A Technology on Credit Score System - Assessing Public Perception in Bengaluru City

A. Senthil Kumar, S. Ramesh, Rahul S.

Abstract: *A credit score numerical expression based on a level analysis of a person's credit files, to represent the solvency position of an individual. It is primarily based on a credit report, information usually sourced from credit bureaus. The present study was conducted with the aim of studying the system of credit score, assessing the level of awareness and knowledge of public on credit scoring system. Further it also examined the effect of demographic variables on awareness and knowledge level of public on credit score system. Data was collected through a well-defined questionnaire from 237 respondents in Bengaluru city of Karnataka state. The data was collected during June-July 2019 by employing convenience sampling and snowball sampling methods. Bengaluru city was chosen as the study area because there are lot of different types of individuals been setup over there like businessmen, industrialists, IT employees, salaried individuals etc. In order to achieve the objectives of the study, the statistical tools chi-square analysis and correspondence analysis were used. The statistical software SPSS version 22 was used for data analysis. The study found that that the demographic variables such as gender and number of dependents were significantly associated with level of knowledge on credit scoring system.*

Keywords : credit score, contingency analysis, correspondence analysis, knowledge, loan.

I. INTRODUCTION

A credit score is a numerical expression based on the analysis of individual's credit history, to represent the solvency position of that individual. It is primarily based on the credit report, information usually sourced from credit bureaus. Financial institutions such as banks and credit lending companies, use credit scores to analysis the potential risk posed by lending money to consumers. Financial institutions use credit score to identify the individual who qualifies for loan, interest rate and credit limit. Financial institutions use credit rating to determine the consumers who are likely to bring in the most revenue. There are four credit information companies in India licensed by Reserve Bank of India.

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The Credit Information Bureau (India) Limited (CIBIL) was established to functioning as credit information bureau from January 2001.
Followed by, in 2010, Experian, Equifax, CRIF High Mark were given license by Reserve Bank of India to operate as credit information bureau in India

II. STATEMENT OF THE PROBLEM

Now-a-days credit score is mandatory for every individual who applies for credit card and loan. Banks and other NBFC's check credit score before approving of loan or any credit card is not to increase the risk factor because if the individual doesn't reply the loan back, the bank's doubtful debts will start increasing. In USA credit score system is far forward from Indian credit score system. Credit scores are also used to hire individuals for job in USA which will be implemented in the India.

III. REVIEW OF LITERATURE

Rona-Tas [1] described that credit rating developed in retail lending called credit scores routinely used in fields such as auto insurance assessments, residential rentals and even hiring decisions. He also stated that corporate ratings are designed in such a way that is assess companies to evaluate securities and other financial instruments. A rating structure can have three dimensions [2]. Credit rating can be done on the basis of borrower characteristics or on the basis of borrower transaction or alternatively rating can be summary of characteristics and transaction of the borrower. The credit decisions of banks always left with the type of rating dimension it has adopted. Individual should maintain their account with sufficient funds since outstanding debt has a large impact on the credit score. Any outstanding in unsecured debt instruments like credit card and personal loans which are seen as less desirable than secured debt from a credit rating point of view [3][4]. Only a few research studies have been conducted in India for examining the knowledge level of public on credit score system. The purpose of this research is to address the gap in the knowledge of literature relevant to the credit score system. Based on this, the research questions are framed as: How much does the public know about credit score system? What will be the level of knowledge? and Are the demographic factors of public associated with the level of knowledge on credit score system?.

IV. OBJECTIVES OF THE STUDY

The present study was conducted with the following objectives:

- To study the system of credit score in India and knowledge on credit score among public in Bengaluru city.
- To assess the level of knowledge of public on credit score system.
- To examine the association between demographic variables and knowledge on credit scoring system among public.

V. HYPOTHESIS

The following null hypothesis has been framed to achieve the objectives of the study.

- H0: There is no significant association between demographic variables and knowledge on credit score system among public.

