***Mudhoji College , Phaltan***

***Department of Statistics***

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***Project report on***

***“STATISTICAL ANALYSIS OF ONLINE TRANSACTION”***

***Submitted by***

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***CERTIFICATE***

***This is to certify that the project entitled “STATASTICAL ANALYSIS OF ONLINE TRANSACTION” submitted to the Department of Statistics,Mudhoji College,Phaltan, Bachelor Degree in Statistics in the academic year 2019-2020.***

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**Sincerely by,**

Miss. Kashid S.D.

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***Chapter I*: *Introduction***

***1.1)Advantages & disadvanteges of online transaction.***

***a) Advantages***

***1. They are convenient for online transaction:***

***Online payment methods allow conveniently selling good & services online.***

***2. Fast transaction speed:***

***Online transaction quickly provide feedback to you & your customers.***

***3. Low risk of theft:***

***After processing delays, online payments generally go straight into your bank account. So they have low risk of theft.***

***b) Disadvantages***

***1. Inconvenient for online transaction:***

***Online payment method are inconvenient for online sale.***

***2. Reliance on telecommunication infrastructure:***

***Internet & server problems can disable online transaction method.***

***3. Technical problems:***

***Online payment method can go down due to technical problems.***

***1.2)Objevtive of the study***

***The main objective is to study the how online transaction effect on youth’s , profession, behaviour ,etc. & also create the awareness among people about effect of online transaction.***

* ***To study the age wise comparison between online Transaction.***
* ***To study for seasonal tendency on online transaction.***
* ***To study the which application use mostly for online payment.***
* ***To check whether profession & online transaction are***

***independent or not.***

* ***To check whether online shopping & seasons are independent or not.***
* **To test whether proportion of Male and female using card are equal or not.**

***2)Chapter II: Research Methodology***

***2.1) Method of collection of data.***

***Collection of data- There are two types of data, primary data & secondary data. In this project we used the primary data.primary data may be collected by in any one or more of the following methods:-***

***Direct personal method***

***Indirect oral investigation***

***Questionnaires & schedules***

***Investigation through correspondence***

***Questionnaires & schedules -***

***The method is very popular to private institutions research fellow . Even government , in many cases, make use of this methods***

***The Questionnaires:-***

***It is filled by informants whose supply information. In this project we collect the data by following methods:***

***1.Direct personal method***

***In this method, the investigators meet personally & ask the questions one by one & fill up the schedule on the basis of information supplied by the individual.***

***2. Mailed questionnaire method***

***In this method questionnaire in mailed to the individuals whose are requiring filling it up & returning it duly completed.***

***Data Collection***

***Our project on “ONLINE TRANSACTION” . For that we have collected primary data , of 300 people from urban & rural region. The group member are devided to collect the data from different destinations as Phaltan city & villages of Phaltan city. The method collect of data is Simple random sampling without replacement because once a questionnaire filled by a person keep aside.***

***Now a days in our society are widely used online transaction for our study purpose include the factor age, gender, profession & area. There are many mobile apps available for online payment & online shopping which are generally named as in one phrase as online transaction.***

***2.2 ) Details of sample selection***

***Survey:***

***We know the success of the survey to a great extent depends upon the reliable field work . Before the starting survey,We know the objective of the survey. Our main objective is to study the “Statistical Analysis Of Online Transaction”, Here we used direct personal method to interview individual & collect data for this project.***

***Sample Selection:***

***The data is collect keeping in view of the objective of the study. For this study we collect the data by interview (direct personal ) method. i.e.Our collect data is known as primary data. As we see in questionnaire we collect data on student’s, bussinessman, employe, other.***

***2.3) Method of analysis***

***The methods & techniques used here are as follows:***

***Stratified Sampling:***

***This method is useful when the population consist of number of heterogeneous subpopulation & the elements within a given subpopulations are relatively homogeneous compared to the population as a whole. The population is devided into mutually exclusive groups called Strata that are relevant, appropriate & meaningful context of the study. A simple random sample , called as subsample, is the form each stratum or group in proportion to it’s size.As the name implies , a proportion sampling procedure requires that the number of element in each stratum be in the same proportion as in the population.***

***Z-Proportion Test:-***

***A z-test is any statistical test for which the distribution of the test statistics under the null hypothesis can be approximated by a distribution due to the central limit theorem. Many test statistic are approximately normally distributed for large samples. This test explain how to conduct a hypothesis test to determine whether the difference between to proportions is significant.***

***When the null hypothesis state that there is no difference between the two population proportions the null & alternative hypothesis for a two-tailed test.***

***Hₒ: P1=P2 H1 : P1ǂP2***

***Chi-square test:-***

***The formula for calculating chi-square***

***This lesson explains how to conduct a chi-square test for independence. The test is applied when you have two categorical variable form a single population. It is used to determine whether there is significant association between the two variable .***

***Chapter III: Statistical analysis & discussion***

***3.1 Graphical method***

1. ***AIM: - To study age wise comparison between online Transaction.***

|  |  |
| --- | --- |
| **Age Group** | **Frequency** |
| **20-25** | **121** |
| **25-30** | **92** |
| **30-35** | **35** |
| **35-40** | **17** |
| **40-45** | **35** |

