A study of the problems in using credit cards of tertiary students in Hong Kong

Wai Yee LEE
Lai Wai NGAN
A Study of the Problems in Using Credit Cards of Tertiary Students in Hong Kong

By

Lee Wai Yee, Wina  1004273
Ngan Lai Wai, Mabel  1051147

Date of Submission
27 May 2002
ACKNOWLEDGEMENTS

This is our pleasure to say thank you to our project instructor, Dr. Yu Zi-you, University Professor of the Department of Management of Lingnan University. We thank very much for her generous help and good advice giving to us throughout the time of conducting this Final Year Project.

We also thank our classmate, Miss Joan Shum who helped us to arrange the interviews with the tertiary students who carry credit card debt.

Special thanks to those helped us in generating the ideas of this research and the survey questions. They had provided us many valuable and useful ideas and information.

Last but not least, we would also like to thank our interviewees for their kindness help so that we can complete this final year project. Their participation facilitates this project with a broader picture.
ABSTRACT

The main objective of this project is to study the problems of credit cards for the tertiary students in Hong Kong. As this is a hot topic nowadays and related to us most, so we conduct this research in order to understand more about this issue. After this project, we understand that the use of credit card on one hand can bring us more convenience; on the other hand, improper use of them may cause financial hazards to us.

We have invited two parties to participate in this project. They are the credit card promoter and the tertiary students. Firstly, we conducted an interview to one credit card promoter. Secondly, we distributed questionnaires to the tertiary students to gather their viewpoints regarding this issue. We also conducted some more deeply interviews to the tertiary students who carry credit card debt.

Besides the primary data collected from the above-mentioned ways, we also obtained some secondary information from books, articles, newspaper and also the World Wide Web.

According to the survey results and the interviews conducted, tertiary students carry more than one credit cards is a very common phenomenon. The most attractive factors that attract them to apply for credit cards is the exemption of annual fee and the welcome gifts. The main problem concerning tertiary students who using credit cards is the probability of carrying high debt. Also, there are may be some security problems during the application process and using of credit cards. To solve the
problems that we found, we suggest that the tertiary students should not make any cash advance and they should also pay more attention on the security measures.

This report also includes some limitations that we have in conducting this research. In order to conduct a better future research, we also give some suggestions for it.
Chapter 1 Introduction

1.1 Origin of Credit Card

Credit card first developed in United States at the 20th Century. However, at that time the credit card can only be used in some specific situation, for example, the General Petroleum Corporation of California (now called the Mobil Oil) issued some cards to their staff and some selected customers, at that time it could be used as a promotional tool. As the result of that card was quite good, many other companies started to use this kind of card, and the atmosphere of using credit card was formed.

Diners’ Club is the first bank that issuing credit cards. In 1950, the Diners’ Club formed and issued their first credit card in 1952. The idea of issuing the card that similar to nowadays credit cards was come from Frank McNamara and Ralph Schneider. They prepared an arrangement that they held some hotel and restaurant accounts in New York on a monthly basis to their friends and business colleagues. The accounts were based on the production of the Diners’ Club card.

American Express contributed very much in the development of the credit card business. In 1959, American Express entered the credit card industry and expanded in a fast speed. In 1966, The BankAmericard Service Corporation undertook the licensing of its schemes for a fee to other banks, it maintain a very tight control over the issuing of its cards. And in 1977, they expanded their operations to overseas and changed their name to VISA.

In order to face the competition from the BankAmericard Service Corporation, four banks California formed the California Bank Card Association. The four banks are Wells Fargo Bank, United California Bank, Bank of California and Crocker National Bank. The introduced the plan of Master Charge, and changed their name to Master Card in 1978.
As the competition in credit card market was very keen in the U.S., many of the banks thought that it is not profitable and left the market. The credit card issuers that stayed in the market started to develop some new functions of the credit cards, so as to make it more elastic, and the new development turned the credit card business into a new century.