VI. RESEARCH METHODOLOGY

In order to meet the study objectives, totally 300 questionnaires were distributed among public in Bengaluru city, Karnataka state by employing convenience sampling and snowball sampling methods. The study focuses on identifying the perception level among public on credit score systems considering a particular geographical area. The data for the questionnaire were collected through offline as well as online mode using Google forms in Google Docs during the month of June - July 2019. Among all, only 237 questionnaires were complete in all aspects which are considered for the study. Bangalore city was chosen as the study area because there are lot of different types of individuals been setup over there like businessmen, industrialists, IT employees, salaried individuals etc. With relevance to the objectives and the hypothesis framed, the statistical tools chi-square analysis and correspondence analysis were used to find out the perception among public on credit score systems and bring out the association between the demographic variables such as educational qualification, age, gender, occupation, income, savings, marital status, number of dependents and knowledge on credit score system among pubic. The statistical software SPSS version 22 was used for data analysis.

VII. CREDIT SCORE SYSTEM IN INDIA AND ABROAD

In India there are four credit information companies licensed by Reserve Bank of India. The Credit Information Bureau (India) Limited known as CIBIL started to functioning as credit information bureau from January 2001. Followed by, in 2010, Experian, Equifax, CRIF High Mark were given license by Reserve Bank of India to operate as credit information bureau in India. TransUnion CIBIL Limited is a credit information company operating in India. It maintains credit files on 600 million individuals and 32 million businesses. TransUnion is one of the four credit bureaus operating in India and is part of TransUnion, an American multinational group. TransUnion CIBIL was founded on August 2000 in Mumbai, India.

Experian pic is one of the consumer credit reporting company which collects and aggregates information on over one billion people around the globe. Experian based in Dublin, Ireland, which operates over more than 37 countries and has approximately 17000 employees. Experian is one of the

"Big Three" credit reporting agencies, alongside TransUnion and Equifax. Equifax Inc. is one of the data analytics and technology which assists lending companies and individuals in making personal and business decisions. It was founded in 1899 and based in Atlanta, Georgia with operating more than 24 countries around the globe and employing more than 10000 individuals.

CRIF High Mark Credit Information Services Private Limited is an RBI approved credit reporting bureau in India. It serves services to retail industries, agriculture and rural, commercial and microfinance industries. The company was registered in 2005 and located in Mumbai. It launched its credit bureau operations in 2010 and has a database of over 120 crore credit records as of July 2018. The comparison of features of different credit score information companies are specified in Table I.

Performance of credit scores in Abroad: USA

FICO score was basically known as credit score in USA. It was first introduced in 1989 by FICO, the called Fair, Isaac and company. There are several types of FICO credit scores and some of them are like classic or generic industry - specific scores (bank card score, auto score, mortgage score, personal finance score and installment loan score), XD score, collection score, Next Gen score. In USA, when it comes to classic or generic FICO credit score (named FICO credit score) is between 300 and 850. According to survey taken up in USA, 37% of people had between 750 and 850 in 2013, 56.8% of people had between 700 and 850 in 2017 [5]. The research studies [6], [7] also proved that the Credit score is very important in getting approval of credit limit. Huger scores always indicate the lower credit risk which helps to approval of credit within short period of time. The FICO credit score lower than 620 is bad, 620 - 649 is poor, 650 - 699 is fair, 700 - 749 is good, 750 and over is excellent [5].

A good credit scores ranges from 750 to 900. If the credit score is 750 and above, banks and other NBFC's will consider the consumer credit healthy. But if a score is less than 750, banks feel risky to provide loan and other credit facility to consumer. Banks and other NBFC's are comfortable with approving loans to consumer who have score of 750 and above. The comparison of different range of credit score and its grade are specified in Table II.

With a good credit score, banks and NBFC's provide the consumers lot of benefits, such as low interest rate, higher loan amount, quicker loan approval process and higher repayment period. To enjoy all these benefits, the eligibility criteria are having a credit score of 750 and above (See Table II). Credit score is calculated on a number of factors, like consumer repayment history and others. The consumer repayment track record contributes to over 35 per cent of weightage while computing credit score. Some of the additional factors considered are total available credit balance, number of loans and number of credit cards. Basic information is needed for every credit report such as personal information, account details, employment details, contact information and enquiry details. Some of the factors affecting good credit scores are credit repayment history, credit utilization limit, multiple loan application, high percentage of unsecured loans, not checking the credit report for mistakes, increase in credit limit, giving guarantee for loan.

