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Analyzing the Relationship between Consumer Spending Habitsto Loan Default Risk: A Case of Istanbul Turkey

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Abstract:
The lending industry makes use of credit scoring models to classify consumers as potentially good or bad loan candidates. These credit scoring models often make use of a previous consumer's financial performance and demographics and not a consumer's money spending habits which can lead to loopholes in identifying new loan applicants as potentially having a high risk of loan default. This correlation study made use of four predictive variables, which were purchase of cigarettes, outdoor dining, entertainment, anxiety and distrust towards money and previous loan default to impart sufficient information in classifying consumers as good or bad applicants.
The survey data was obtained from online surveys, completed by 166 participants and analyzed using Pearson's correlation, logistic regression, linear regression analysis, Cronbach's alpha, analysis of variance and covariance with the IBM SPSS Statistics 28 software. The findings of this research revealed that there was no significant correlation between the four predictive variables and loan default risk. This study showed that there is no significant relationship between the four predict variables and loan default risk, therefore money lending institutions may not include these variables in their loan applications.

Keywords: *Spending habits, money attitudes,loan default risk,loan applications,consumer behavior*

1. Introduction

The main worry that researchers, financial advisorsand consumer behaviour model developers have is that most of their available models rely largely on data from consumers who have good credit histories and therefore are short of predictive variables that show increased tendencies of first-time loan clients to default on loans. The way consumers determine how they spend their revenue is affected by the way their daily habits fluctuate, their attitudes with regards money, and based on how the economic situation of the country varies, which makes it difficult for lending institutions to accurately group consumers as possible defaulters on loans with the predictive variables being used. Past research on consumer credit models and consumer behaviour models stipulated that there is a need to point out new predictive variables to considerably limit and forecast future loan defaulter, and to develop more effective statistical systems which can be flexiblyadapted to the nature of the economic variations of the country. As for what concerns loan delinquencies by consumers, researchers and financial advisors suggest that 'lending institutional practices, credit scoring models, and consumer behaviour models' do not provide sufficient statistical data to predict if consumers will default on loans, particularly with first-time application caseswhich tend to result in higher than usual defaults on loans (Sabato, 2010).

The increase in demand for loans by customers over the years has led to lending financial institutions and banks developing new technological systems such as the Tree algorithms to automatically evaluate a loan application following the companies' rules and policies over a relatively short-termperiod. The Tree algorithm is very abundantly used because it can be adapted to altered rules in the available data, and often allows borrowers to make the best financial or least risky decisions with the information at their disposition (Turhan, 2019).

Money lending institutions regularly use 'credit scoring models and consumer behavior models' to unveil if a consumer is a good or bad loan applicant. The necessity for customers to borrow money from creditinsituation can occur in a regular forecasted pattern, depending on whether the consumer's expenditure is large, such as getting a car or whether it isminimal, like buying a coffee cup. The need for the consumer to borrow money for large or small expenditures is dependent on some intrinsic and extrinsic factors: such as fluctuations in the general economy of the country, alternation in consumer attitudes and anxiety towards money, and irregularities in buying patternsofgoods and services which can be highly misinterpreted in the 'credit scoring models and consumerbehavior models used byfinancial institutions (Thomas, 2010). More studies on determining the predictive variables can be used in improving credit scoring models and consumer behavior models, to provide sufficient meaningful information for credit institutions to decide on giving a consumer a loan with the calculated probability of the consumer being able to pay the loan with interest.

Although in Turkey, Ozgen and Beyoglu (2005) carried out an investigation that elaborated on the money attitudes of Turkish University students in Ankara. With the continuous unrest in regulating credit institution that issue loans or credit to the consumer with thegoal of benefiting from the interest paid on these loans by, some governments have developed rules to regulate consumers within the financial lending industry especially with the unpredictability ofchanging financial markets such as the 2001-2008 significant fluctuation in the housing market. For example, the 2004 'New Basel Capital Accord', which instigated lending financial institutions to develop consumer 'credit models and consumer behavior models' following strict regulations which needed accountability and exposure of calculation parameters subject to government policies and which gave room for further modifications and improvements. In between the years 2004 and 2007, banks reduced the emphasis laid on standard credit scoring models and consumer behavior models to compete with other credit institutions, these led to financial institutions and banks giving out loans to clients who normally would not be issued a loan. Because of the laxity in the issuance of loans between 2004 and 2007 by money lenders, the world experienced a global economic crisis, starting from 2007 to 2009.