### 1.2 Credit Card Market in Hong Kong

Credit Card is widely use in Hong Kong, you can use your credit cards in many places, such as restaurants, book stores, cinemas and many other shops. According to some surveys, there are 3 million citizens in Hong Kong that can apply credit card, and the total number of credit cards is about 9.5 million that means that each Hong Kong citizen owns 3 credit cards averagely.

The Bank of East Asia issued the first Hong Kong dollars credit card in 1975. The card is called the East Asia BankAmericard/VISA, and it was launched jointly with the bank of America.

Up to 2001, there are five banks dominate the credit card market in Hong Kong. They are, HSBC, Hang Seng Bank, Standard and Chartered bank, Bank of East Asia, and Dah Sing bank. Standard and Chartered Bank including Manhattan card issued most of the Hong Kong credit cards. The total number of cards they issued is 2.3 million, HSBC followed and have 1.75 million, then is Hang Seng Bank have0.93million, then are Dah Sing Bank and Bank of East Asia, they got 0.8 million and 0.65 million respectively.

As the competition is very keen now, most of the banks promote their credit cards in a number of ways:
To attract customers, most banks are providing many discounts and gifts for applicants. The example of providing discount is HSBC credit cards holders can enjoy 15% off in the Interlink restaurant. The example of providing gifts is the welcome gift of Cash VISA Card issued by Bank of East Asia is a stylish vacuum cleaner.

To attract customers further, banks issue some co-branded cards. For examples, the United Mileage Plus Visa Gold Card is the co-branded card with the United Mileage that issued by the HSBC and WE RED MasterCard is the co-branded card with the California Red Karaoke Box issued by the Dah Sing Bank.

Also, some of the banks loose the application requirement that applicants no need to provide certificate of income. This lead to a serious problem that the banks abuse to issue credit cards and card holder addict to use credit cards.

1.3 Credit Card Payment Processing

There is a specific processing of information before the transaction item of credit cards is showed on the monthly statement. This processing work is done by the Hong Kong Interbank Clearing Limited, who acts as the information centre to provide transaction details to banks.

Once customers use credit card, the transaction will be recorded in the transaction legers. The ledgers will then be sent to the Merchant’s Bank. After receiving the ledgers, the transaction included will be processed at Clearing House, called Hong Kong Interbank Clearing Ltd., for interbank settlement. When credit card issuing bank will print the transaction on customers’ monthly statement. Cardholders have to pay for the transaction before payment due date.
1.4 Objectives and Hypothesis

1.4.1 Objectives

**General objective:**

This research aims at studying the problems of credit cards for the tertiary students in Hong Kong.

**Specific Objectives:**

1. To find out the credit card usage in the tertiary student society, and the consumption pattern changes.

2. To identify the problems raised by tertiary students using credit cards, and show that those problems may cause financial hazards to them.

3. To give some recommendations for the problems arising out of improper use of credit cards.

1.4.2 Underlying Hypotheses

Hypotheses are important element in every research study, and in this section the hypotheses behind the survey questions will be stated. And the seven hypotheses of this research are listed below:

1. Most of the university students have credit cards because banks will accept their application easily.
2. When applying for credit cards, university students did not concern about the actual usefulness and the consequences of using credit cards.

3. University students did not consider their own repayment power. Therefore, once they have their credit cards used, their monthly expenses must be increased.

4. There is a common atmosphere that owing credit card debt is usual among university students. This causes university students not to clear their credit card account balance monthly.

5. University students do not have self-control on their consumption and their consumption is incurred mainly from shopping.

6. University student credit card holders are not clear about the bank charges and interest rates of their credit cards.

7. Because of the convenience of using credit card, holders will have cash overdraft without knowing the interest rates and service charges of such transaction. This greatly increases their possibility to get into financial hazard.

1.5 Structure of the Report

Chapter 1

In Chapter 1, we introduce the origin of the credit card, Hong Kong credit market to the readers. We also introduce the payment process of the credit card in Hong Kong. Then we state our objectives of conducting this research and the underlying hypotheses of the
questionnaires designed for the tertiary students. The last part of chapter 1 includes the structure of this report in this chapter.