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Some ways to increase the credit scores are check for errors in credit report, clearing all over dues, clearing the payment of credit cards, avoid taking multiple loans at a time etc.,

Table I. Comparison Table of CIBIL, EQUIFAX. EXPERIAN, CRIF HIGHMARK

Particulars	CIBIL	EQUIFAX	EXPERIAN	CRIF HIGHMARK
Founded in	2000	In India - 2010	2006	2005
Credit score range	300-900	300-900	330-830	300-900
Cost of Credit report	Free credit report once a year; Rs.550 for One month access; Rs. 800 for 6 months access; Rs.1200 for One year access	Free credit report once a year. Credit report with credit scores costs Rs.400. Only credit report costs Rs.138	Free credit report once a year. Credit report with credit scores costs Rs.399. Only credit report costs Rs.138.	Free credit report once a year. Credit report with credit scores costs Rs.399.
Duration to generate Credit report	Within few minutes after successful verification of all documents	Will be despatched within 7-10 working days.	Within few minutes after successful verification of all documents	Will be mailed to registered email id after successfully verification.
Dispute Resolution	Raise a dispute in online and CIBIL takes 30 days to resolve the dispute.	Send filled dispute resolution form with documents to the bureau's address through post, courier.	Send filled dispute resolution form with documents to the bureau's address through post, courier.	Email to credit bureau with the documents.

Source: Secondary data: www.cibil.com; www.experian.in/consumer-reports; www.equifax.co.in; www.crifhighmark.com

Table II. Grade and meaning of different credit score

Credit score range	Grade	What it means
750 and above	Consumer is in great side	Approval process will be quick and interest rate will b lower
700-749	Looks good	Interest rate will be higher.
649-699	Fair score	Can be work with this credit score but limited alternatives.
600-649	Doubtful	Internal rates will be higher than normal.
Below 600	Some actions needed	Approval is very tough.

Source: Secondary data

VIII. DATA ANALYSIS AND INTERPRETATION

It can be found from the Table III that out of eight questions considered for examining the knowledge level of respondents, only two questions have answered correctly by more than 50 per cent of respondents and only 16 per cent of respondents are aware of number of credit agencies registered under RBI. It can be observed from the Table IV that none of the respondents have correctly answered for all eight questions and only 27 per cent of respondents have correctly answered only for two / three questions.

Table III. Question-wise knowledge level of respondents

Q. No	No. of respondents correctly answered for each question such as	No. of Respondents	%
1	Your knowledge about credit rating	51	22
2	How many credit agencies are been registered under RBI?	37	16
3	Reason for considering the ratings given by the credit rating agencies	66	28
4	Does income impact credit rating?	83	35
5	If continuous checking scores, will it hurt credit report?	132	56
6	Does really credit score matters?	142	60
7	Which of the following is usually a good credit score?	86	36
8	Does each consumer have just ONE generic credit score?	88	37

Source: Primary data

Table IV. No. of questions correctly answered by the respondents

No. of questions correctly answered by respondents	No. of Respondents	Percentage
Eight questions & Seven Questions	0	0
Six questions	5	2
Five questions	23	10
Four questions	47	20
Three questions	64	27
Two questions	65	27
One question	30	13
No. of respondents wrongly answered for all eight questions	3	1
Total	237	100

Source: Primary data

Correspondence Analysis of Demographic variable and knowledge on Credit Scoring System

The respondents who have answered correctly for 30 per cent of the questions were classified to have below average knowledge level and the respondents who have answered correctly between 31 per cent and 50 per cent of the questions were classified to have average level of knowledge; the respondents who have answered more than 50 per cent of the

Table V. Level of knowledge on credit scoring system

Knowledge Level		Frequency	Per cent	Valid Per cent	Cumulative %
Valid	Below Average	98	41.4	41.4	41.4
	Average	111	46.8	46.8	88.2
	Good	28	11.8	11.8	100.0
	Total	237	100.0	100.0	

Source: Primary data

questions correctly were classified to have good level of knowledge on credit score system. This reveals that more than 40 per cent of the respondents do not have the sufficient level of knowledge on credit scoring system. This study (Table V)

also reveals that only 12 per cent of respondents were having a good level of knowledge on credit score system.