***Conclusion:-***

***From the above pie Chart, We concluded that, youngsters of age group 20-25 age are generally prefer online transactions more as they are time saver, easy.***

1. ***AIM : - To study for seasonal tendency on online transaction.***

|  |  |
| --- | --- |
| **Seasons** | **Frequency** |
| **Festival** | **53** |
| **weekends** | **14** |
| **Any time** | **83** |
| **Never** | **1** |

***Conclusion: -***

***From the above pie diagram, concluded that we cannot see seasonal variation in online transaction.***

1. ***AIM: -To study for preference for online shopping.***

|  |  |
| --- | --- |
| **Preference** | **Frequency** |
| **Jewellary** | **4** |
| **Cloths** | **126** |
| **Toys** | **2** |
| **Electronics** | **35** |
| **Other** | **133** |

***Conclusion: -***

***From above bar diagram ,we conclude that minimum people prefer to purchase cloths, electronic equipments online than other things.***

1. ***Aim:- To check the main purpose for the online transaction.***

|  |  |
| --- | --- |
| **Main purpose** | **Frequency** |
| **Shopping** | **154** |
| **Business** | **30** |
| **Education** | **35** |
| **Other** | **81** |

***Conclusion:-***

***From above bar diagram, we conclude that the online transaction are widely used for shopping.***

1. ***AIM:-To study the bank account use for online transaction.***

|  |  |
| --- | --- |
| **Bank** | **Frequency** |
| **SBI** | **120** |
| **IDBI** | **30** |
| **HDFC** | **24** |
| **AXIS** | **35** |
| **ICICI** | **27** |
| **BOB** | **1** |
| **Other** | **63** |

***Conclusion:-***

***From the above bar diagram, we conclude that the SBI bank account is mostly use for online transaction.***

1. ***AIM: -To study the benefits of online transaction.***

|  |  |
| --- | --- |
| **Benefits** | **Frequency** |
| **Time saving** | **176** |
| **Cashback** | **18** |
| **Easy to use** | **81** |
| **24\*7 business hours** | **25** |

***Conclusion :-***

***From above bar diagram, we conclude that the most of the people use online transaction for time saving .***

1. ***AIM:-To study the which application use mostly for online***

***payment.***

|  |  |
| --- | --- |
| **Application** | **Frequency** |
| **Phone-pay** | **158** |
| **Paytm** | **35** |
| **Gpay** | **74** |
| **Bhim app** | **24** |
| **Other** | **9** |

***Conclusion :-***

***From above bar diagram, we conclude that the phone-pay app is mostly used for online payment by people.***

1. ***AIM:-To study the profession wise comparison between online***

***transaction.***

|  |  |  |
| --- | --- | --- |
|  | **Profession** | **Frequency** |
| **STUDENT** | **90** |
| **BUSINESS** | **59** |
| **EMPLOYEE** | **111** |
| **OTHER** | **40** |
|  |  | |

***Conclusion :-***

***From above bar diagram, we conclude that there is more awareness for use of online transaction in professional people as compare to other.***

***9) AIM:-To check for monthly expenditure on online transaction.***

|  |  |  |
| --- | --- | --- |
| **monthly transaction** | **Frequency** | |
| **0-1000** | | **52** |
| **1000-5000** | | **117** |
| **5000-10000** | | **65** |
| **10000 & above** | | **66** |

***Conclusion :-***

***From above pie diagram we conclude that on an average 1000-5000 money is transact per month.***

***CHI-SQUARE TEST***

***To check whether profession & online transaction are independent or not***

***Hypothesis :-* we want to test,**

***H0:-* Use of online transaction & profession are independent** .

***V/S***

***H1:-* Use of online transaction & profession are dependent.**

***Calculation:* Chi-squared test for given probabilities**

**data: d1**

|  |  |
| --- | --- |
| **b** | **1** |
| **1** | **90** |
| **2** | **59** |
| **3** | **111** |
| **4** | **40** |

**X-squared = 40.0267, df = 3**

**p-value = 1.052e-08**

**P value (1.052e-08 < 0.05)**

**we reject H0 at 5% level of significance**

***Conclusion :-***

**Hence, we conclude that profession & online transaction are dependent.**

***To check whether online shopping & seasons are independent or not.***

***Hypothesis :-* we want to test,**

***H0:-*  online shopping & seasonal shopping are independent**

***V/S***

***H1:-* online shopping & seasonal shopping are not independent*.***

***Calculation:* chisq.test(d1)**

**Pearson's Chi-squared test**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **b** | **0** | **1** | **2** | **3** |
| **1** | **0** | **4** | **0** | **0** |
| **2** | **0** | **85** | **5** | **36** |
| **3** | **0** | **0** | **0** | **2** |
| **4** | **0** | **25** | **0** | **10** |
| **5** | **1** | **95** | **2** | **35** |