Abdou (2009) suggested in his research that there was a decline in studies carried out by financial advisors and academic scholars in developing systems to better mitigate the risk of loan delinquencies. With the decline in innovative research in financial loanarea came the crash of the housing market, and the lack of research between the year 2007 and 2009 within the financial lending industry, which led to a loophole in the continuity of literature during that period. Evidently, causing scholars to depend on financial literature before the year 2007 as concerns loans and the upgrading of'credit scoring models and consumer behavior models. The credit scoring models being used nowadays still depend largely on the consumer's previous financial history and demographics such as age, periodic revenue, and gender. Current models have become ineffectivewhen a country's economy faces aneconomic crisis like the soaring in loan applications due to the outbreak of the COVID-19 calamity in Turkey and other countries.

This quantitative study evaluated the interconnection between consumer spending habits and consumer attitudes with regards money applying four predictive variables (purchase of cigarettes, spending on entertainment, outdoor dining and anxiety and distrust towards money) and loan default risk. For better interpretation of the association, the following questions were analyzed:

- Q1) to what degree, if any is there a relationship between consumers' expenditure on cigarettes and past defaults on loans?
- Q2) to what degree, if any is there a relationship between consumer outdoor dining to past defaults on loans?
- Q3) to what degree if any, is there an interconnection between consumer purchase of entertainment and past defaults on loans?
- Q4) to what degree, if any is there a relationship between consumer anxiety and distrust towards money and past defaults on loans?
- Q5) To what degree, if any is there a relationship between combining the four predictive variables and past defaults on loans?

2. Theoretical Background

The financial industry is one of the biggest service bodies in Turkey with overall client indebtedness of $106.4 billion as of February 2021(ceicdata.com). The purpose of this quantitative study in which a cross-sectional scope was to determine what is viewed as enough information collected by lending financial institutions to determine if an applicant is good or bad credit, to make more informed decisions in granting loans or rejecting them to avoid defaults on loans. The correlation between four predictive variables (consumers purchase of cigarettes, spending on entertainment, outdoor dining, and consumers anxiety and distrust towards money) were analyzed with the resulting variable (consumers previous default on loans) to measure the significant value these predictive variables brought to loan applications, and predicting loan defaults. In order to successfully examine the relationship between consumer spending attitudes and loan default risk, the theoretical model was broken down into two components as seen in the figure below.

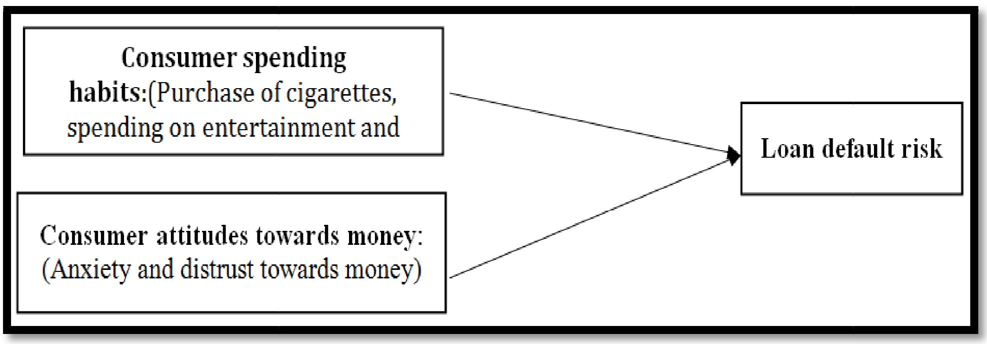

Figure 1: Theoretical Framework of the Research

In order to effectively answer the research questions in determining the relationship between the for predictive variables and loan default risk, seven hypotheses were established:

- H1o) There is no relationship between consumers' purchase of cigarettes and previous default loans.
- H1a) There is a relationship between consumers' purchase of cigarettes and past default loans.
- H2o) There is no relationship between consumers' purchase of entertainment and previous default loans.
- H2a)There is a relationship between consumers' purchase of entertainment and previous default loans.
- H3o) There is no interconnection between consumer's outdoor dining and past default loans.
- H3a) There is an interconnection between consumers' outdoor dining and past default loans.

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- H4o) There is no relationship between consumer anxiety and distrust behavior towards money and past loan defaults.
- H4a) There is a relationship between consumer anxiety and distrust behavior towards money and past loan defaults.
- H5o) There is no relationship between combining all four predictive variables (purchase of cigarettes, entertainment, outdoor dining, anxiety, and distrust behavior towards money) and previous default loans.
- H5a) There is an interconnection between combining the four predictive variables (purchase of cigarettes, entertainment, outdoor dining, anxiety, and distrust behavior towards money) and previous default loans.
- H6o) There is no significant covariance between the four predictive variables and previous defaults on loans.
- H6a) There is a significant covariance between the four predictive variables and past defaults on loans.
- H7o) There is no internal consistency between the four predictive variables.
- H7a) There is an internal consistency between the four predictive variables.

A quantitative analysis was carried out using a Pearson's correlation designed with data collected from the survey as suggested by Sighn (2007), to indicate the relationship between the four predictive variables and loan default. The first part of the survey was mainly used to collect demographic, the second contained questions about spending habits, attitudes towards money and loan default. Furthermore, one of the most highly used methods to quantify consumer attitudes, developed by Dr.Rensis Likert (1932); was implemented in data collection in the 5-point Likert scale as follows: (1=strongly disagree, 2= disagree, 3=neutral, 4=agree, 5= strongly agree).

2.1. Defining the Variables

2.1.1. Spending Habits on Cigarettes (1stPredictive Variable)

Consumers spending on cigarettes regardless of the brand was estimated based on the average cost of a pack of 20 sticks of cigarettes and the average number of cigarettes that smokers consumed per week. The following range was used to indicate the amount of money spent on tobacco products during the week by consumers: 0= None, 1=1TL-20TL, 2=21TL-40TL, 3=41TL-60TL, 4=61TL-80TL, 5=81TL-100TL, 6=101TL-120TL, 7=over (from question 8 of the survey)

2.1.2. Consumer Outdoor Dining Spending Habits (2nd Predictive Variable)

The second predictive variable examines the number of times consumers spend dining outside of their homes in different establishments, including fast-food restaurants, fine dining restaurants, and ordering food online. This variable was measured as 0=No and 1=Yes, (survey question 8).

2.1.3. Consumer Expenditure on Entertainment (3rd Predictive Variable)

Consumer spending on entertainment was categorized into 7 groups. The first showed that 110(66.3%) watched movies, then 75(45.2%) went shopping, 49(29.5%) participated in events and sports, 25(15.1%) participated in other forms of entertainment, 19(11.4%) went on vacations, 14(8.4%) cable/satellite TV, 13(7.8%) played games and 4(2.4%) participated in music/concerts. Selecting 7 sub-variables on entertainment was done as recommended by Alpert and Lowe (2012) (survey question 9)

2.1.4. Anxiety and Distrust towards Money (4th Predictive Variable)

In this research, anxiety was used to determine consumers use of a loan to avoid anxiety when they cannot reach their financial obligations or to satisfy their personal needs and wants by using a 5-point Likert scale (1=strongly disagree, 2= disagree, 3=neutral, 4=agree, 5= strongly agree) and categorized as ordinal numeric scale.