Table VI. Demographic variables vs. Level of knowledge on Credit Scoring System – Chi-square test

Educational Qualification	Level			
	Below Average	Average	Good	Active Margin
SSLC	20	15	5	40
PUC	20	19	1	40
UG	32	39	10	81
PG	26	38	12	76
Age (in years)				
Up to 30	20	30	12	62
31-40	35	31	6	72
41-50	34	29	7	70
51-60	8	12	1	21
Above 60	1	9	2	12
Gender				
Male	42	61	8	111
Female	56	50	20	126
Occupation				
Private sector	14	21	2	37
Professional	23	23	10	56
Government sector	16	30	5	51
Business	26	24	7	57
Unemployed	19	13	4	36
Annual income (in Rs.)				
Up to 2.5 Lakhs	38	41	9	88
2.51 to 5 Lakhs	34	36	8	78
Above 5 Lakhs	26	34	11	71
Savings on monthly income (in Rs.)				
No savings	25	28	5	58
Up to 10%	21	28	7	56
11-20%	24	31	11	66
21-30%	22	13	1	36
Above 30%	6	11	4	21
Marital Status				
Married	47	70	18	135
Unmarried	51	41	10	102
No. of dependents				
None	35	24	16	75
1 to 2	27	36	8	71
3 to 4	27	34	2	63
Above 4	9	17	2	28
Demographic variables	**Chi-Square**	**Df**	**P Value**	
Educational Qualification	7.381	6	0.287	
Age	14.495	8	0.070	
Gender	7.313	2	0.026*	
Occupation	9.840	8	0.276	
Annual income	1.737	4	0.784	
Savings on monthly income	11.294	9	0.186	
Marital Status	5.538	2	0.063	
No. of dependents	17.166	6	0.009*	

Source: Primary data   *. The Chi-square statistic is significant at the .05 level; df – degrees of freedom

Demographic variables of respondents with various levels of knowledge on credit scoring system are displayed in Table VI.   The association between demographic variables and level of knowledge on credit scoring system is also portrayed in the Table VI.   Correspondence Analysis (CA) is a multivariate graphical technique and useful tool designed to uncover the relationships among categorical variables [8]. Fig. 1 to 6 shows the correspondence analysis of demographic variables and level of level of knowledge on credit scoring system

It is found from the Table VI that gender and number of dependents have a significant association with level of knowledge on credit scoring system ($p < .05$) at the 5 % level of significance and hence null hypothesis (H0) is rejected. The demographic variables such as educational qualification,

age, occupation, annual income and marital status are not associated with the level of knowledge on credit score system ($p > .05$) and hence null hypothesis (H0) is not rejected.