Chapter 2

Chapter 2 includes the introduction of credit cards for tertiary student, the requirement for application, the application processes, the terms and conditions for credit card applications, and the benefits to credit cardholders.

Chapter 3

Chapter 3 is the methodology of conducting our research. It includes a brief introduction of our primary and secondary data. For the primary data, the purpose of the data, the designs of questionnaires and the method to gather the information were briefly introduced. We also state how we analyze the survey. For secondary data, we state the source of them.

Chapter 4

Chapter 4 is the findings of our research. This chapter’s main concern is showing the results of the survey to the tertiary student.

Chapter 5

In chapter 5, we will raise out the existing problems concerning the credit cards for tertiary students. The problems had been found through the interviews with credit card promoter, tertiary students who carry credit card debts and other real cases.
Chapter 6

Chapter 6 is the conclusion part of this project. In this part, we summarized this project. The comparison of the hypotheses and the survey result is also stated in this chapter.

Chapter 7

Chapter 7 is the recommendations to the problems that we observed from the survey and interviews.

Chapter 8

Chapter 8 is the limitations and suggestions. In this part we state the limitations we have in conducting this project and provide some suggestions for future research.
Chapter 2
Credit Cards for Tertiary Students in Hong Kong
(Literature Review)
Chapter 2 Credit Cards for Tertiary Students in Hong Kong (Literature Review)

2.1 Credit Cards for Tertiary Students

Tertiary student credit card market is a large target market for the banks, there are about 0.13 million tertiary students in the 8 Universities and the 9 Hong Kong Institute of Vocational Education. As the banks believe that the tertiary students can earn many and become their valuable customers, they are willing to issue credit cards to them, although they only have low income now. The Hang Seng bank and Bank of East Asia issued some University Co-brand Cards, for examples, the Lingnan University Card, the University of Hong Kong Card and the Hong Kong Polytechnic University Card issued by the Bank of East Asia; And the Chinese University of Hong Kong Credit Card, the City University of Hong Kong Credit Card issued etc. by the Hang Seng Bank. The above two banks are just some of the banks that issue credit cards to the tertiary students.

Credit Card is widely used in the society of tertiary students. According to the survey conducted by the Democratic Party in October 2000 concerning the use of credit cards of university students, 87% of the respondents have credit cards. The average number of credit cards of each student is 2 and there are about 17% of them have more than 4 credit cards.

As seen from the survey conducted by the Democratic Parties, there is a common phenomenon that tertiary student are using credit cards, and averagely they have 2 cards. With the credit cards they may enjoy the convenient of using credit cards and to some extent they may overuse the cards and increase their monthly expense sharply. So we believed that more concern should be given to this issue.
2.2 Requirements for Application

In Hong Kong, most of the banks have issued cards that tertiary students can apply without income proof. To have this privilege, there are a few general requirements for applications. First, you must be a full-time tertiary student in Hong Kong. Second, you must be a permanent Hong Kong resident. Last, you must be aged 18 or above.

Hang Seng Bank has even issued its own “Hang Seng U-Smart Credit Cards” which is specific for tertiary students in The University of Hong Kong, The Hong Kong University of Science and Technology, The Hong Kong Polytechnic University, Lingnan University, Shue Yan College and The Hong Kong Institute of Education.

Also, each university or college has co-branded with one bank to issue its own credit card. These credit cards are exclusive for the application of the University/Institute's students. For students of Lingnan University, they have the “Bank of East Asia, Lingnan University Credit Card”.

The requirements are very simple and almost every tertiary student can apply for a card, no matter they have income or not. The overall repayment power of them is in doubt. This is one of the reasons that most of the students have credit cards and cause the problems associated with using the cards.
2.3 Application Process

The application process of credit cards for tertiary students is simple.