Distrust examined consumers' hesitant behavior towards credit, loans, and their decisions towards purchasing products using questions in the researcher's questionnaire originally used by Kent Yamauchi (1982) and adopted by Yaw Frimpong (2017). The responses followed a 5-point Likert scale (1=strongly disagree, 2= disagree, 3=neutral, 4=agree, 5= strongly agree) and categorized as ordinal numeric scale.

2.1.5. Loan Default (Resultant Variable)

The resultant variable loan default in this study was used to determine if a consumer has previously defaulted on a loan and was categorized as (0=No and 1=Yes). (Survey question 6)

3. Methodology

A quantitative analysis was carried out using correlation design with data collected from a cross-sectional survey to examine the relationship between the four predictive variables (purchase of cigarettes, entertainment, outdoor dining, anxiety and distrust behavior towards money) and the resulting variable (loan default).

3.1. Population and Sampling Method

The goal of this study was to investigate the relationship between consumer spending habits and loan default risk, information was obtained from consumers regardless of demographics except for age because the participants needed to be adults to apply for a loan. The targeted population used for this study mainly consisted of young adults in the most populated city of Turkey (Istanbul) with an approximate population of 15.52 million, 49.80% women and 50.20% men (Turkish Statistical Institute, 2021). The lending industry in Turkey is one of the largest service industries in the country with a total household indebtedness of $106.4 billion reached in 2021, which is a significant decrease from its all-time high indebtedness of $155.3 billion reached in October 2013 and its record low of $74 million reached in February 1989(ceicdata.com).

Variables	Categories	Number of Participants	Percentage (%)
	Male	97	58.4
Gender	Female	69	41.6
	18-28	92	55.4
	29-39	42	25.3
	40-50	20	12
Age	50 and above	12	7.2
	Single	102	61.4
	Married	48	28.9
	Divorced	10	6
Marital Status	Widowed	6	3.6
	High school diploma	48	28.9
	Associate degree/	17	10.2
	Vocational training		
	Bachelor's degree	67	40.4
	Master's degree	26	15.7
Highest Education	Doctoral education	8	4.8
	1	69	41.6
	2	43	25.9
	3	22	13.3
	4	6	3.6
	5 or more	3	1.8
Credit cards	None	23	13.9
	Yes	55	33.1
Loan default	No	111	66.9
	Below 1000	33	19.9
	1001-3000	37	22.3
	3001-5000	42	25.3
Monthly Income (TL)	5001 and over	54	32.5
Total		166	100%

Table 1: Demographic Description of the Survey Participants

A sample size of 170 young adults in the city of Istanbul participated in this study with the intervention of my advisor instructing me not to focus the sample size only on students but to expand outside the education community, which was challenging but provided a diverse database. Due to the lack of control on participants, and mindful of the limitations, a convenience sampling method was used in targeting young adults aged 18 and above. The questionnaires for the survey were filled by participants entirely online to respect COVID 19 pandemic preventive measures and was done by sharing the link to the questionnaire with the targeted population for filling. Following the ethical requirements to fulfil the conduction of a survey in Istanbul Aydin University, approval was obtained for the use of the questions by the author obtained via email (Mr. Yaw Frimpong, 2017), all the necessary documents required for implementing the study were submitted by my thesis advisor to the ethical committee for approval. A data scan using IBM SPSS statistics software 28 and a review of the responses showed that 4 participants responded by choosing the same answers for all questions, so they were eliminated. Bringing the final sample size to 166.

The demographic characteristics of the participants are recordedbelow, after ensuring that all 166 questionnaires were effectively well completed indicating a 100% response rate. For gender, the male participants formed the majority at 58.4% and the female participants 41.6%. Most of the participants fell within the age range 18-28 years representing 55.4% and 7.2% was the least, representing participants in the age range of 50 and over. The detailed descriptive information on demographics obtained from the survey, then analyzed using IBM SPSS statistics software 28 is presented in the table 1 above.