It is very much clear from the Fig. 1 that the respondents who qualified UG and PG qualification are closer to average and good level of knowledge respectively.   i.e., the respondents who have qualified in UG and above have moderate knowledge on credit score before availing loan. Fig. 2 depicts that the respondents who are having below 30 years of age have shown some sort of interest in acquiring knowledge on financial matters wherein the respondents above 30 years are not that much knowledge about on financial matters as youngsters.
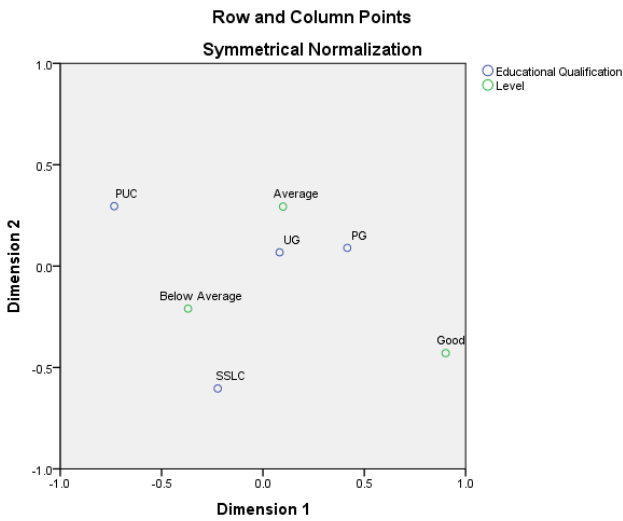
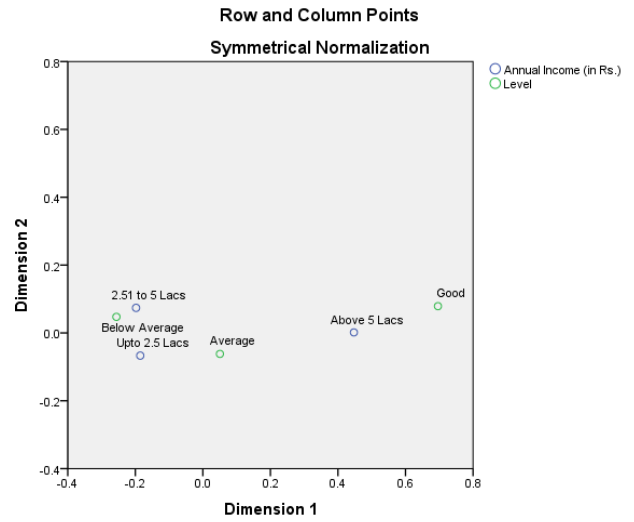**Fig. 1. Correspondence analysis of educational qualification and level of knowledge**

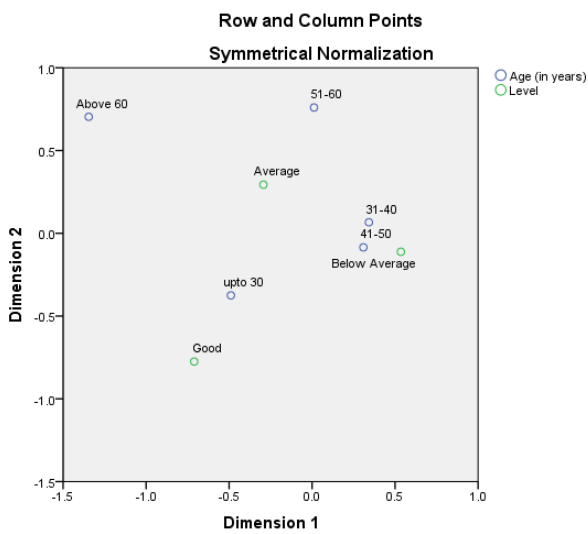**Fig. 4. Correspondence analysis of annual income and level of knowledge**

Fig. 2. Correspondence analysis of age and level of knowledge
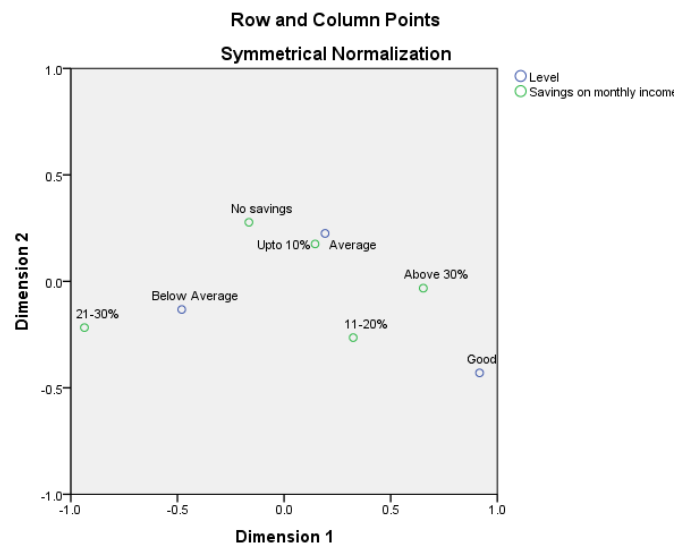