First, you have to fill in the application form providing basic information to the bank. Personal data states both your English and Chinese name, date of birth, Hong Kong Identity Card number, etc. Accommodation states where you live, the type of the resident and how long you live in there. University/college information states the name of your university/college, your major study, year of study you are now under and year of graduation. Parents’ information states the name of your parents, their job, and telephone number of the company they work. Bank/credit reference provides the information of other credit cards the applicants have. Preference of language used in ATM services, mail preference, location of card collection and autopay of the outstanding balance of the account are also required to choose. The last and the most important, the applicant has to give a signature on the form for future use of the card.

Second, you have to submit the form to the bank. At the same time, you have to hand in required document which include copy of HK Identity Card, copy of student card /proof of student registration with tuition fee receipt and current residential proof such as credit card statement, mobile phone statement

Then the bank will commit the approval process within 2-3 weeks. If the application is approved, the card will be issued to the applicants.

The application process of the student credit cards is very simple as stated above, they do not have to provide income proof After getting the cards student can have a credit limit between HK$10000-HK$15000 per cards, they can use the card to pay first and pay back to the credit card companies or bank later, and they may accumulate a big debt.
According to the survey conducted by the Democratic Party, about 17% of the respondents stated that they would only pay the minimum amount of their debt each month.

As the application process is very simple, and student may accumulate a large debt, and the problems of these are becoming more and more serious, we believed that there is a need to conduct a research to find out the influence on the tertiary students’ consumption pattern after using credit cards. This can also help us to find out the problems associated with owing credit card debts, so that we can give some recommendations to the problems.

2.4 Terms and Conditions of Credit Card Application

There are some common terms and conditions in the application forms of different banks. We have take references of nine application forms for tertiary students for different banks. They are American Express, Manhattan id, Hang Seng, AIG, Compass visa, bank of China In Town, Orix, Citibank, and AEON.

Fees, charges, and interest rate

Every card has some fees, charges and interest rate, and the following are some of them that are stated in the terms and condition part.

1. The Annualized Percentage Rate of interest (APR) is always being stated in the terms and conditions. There are two APRs they are APRs for retail purchase and cash advance.

2. The Annual fee for the card is also stated in the terms and conditions, for example, the annual fee for Compass visa is HK$220.
3. The calculation of over-limit charge is stated in the terms and conditions. According to the terms and condition, every cardholder has a credit limited. Over-limit charge will be charged if the cardholder has exceed the limit.

4. The finance charges calculations are included in the part concerning finance charges in the terms and conditions.

5. The amount of every month minimum payment is stated in terms and conditions, usually it is HK$50 or 5% of the current balance, the highest one will be chosen in the calculation.

6. The amount of late payment is also stated, usually is 5% of the current balance or HK$50 (choose the highest one), no more than HK$120 will be charged.

7. For the overseas charge, the calculation of exchange rate is stated in the terms and conditions.

8. A dishonored payment is a payment charge to the cardholder if the company found that any cheque, direct debit or other payment instrument from or for the cardholder is not honored in full.

9. The enforcement expense is the expense incurred for the action of using third-party collection company to collect the debt. The cardholder is liable for this expense, if third-party collection company is incurred in collecting his/her debt.

10. According to the terms and condition, if the card is lost, stolen or being misused, the cardholder should notify the company at once, otherwise an unauthorized charge will be charged. But the criterion is that the cardholder can prove that he/she is not benefit from the incident.
11. Under the terms of notice of AE card, the company will send the notice and statement to the billing address. If the billing address is located outside the card-issuing place, a supplementary annual account fee may be charged.

**Personal data**

Cardholder had provided some of their personal information to the company when they applied the cards, and the following terms and conditions are concerning the personal data.

1. The terms and conditions also assumed that the cardholders understand the provisions of the Personal Data (Privacy) Ordinance and the Code of Practice on Consumer Credit Data approved and issued under the Ordinance.

2. Under the terms privacy ordinance notice and consent, the company has the right to disclose the cardholder’s information for some specific purpose stated in the part of terms and conditions.