3.2. Data Collection and Processing

Permission to use the questionnaire was granted by the original author Mr. Yaw Frimpong, 2017. Before the process of effectively distributing questionnaire links to participants, the survey questionnaire, thesis proposal, advisor approval, and application for approval form were sent to the Istanbul Aydin Ethical committee by the researchers' advisors for expert review and to determine if the questions were relevant to the study and will measure consumer behavior and attitudes towards money and the effects on loan default which was the purpose of this study. The predictive variables, purchase of cigarettes, spending on entertainment, outdoor dining and demographic questions were either multiple choice or 'Yes or NO' questions. Meanwhile the predictive variable, anxiety and distrust was using a 5-point Likert scale (5=Strongly disagree, 4=Disagree, 3= Neutral, 2=Agree, 1=Strongly Agree).

3.3. Data Processing

After the required number of completed questionnaires was reached forthe researcher to proceed to analyze the data, a quick review of the responses provided by participants was conducted to ensure that there were no patterned answers to the questions (Vogt, 2007). Four of which seemed to either be selected all first, middle, or last were not considered for this study. Bringing the total number of effective participants to 166. How this study would have handled patterned answers is examined in the limitations section of this study.

4.Analysis and Findings

4.1. Reliability and Validity Assessment

The reliability assessment was done using the Cronbach's Alpha for variables, which is a test used to measure the reliability of research variables. Anα of .70 and above is considered reliable for analysis. So α > .70 indicating reliability for all the predictive variables.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.967	.978	24

Table 2: Reliability Statistics for the Research Variables

As for validity, the questionnaire was submitted by the researcher's thesis advisor to the ethics committee of the university for expert review and validity for the study. Also, a review of each participant'sresponse was conducted and four showed that the respondent checks all the boxes in a uniform pattern, so they were removed. Also, the study made use of concurrent validity with the money attitude scale used by Yamauchi and Templer (1982), to find certain behaviours that can impact the consumers ability to repay loans. The validity test was conducted by combining the participants who showed high levels of anxiety and distrust towards money (4th predictive variable) and reported to have previously defaulted on a loan. Finally, when analysing the validity of the Eigenvalue, the Pearson's correlation between the four predictive variables combined and loan default showed no significant predictability.

4.2. Analysis

A prior analysis showed no infraction of linearity, normality, and homoscedasticity for each individual predictive variable analysis. Data analysis was done using the IBM SPSS Statistics 28 with the following techniques: Pearson's correlation coefficient (r), Pearson's correlation (P), linear regression, logistic regression ANOVA, ANCOVA, Cronbach's Alpha, Hosmer and Lemeshow, Chi test, bootstrap confidence interval.

Variables	P	r	R	R^2
Purchase of cigarettes and loan default	.217	.005	.217	.047
Purchase of outdoor dining and loan default	.019	.811	.019	<.001
Purchase of entertainment and loan	.141	.069	.019	<.001
Purchase of anxiety and distrust towards money and loan default	-.033	.670	.019	.001

Table 3: Results of the Correlation Analysis of the Four Predictive Variable and Loan Default

- Q1. To what degree is there a relationship between consumers of cigarettes and pastloan defaults, if any?The Pearson's correlation coefficient (r) between the variable of expenditure on-cigarettes and loan default showed a negligible positive correlation.
- Q2. To what degree is there an association between consumer outdoor dining and past default loans, if any?The Pearson's correlation coefficient (r) between the predictive variable of outdoor dining and loan default, it showed no significant correlation.
- Q3. To what degree is there an interconnection between consumer purchase of entertainment and past default loans, if any? The Pearson'scorrelation coefficient (r) between entertainment and loan default was negligible and positively insignificant.
- Q4. To what degree is there a relationship between consumer anxiety and distrust towardsmoney and past default loans, if any? The one sample Chi test and the one-sample binomial test were conducted for all 19 predictive variables, and the Cronbach's Alpha analysis for all the 19 predictive variables was 1.000, indicating very high reliability and so no one of the predictive variables was deleted. There was no significant correlation between consumer anxiety and distrust towards money and loan default risk.
- Q5. To what degree is there an association between the four predictive variables and past default loans, if any? This analysis showed no relationship between the four predictive variables and previous defaults on loans.

