1+ exp (-pi))
Ln (pi/ (1-pi)) = Beta_0 + Beta_1*X_1 + … + B_k*K k

log⎡⎣ˆP(Loan_Default=Yes)1−ˆP(Loan_Default=Yes)⎤⎦=20.8978+20.6039(GenderMale)−47.6652(Marital_StatusSingle)−31.3211(Loan_Amount5 Lakhs -
10 Lakhs) +0.9052(Loan_AmountLess than 5 Lakhs)−4.9147(Loan_AmountMore than 25 Lakhs)−62.6743(Loan_Duration24 Months)+36.6449(Loan_Duration6 Months) +24.019(Loan_DurationMore than 24 Months)−52.1174(Employment_duration_with_current_employer5 -
10 years)−38.4226(Employment_duration_with_current_employerLess that 5 Years)−21.6212(Employment_duration_with_current_employerMore than 20 years) −17.8045(Working_StatusGovernment Employee)+66.0234(Working_StatusPrivate Employee)+87.445(Working_StatusStudent)−79.8561(Annual_Income5 Lakhs -
12 Lakhs) −60.1229(Annual_IncomeLess than 1 Lakh)−108.0897(Annual_IncomeMore than 12 Lakhs)+52.4423(No__of_Previous_Loans2)+65.6246(No__of_Previous_Loans3) +110.9681(No__of_Previous_Loans4)+61.3437(No__of_Previous_LoansMo

re than 4)−0.2508(Any_Previous_loan_repayments Yes)+35.2845(Age26-35) +98.5577(Age36-45)+62.4952(Age45-50+)

/. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square						
1	48.805a	0.361	0.484						
a Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.									

/. Model:

	B	S.E.	Wald	df	Sig.	Exp(B)
Gender	-0.043	0.731	0.003	1	0.954	0.958
Marital Status	0.053	0.948	0.003	1	0.956	1.054
LoanAmountLakhs	0.16	0.069	5.393	1	0.02	1.173
LoanDurationMonths	-0.127	0.064	3.984	1	0.046	0.881
N0.of Previous Loans	0.686	0.329	4.34	1	0.037	1.985
AnyPreviousloanrepayments	-1.076	0.767	1.969	1	0.161	0.341

Constant	-1.39	1.474	0.89	1	0.346	0.249

VI. FINDING OF THE STUDY

As per the logistic regression model, the risk factors that influence the loan defaulters by the customers:

- Loan Amount
- Loan Duration
- No of Previous loans

VII. CONCLUSION

There is a need for loan defaulters or not for adopting the default risk model to ascertain the level of risk since it's relatively efficient and cost effective.

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