3. According to terms of agreement of taking care the PIN and good care of card, cardholder should not disclose their person identity number (PIN) and give their card to other people.

**Liability of cardholders and card issuing company**

The following terms and conditions are related to the liabilities of cardholders and card issuing company.
1. The terms of liability charges state clearly that the cardholder is liable for what charges and to what extend.

2. Under the terms of liability of supplementary card member’s debts, the principal cardholder is liable for all the debts and liabilities of the card account includes those of the supplementary card member. However, the supplementary card member is liable only for his/her own debts and liabilities of the card account.

3. Under the term of the liability, the liability of the company is stated if the company cause any lost to the cardholder is stated clearly. For example, the company is liable for the amount of lost.

4. Under the terms of gross negligence, the types of gross negligence are stated. The cardholder fail to take precautions to the requirements of the terms and conditions is one types of gross negligence.

5. Under the terms of AIG card, the cardholder should indemnify the company’s costs of recovery and enforcement of the terms and conditions. The amount collected is reasonable according to the terms

Cancellation and Termination

The terms and conditions also stated the procedures of cancellation and termination, and the followings are some of those related to cancellation and termination.

1. Under the terms of authorization and suspension, the bank can refuse the payment and suspend the card without giving notice to the cardholder.
2. The detail of card cancellation is stated clearly under the term of cancellation.

3. Under the term of termination, the bank reserves the right to terminate the services to the cardholder without any prior notice.

4. Under the terms of ATM services, the cardholder should use the card bound by the ATM terms and condition and in force it from time to time.

**Changes of terms and conditions**

Sometimes, changes may be made to the terms and conditions, and the followings are some of the terms and conditions related to the change.

1. Under the terms of changing terms and conditions, the company has all right to change the content but they have to inform the cardholders. If the cardholder continues to use that card, this means the cardholder accept the change.

2. What currency the cardholder should and how to pay are stated in the terms and conditions. According to the terms and conditions, the bank accepts late payment does not mean the bank agree to changes the content of this.

**Renewal of card**

The card will be expired. After the expiration, the card issuing company will renew the cards. The following term is concerning the renewal of the cards.

1. Under the terms of renewal of cards, the company will send the new card to the cardholder, and the cardholder assumed to accept and agree to pay the annual fee if
the company does not receive a notification of canceling card.

Others

The followings are some other terms and conditions that we summarized from the selected 9 cards.

1. The terms and conditions also told what the cardholder should do after receiving the card and everything they should play attention during the period of owning the card.

2. The terms of Statement introduce what are being included in the statement that the cardholder will receive every month. The current balance and minimum payment (etc) are stated in the statement.

3. If you found any problems regarding the bills and purchases, you should notify the bank no later than 60 days. It is not the responsibility of the bank, if the merchants do not accept the applicants’ cards.

4. The cardholder should follow the exchange control, tax and legal requirements stated in the terms and conditions.

5. Under the terms of AE card, the cardholder cannot use the Card to obtain cash or travelers cheques from Automated Teller Machines unless you are enrolled in our programs covering these facilities.

6. Under the terms of AE card, the company will pay the regular or installment payments first, and the cardholder should pay it back to the company.
The above paragraphs are just some common examples concerning the terms and conditions. They are very important that we need to follow them, otherwise we may suffer lost, for example, if you do not understand about the calculation of the interest of cash advances, you may under-estimated it, and finally find out you have to pay high interest. However according to the news clippings, most of the student concern about the welcome gift only. And the problems of this are becoming more and more serious. Some measures must be used to raise the students’ concerns regarding the terms and conditions.

2.5 Benefits for the Cardholders

After successfully apply for the credit cards, tertiary student cardholder share common benefits with ordinary cardholders. There are permanent or regular retail discount for specific shops. To attract tertiary students to apply, those shops usually sell young people products, e.g. fashion, toys, food.