- Q6. To what degree is there a covariance between the four predictive variables and past loan default? The covariance was insignificant to consider a relationship between the predictive variables and previous loan default.
- Q7. To what degree do all four predictive variables: purchase of cigarettes, spending on entertainment outdoor dining, anxiety, and distrust behavior towards money show consistency? There was no internal consistency between the four predictive variables.

4.3. Resultsof Hypothesis Testing

- H1.Given the value of P=.217, R^2=.047, the bootstrap confidence interval was not strong enough to reject the null hypothesis and the alternate hypothesis could not be supported, there is a negligible positive relationship between the purchase of cigarettes and loan default. So the relationship is statistically insignificant.
- H2.Given the value of P=.019, R^2=.006, the bootstrap confidence interval was not strong enough to reject the null hypothesis and the alternate hypothesis could not be supported, there is no significant relationship between outdoor dining and previous loan default.
- H3.Given the value of P=.141, R^2<.001, the bootstrap confidence interval was not strong enough to reject the null hypothesis and the alternate hypothesis could not be supported, there is no significant relationship between consumers purchasing entertainment and previous loan default.
- H4. The one sample Chi test and the one-sample binomial test were conducted for all 19 predictive variables, all of which rejected the null hypothesis with significance levels p<.05 and supported the alternate hypothesis.
- H5. Logistic regression was conducted to investigate how likely participants will report if their loan defaults. The model indicated that 6.8% (Cox and Snell R^2) and 9.5% (Nagelkerke R^2) of the variance in default status, correctly classifying 70.5% of the cases. Only purchase of cigarettes especially contributed to the model having the strongest prediction odds ratio of 1.266, less than two. Meaning that participants who purchased cigarettes were over 1.266 times to report loan default than the other three predictive variables. The null hypothesis was not rejected and there was no evidence of the alternative hypothesis, therefor this analysis showed no relationship between the four predictive variables (purchase of cigarettes, entertainment, outdoor dining, and anxiety and distrust towards money to previous defaults on loans.
- H6. Having low anxiety and distrust towards money insignificantly increased loan default. There was a moderate significant covariance between two of the predictive variables and the null hypothesis was not rejected and there was no support for the alternative hypothesis.
- H7. There was no internal consistency between the four predictive variables, the null hypothesis was not rejected and there was no evidence of the alternate hypothesis.