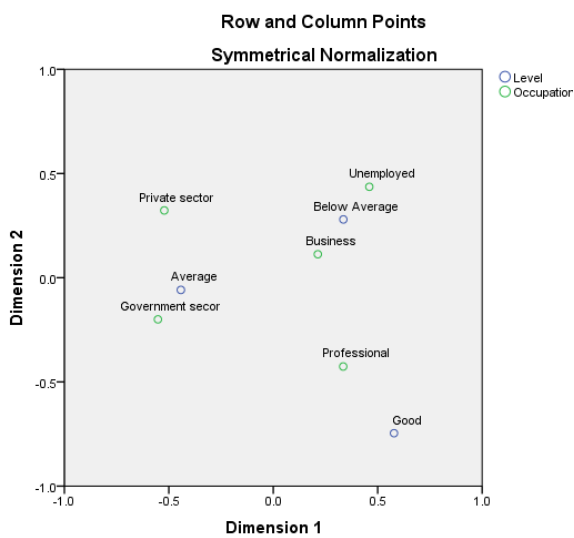**Fig. 5. Correspondence analysis of savings on monthly income and level of knowledge**

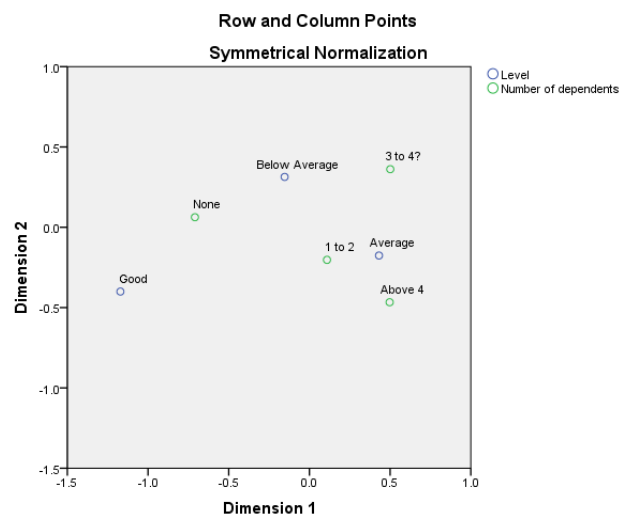**Fig. 3. Correspondence analysis of occupation and level of knowledge**

Fig. 6. Correspondence analysis of number of dependents and level of knowledge

Fig. 3 shows the association between occupation and level of knowledge on credit score system. This shows that the professional people have comparatively higher level of knowledge than the people with other occupations. This could be because the professional people may try to make investment wisely so that they can get good return. The people who are doing business do not possess sufficient level of knowledge on credit scoring system and this may be due to the fact that they will invest their money in to their own businesses. The government employees have a moderate level of knowledge because they might have been exposed to the various investment avenues by means of departmental training.

Respondents who are earning more than Rs.5 Lakhs having good level of knowledge on credit score system (Fig. 4). It is clear from the Fig. 5 that the respondents who are saving more than 10 per cent of their income have the sufficient knowledge on credit score system than the respondents who save less than 10 per cent of their income. Fig. 6 shows that the respondents with up to two numbers of dependents possess sufficient level of knowledge on credit score system than the respondents with more than two numbers of dependents.

IX. CONCLUSION AND SCOPE FOR FURTHER STUDIES

The study found that only a mere 12 per cent of respondents having a good level of knowledge on credit score system. Also, the study revealed that the gender and number of dependents were significantly associated with level of knowledge on credit score system. The study concludes that the female respondents have more knowledge on credit score system than male respondents and respondents who have up to two numbers of dependents have good level of knowledge than others. The study suggests that the government and financial institutions like credit information agencies should take necessary efforts to give awareness, inculcate the method of calculating credit score and its importance on credit scoring system among public through various programmes and social medias. Once the public get more knowledge on credit score system, it will enhance the financial management by repaying their loan in time and further make them eligible for other loans also. By this, cash management of bank will improve and their view will be recollected on timely basis and overall performance may also improve. This may result in better economy of the state. Further research may be conducted to study the awareness among public on credit score system in various regions in India and to measure the effectiveness of credit score system on loan repayment.

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