Most of the banks will have welcome gift to their successful tertiary student applicants. The Welcome Gift will appear as many forms such as CDs, dolls, and computer accessories. Some banks require the cardholder to use their credit cards for consumption up to an amount of consumption in a specific period when the card is issued.

Also, most of the bank will waive the annual fee for tertiary students until their graduation. For co-branded credit cards, each time when students use the credit card for retail purchase, the Bank will contribute a specific percentage of the consumption to the University/Institutions for future development or students’ activities.

No doubt, apply and use credit cards can enjoy many benefits, however, if students only have concerns on these benefits and apply so many cards, it might lead them to consume more and do not think of their own repayment power and accumulate large debts. Because of this reason, there is a need to conduct a survey to find out the real situation concerning this problem and give some recommendations.
Chapter 3
Methodology
Chapter 3 Methodology

3.1 Data Collection

As mentioned in the previous section, the aim of this research is to study the problems of credit cards for the tertiary students in Hong Kong. We gathered the information from two sectors. They are credit card promoter and the tertiary students. One interview is conducted to the credit card promoter and survey and interviews are conducted to the tertiary students.

3.1.1 Interview 1 (Interview with Credit Card Promoter)

Purpose

The purpose of conducting this interview is to gather some information on the credit card promoter’s training, salary counting method and their observations regarding the factors that attract tertiary students to apply for the cards.

Interview Questions Design

We decide a set of open-ended questions for the interview with the credit cards promoter. We have totally asked the promoter 7 questions, the questions include the responsibilities of the promoter, their pay, and some information related to tertiary student credit cards application.

Method

We had found 1 credit card promoters from the Citibank and conduct an interview with her. After the interview we had concluded the interview and used it in our analysis.
3.1.2 Interview 2 (Interview with Tertiary Student that Carry Credit Card Debt)

Purpose

The purposes of interviewing students who carry credit card debt are to find out the factors that caused them to carry such debt, and how do they pay for debt and what changes had happened after owing such debt.

Interview Questions Design

We decide some fixed-alternative questions and some open-ended questions for the interview with the tertiary students that owe credit card debt. We have totally asked the students 21 questions, the questions include the background of the students, the information of factors that caused them to owe credit card debt, payment to the debt and changes after owing such that.

Method

We had found 2 tertiary students who carry credit card debt and conduct an interview with them. After the interview we had concluded the interview and used it in our analysis.

3.1.3 Survey 1(A Survey to Hong Kong Tertiary Students)

Purpose

The purpose of this survey is to gather the information from the tertiary students. The information include, number of cards they have and use, factors affecting them to apply for a credit cards, the changes in consumption pattern, their understanding on the cards’ fees that they are using.
**Questionnaires Design**

We used fixed-alternative questions, attitude rating scale questions and open-ended questions in the questionnaires. There are 22 questions in the questionnaire, the questions include the background of the students, number of cards they have and use, factors affecting them to apply for a credit card, the changes in consumption pattern, their understanding on the cards’ fees that they are using.

**Method**

We had distribute 300 questionnaires to the tertiary students, after 3 months, we received 250 questionnaires and 243 of which are valid. And after received the questionnaires, we used the Microsoft Excel to conduct the data analysis.

**3.2 Secondary Data**

We had used several kinds of secondary data in this research, and the sources of the data are listed below:

1. Government Statistics
2. Newspapers
3. Newspapers searched on the internet
4. Reference Books in Library
5. Materials from Hong Kong Monetary Authority
6. Leaflets from the banks
7. Magazines
8. Banks’ Websites
9. Information from the websites
3.3 Statistic Analysis

We had used three tools to analyze the data, they are: Microsoft Excel, Descriptive Statistic and Hypothesis Testing.

We put all the data into Microsoft Excel, and then use it for most of the mathematical analysis.