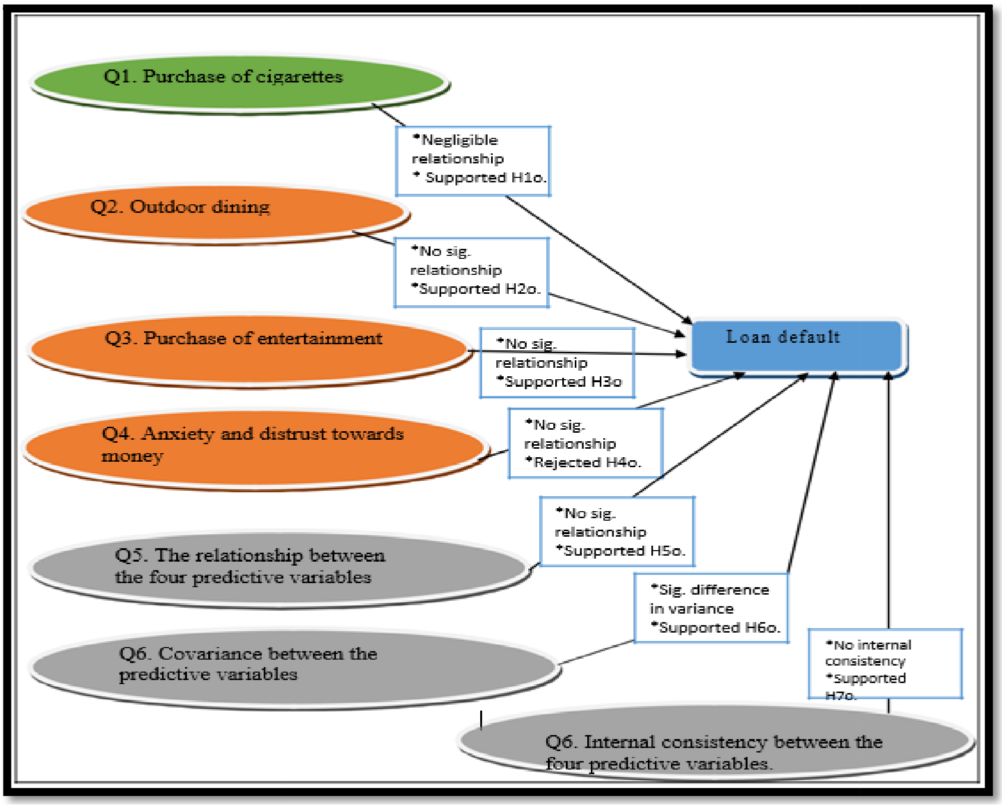

Figure 2: Relationship and Hypothesis Testing Results

5. Conclusion and Recommendation

This research sought out to find the association between four chosen predictive variables: purchase of cigarettes, outdoor dining, entertainment and anxiety and distrust towards money and previous loan default, to incorporate these predictive variables into current credit scoring models to reduce the risk of loan defaults by consumers within lending financial institutions and consequent loss in profit from these defaults by the lending institutions in Turkey. In addition, this study combined consumers spending habits and consumers attitudes towards money in psychological dimensions within the predictive variables to determine how they can be used in predicting loan defaults to reduce the loss in revenue from lending financial institution, especially when loan application standards are relaxed during the economic crisis to accommodate consumers financial needs and to outperform the competition.

5.1. Conclusion

Lending financial institutions currently use credit scoring models for loan applications that do not accurately predict if a consumer will default on a loan (Fensterstock,2010). Hence this research aimed to examine consumer spending habits and consumer's attitudes towards money through predictive variables to reduce loss in revenue by lenders by predicting loan defaults. The conclusions of this study are presented based on the research questions and findings from this research.

Research question one sort to examine the relationship between consumer's purchase of cigarettes and loan default. The assumption used in considering this variable valid for analysis is that consumers who may have developed a dependency or addiction to cigarettes will default from paying a loan as result. This study resulted in the finding that there was a negligible relationship between consumer's purchase of cigarettes and loan default. This relationship was not considered significant enough to be included in loan application forms at lending institutions.

Research question two sort to examine the relationship between consumer's outdoor dining and loan default. The assumption used in considering this variable valid for analysis was based on 'the theory of planned behavior '(Bhuyan, 2011), where consumers tend to spend more of their income on outdoor dining even when considering household budgeting. The findings of this study showed no relationship between consumer outdoor dining and loan default.

Research question three sort to find the relationship between consumer's purchase of entertainment and loan default. The assumption that was used in considering consumer purchase of entertainment as a variable for analysis was based on the theory of consumer behavior (Ajzen,2011) where consumers tend to spend money on leisure or relaxation components. The number of entertainment components used in classifying the variable was limited due to the outbreak of the Coronavirus which left most of the participants dependent on indoor entertainment components. Based on consumer trends in spending on entertainment, and developing a dependence on entertainment components, the results from the analysis showed that there was no relationship between consumers' purchase of entertainment and loan default risk.

Research question four sort to examine the association between consumer anxiety and distrust towards money and loan default. The assumptions that were used in considering this variable were based on consumers' attitudes towards money (Templer and Yamauchi, 1982) which incorporates psychological aspects. Studies showed that people who showed signs of high anxiety used money as a form of protection from anxiety. So, people with high anxiety levels were more prone to using loans to reduce their anxiety when they ran short of money (Templer and Yamauchi, 1982). Meanwhile, those with low anxiety levels did not consider taking loans as an option to complement their shortage of money. Therefore, deducing from the findings of this research and previous studies, consumers with high anxiety levels were more likely to take loans and consequently default from the loans. As for distrust, people who exhibited high levels of distrust towards money tended to avoid loans because of the fear of being able to repay the loans, meanwhile, those with low distrust were more likely to take loan because they believed that they could repay the loan (Ahmed et al, 2010). Overall, the analysis of anxiety and distrust towards money and loan default showed no relationship. Nineteen variables were combined in a Likert scale using their means and analyzed as one variable to determine the relationship with loan default.