**data: d1**

**χX-squared = 11.1568, df = 12**

**p-value = 0.5155**

**(0. 5155 > 0.05)**

**we accept H0 at 5% level of significance**

***Conclusion:-***

**Hence, we conclude that online shopping & seasons are independent.**

***To check whether online shopping & apps are independent or not.***

***Hypothesis :-* we want to test,**

***H0:-*  online shopping does not depend on any payment app.**

***V/S***

***H1:-* online shopping does depend on any payment app.**

***Calculation:***

**Pearson's Chi-squared test**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **b** | **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **0** | **0** | **0** | **2** |
| **2** | **37** | **8** | **49** | **30** | **2** |
| **3** | **1** | **1** | **0** | **0** | **0** |
| **4** | **10** | **2** | **15** | **5** | **3** |
| **5** | **41** | **6** | **49** | **29** | **8** |

**data: d1**

**X-squared = 33.8881, df = 16**

**p-value = 0.005625**

**(0.005625 < 0.05)**

**we reject H0 at 5% level of significance**

***Conclusion:-***

**Hence, we conclude that online shopping does depend on any payment app.**

**Large Sample Proportion Test**

**To test whether proportion of Male and female using card are equal or not.**

**Hypothesis**:

**Ho:The proportion of use of ATM card in female is same as male**

**P1=P2 V/S**

**H1: The proportion of use of ATM card in female is not same as male**

**P1≠P2**

**P1: Proportion of Male P2: Proportion of Female**

**Calculation: prop.test(d1)**

**data: d1**

**X-squared = 1.0462, df = 1**

**p-value = 0.3064**

**alternative hypothesis: two.sided 95 percent confidence interval:**

**-0.12203905 0.0356840**

**sample estimates:**

**prop 1 prop 2**

**0.08287293 0.12605042**

**(0.3064 > 0.05)**

***Conclusion:-***

**Hence we accept H0 at 5% level of significance we conclude that male & female using card are same.**

**CONCLUSIONS**

***1) The youngsters of age group 20-25 age are generally prefer online***

***transactions more as they are time saver,easy.***

**2) *We cannot see seasonal variation in online transaction.***

**3) The *minimum people prefer to purchase cloths, electronic***

***equipments online than other things.***

**4) *The online transaction are widely used for shopping.***

**5) *The SBI bank account is mostly use for online transaction.***

**6) *The most of the people use online transaction for time saving.***

**7) *The phone-pay app is mostly used for online payment by people.***

**8) *There is more awareness for use of online transaction in***

***professional people as compare to other.***

**9) *On an average 1000-5000 money is transact per month.***

**10) Profession & online transaction are not independent.**

**11) Online shopping & seasons are independent.**

**12) Online shopping does dependence on any payment app.**

**13) Male & female using card are same.**

**T.Y. B.Sc (2019-20)**

**Project: Statistical Analysis Of Online Transaction**

**QUESTIONNAIRE**

**Name:**

**Age**

**Gender: Male/Female**

**Area: Rural/Urban**

**1.Profession:**

**1) Student 2) Business 3) Employee 4) Other**

**2. Have you over purchased anything online?**

**1) Yes 2) No**

**3. Anybody recommended you to use online transaction?**

**1) Friends 2) Parents 3) Anyother 4) None**

**4. How often you make online transaction?**

**1) Daily 2) Weekly 3) Monthly 4) Sometimes 5) Never**

**5. Do you use debit or credit card for online transaction?**

**1) Yes 2) No**

**6. Which app you use for online payment?**

**1) Phone –Pay 2) Paytm 3) G-Pay 4) BHIM APP 5) Other**

**7. Why you use that particular application?**

**1) Easy To Pay 2) Cashback 3) Discount 4) Offer**

**8. What is main purpose for using the online transaction?**

**1) Shopping 2) Business 3) Education 4) Other**

**9. For which purpose of shopping ,online transaction is most use?**

**1) Jewellery 2) cloths 3) toys 4) electric**

**10. In which season you do online transaction?**

**1) Festival 2) weekends 3) anytime 4) never**

**11. Which application do you use most for shopping?**

**1) Amazon 2) Snapdeal 3) Flipcart 4) Myntra 5) Other**

**12. Money transact per month**

**1) 0-1000 2) 1000-5000 3) 5000-10000 4) 10000 and above**

**13. According to you which method is convenient for payment?**

**1) Cash 2) Using Card 3) Net Banking 4) Cheque**

**14. Which bank do you prefer for online transaction?**

**1) SBI 2)IDBI 3)RBI 4)HDFC**

**15. What are your reason for not using your mobile phone to make payments?**

**1) Improper Knowledge 2) Lack Of Computer Facility**

**3) Internet Connection Problem 4) Not Secure**

**16. For what reason you generally use of online transaction?**

**1) Time Saving 2) Cashback 3) Easy To Use 4) 24\*7 Business Hours**

**17. Rating of online transaction service?**

**1) Excellent 2) Good 3) Poor 4) None**

**18. Are we moving towards online India?**

**1) Yes 2) No**

**19.Tell your bad experience if any, for online transaction?**