We used the Descriptive Statistic and Hypothesis Testing in analyzing the attractiveness of the factors that attract the students to apply for the cards.
Chapter 4
Findings
Chapter 4 Findings

4.1 Survey Results from the Tertiary Students

Question 1

Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>109</td>
</tr>
<tr>
<td>Female</td>
<td>134</td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
</tr>
</tbody>
</table>

The sample of our survey is mainly female students with 55% of total respondents of 243 while male students with 45%.
Question 2

Year of Study

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>74</td>
</tr>
<tr>
<td>Year 2</td>
<td>82</td>
</tr>
<tr>
<td>Year 3</td>
<td>71</td>
</tr>
<tr>
<td>Year 4</td>
<td>7</td>
</tr>
<tr>
<td>Master Year 1</td>
<td>7</td>
</tr>
<tr>
<td>Master Year 2</td>
<td>1</td>
</tr>
<tr>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
</tr>
</tbody>
</table>

Most of the students in the sample, with a total of 95%, are studying in degree/high diploma. There are 31% of respondents are year 1 students, 35% are year 2 students and 29% are year 3 students.
Question 3

Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20</td>
<td>106</td>
</tr>
<tr>
<td>21-23</td>
<td>126</td>
</tr>
<tr>
<td>24-26</td>
<td>9</td>
</tr>
<tr>
<td>27 or above</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>242</strong></td>
</tr>
</tbody>
</table>

Most of the respondents are aged 21-23 which is relative to the year of study mentioned in Question 2.
**Question 4**

What is (are) the main source(s) of your monthly income? (Can choose more than one option)

<table>
<thead>
<tr>
<th>Sources of Income</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pocket Money</td>
<td>87</td>
</tr>
<tr>
<td>Pocket Money + Grant &amp; Loan</td>
<td>13</td>
</tr>
<tr>
<td>Pocket Money + Grant &amp; Loan + Part-time Jobs</td>
<td>9</td>
</tr>
<tr>
<td>Pocket Money + Grant &amp; Loan + Savings</td>
<td>1</td>
</tr>
<tr>
<td>Pocket Money + Part-time Jobs</td>
<td>51</td>
</tr>
<tr>
<td>Pocket Money + Part-time Jobs + Gambling</td>
<td>1</td>
</tr>
<tr>
<td>Pocket Money + Savings</td>
<td>1</td>
</tr>
<tr>
<td>Pocket Money + Full-time Jobs</td>
<td>1</td>
</tr>
<tr>
<td>Grant &amp; Loan</td>
<td>26</td>
</tr>
<tr>
<td>Grant &amp; Loan + Part-time Jobs</td>
<td>16</td>
</tr>
<tr>
<td>Grant &amp; Loan + Full-time Jobs</td>
<td>2</td>
</tr>
<tr>
<td>Part-time Jobs</td>
<td>31</td>
</tr>
<tr>
<td>Savings</td>
<td>1</td>
</tr>
<tr>
<td>Full-time Jobs</td>
<td>1</td>
</tr>
<tr>
<td>Gambling</td>
<td>1</td>
</tr>
<tr>
<td>Scholarship</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>
The answer given by the respondents shows that they have different sources of income. Income of most of the respondents (78%) is come from pocket money given by family members. And the income of 43% of the respondents’ even al depends on their pocket money. Also, there are 37% of the respondents who have part-time jobs.
Question 5

By adding all of your income sources, how much is your monthly income?

<table>
<thead>
<tr>
<th>Income Interval</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $1200</td>
<td>66</td>
</tr>
<tr>
<td>$1201 - $2400</td>
<td>104</td>
</tr>
<tr>
<td>$2401 - $3600</td>
<td>36</td>
</tr>
<tr>
<td>$3601 - $4800</td>
<td>15</td>
</tr>
<tr>
<td>$4801 - $6000</td>
<td>5</td>
</tr>
<tr>
<td>$6000 or above</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>240</strong></td>
</tr>
</tbody>
</table>

Average Monthly Income

From the pie chart, we can see that most of our respondents are not in high-income group. There are 71% of respondents are in the first two income groups.
**Question 6**