Research question five sort to examine the relationship between the four predictive variables and loan default. The assumption that led to the implementation of this research question was that, by combining all the four predictive variables; purchase of cigarettes, outdoor dining, purchase of entertainment, and anxiety and distrust towards money with loan default, there will be a relationship that can be incorporated into loan application forms. The results showed no relationship when all five predictive variables were combined and analyzed with loan default.

The purpose of this research was to examine the relationship between consumer spending behavior and consumer attitudes towards money to loan default risk using the four predictive variables: purchase of cigarettes, outdoor dining, purchase of entertainment, and anxiety and distrust towards money. The research questions were examined using the quantitative analysis techniques of correlation, regression, analysis of variance, and multiple tests of reliability and validity including ANOVA. And the results of this study showed that there was a negligible relationship between consumers' purchase of cigarettes and loan default and no significant relationship between spending habits and attitudes towards loan default.

5.2. Recommendations

From the findings in this research, it is recommended that credit institutions do not use the predictive variables in their loan application forms or systems,because this study showed that each predictive variable resulted in a negligible correlation or no relationship with the loan default. Furthermore, future researchers can use different intervening variables in similar studies like income or age and make use of larger sample sizes to give a better view of the case study. The fact that the four variables in this study showed no significant correlation, future researchers can use different variables like social media with larger sample sizes after the COVID 19 pandemic. Moreover, because the survey was in English, future researchers may conduct this research in Turkish or another language depending on what the majority speak.

5.3. Limitations

Participants above the age limit of 18 were selected to participate in this study from a sample of 166 people within the population of Turkey. Due to lockdown measures, only online participation was considered for data collection from survey participants. Thus, limitingthe sample size to 166. The standard deviation (s) of the sample will be calculated based on the degree of freedom provided by the sample size.Also, because the questionnaire was written in English and administered in the English language, all the participants were required to have some basic knowledge of English to effectively understand the survey questions and answer them accurately.

Because of the relatively small sample size of the study, the researcher had to conduct a concurrent separate validity test and analysis for individuals who scored in the categories of anxiety and distrust towards money, and loan default.The participant's personal identification information was withheld, so the reliability and validity of answers provided by the participants were solely based on them providing answers to the survey questionnaire as accurately and honestly as they could.

Finally, it was assumed that the participants who had a retention attitude towards money will show a negative correlation with loan default. That is, participants who tend to be more careful with money even on necessities like food and showed a high propensity towards saving was less likely to default on loans. In the researcher's capacity to control the extent of limitations to this study, the use of clear and easy-to-understand questions was used in the survey with straight-to-the-point answers, to avoid confusion and misunderstanding when providing answers. No complaints regarding the clarity of the questionnaire were raised by participants.

5.4. Ethics

This study made use of a survey that required participants to unveil some personal financial information, so no names and special identification codes or information was used by the participants when they were filling the survey to ethically respect their privacy by implementing unanimity in the data collection stage of this research. Moreover, the notification 'Please fill the form, your opinions will be used for research purposes only' was visible at the start of the survey to provide a degree of confidentiality to the participants before they started answering the questions and following the guidelines for research ethics in social sciences, section (B) Respect of individuals; articles 5) Human dignity and 6) Privacy (NESH, 2019). And in adherence to the ethical standards in social sciences, no address, detailed information concerning the participant's banking information or financial accounts information with lending institutions was solicited. Finally, the researcher did not use any direct personal information of the participants for purposes other than those that pertain to research.

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