**How many credit cards do you own?**

<table>
<thead>
<tr>
<th>No. of Credit Cards Applied</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td>25</td>
</tr>
<tr>
<td>One</td>
<td>71</td>
</tr>
<tr>
<td>Two</td>
<td>50</td>
</tr>
<tr>
<td>Three</td>
<td>50</td>
</tr>
<tr>
<td>Four</td>
<td>21</td>
</tr>
<tr>
<td>Five</td>
<td>20</td>
</tr>
<tr>
<td>Six</td>
<td>4</td>
</tr>
<tr>
<td>Seven</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>242</td>
</tr>
</tbody>
</table>

90% of the respondents have applied for credit card. Most of these cardholders have one to three credit cards.
Question 7

How many credit cards you are actually using?

<table>
<thead>
<tr>
<th>No. of Credit Cards Actually Using</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td>57</td>
</tr>
<tr>
<td>One</td>
<td>116</td>
</tr>
<tr>
<td>Two</td>
<td>56</td>
</tr>
<tr>
<td>Three</td>
<td>8</td>
</tr>
<tr>
<td>Four</td>
<td>2</td>
</tr>
<tr>
<td>Five</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>241</strong></td>
</tr>
</tbody>
</table>

Majority of the sample only uses one credit card for daily use. 24% of the respondents actually do not use any credit card at all.
Question 8

What is the reason for you to have credit card? (Please choose one that you think is the most important)

<table>
<thead>
<tr>
<th>Reasons for Having Credit Cards</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience</td>
<td>162</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>10</td>
</tr>
<tr>
<td>Friends Do</td>
<td>11</td>
</tr>
<tr>
<td>Identity</td>
<td>1</td>
</tr>
<tr>
<td>Presents</td>
<td>22</td>
</tr>
<tr>
<td>Bonus Point Scheme</td>
<td>1</td>
</tr>
<tr>
<td>Promotion</td>
<td>1</td>
</tr>
<tr>
<td>Shopping Discounts</td>
<td>6</td>
</tr>
<tr>
<td>Exemption of Annual Fee</td>
<td>1</td>
</tr>
<tr>
<td>Higher Interest in Saving A/C</td>
<td>1</td>
</tr>
<tr>
<td>Apply with EPS card</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>218</td>
</tr>
</tbody>
</table>
The major reason for applying credit card is its convenience provided. Also, presents given are also a reason that the sample will consider having credit card.
Question 9

What factor(s) attracts you to apply for the credit card issuer’s credit card? (Please circle out 1, 2, 3, 4 or 5; 1 is the most important; 5 is the least important)

Q9-1 Gifts, Bonus Point Scheme, Discounts

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>88</td>
</tr>
<tr>
<td>Important</td>
<td>58</td>
</tr>
<tr>
<td>Neutral</td>
<td>37</td>
</tr>
<tr>
<td>Unimportant</td>
<td>26</td>
</tr>
<tr>
<td>Very important</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>2.38</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>1.95</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.40</td>
</tr>
</tbody>
</table>
37% of the respondents think that gifts, discounts and bonus point scheme offered by the credit card issuer is very important. This is consistent with one of our hypotheses that tertiary students apply credit card depends much on the benefits they can get from application.

Q9-2 Credibility of the issuing bank

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>57</td>
</tr>
<tr>
<td>Important</td>
<td>47</td>
</tr>
<tr>
<td>Neutral</td>
<td>73</td>
</tr>
<tr>
<td>Unimportant</td>
<td>30</td>
</tr>
<tr>
<td>Very important</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>2.70</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>1.71</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.31</td>
</tr>
</tbody>
</table>
Less than half of (44%) the respondents think that the credibility of the issuer is important.

**Q9-3 Outlook of the card**

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>27</td>
</tr>
<tr>
<td>Important</td>
<td>60</td>
</tr>
<tr>
<td>Neutral</td>
<td>63</td>
</tr>
<tr>
<td>Unimportant</td>
<td>47</td>
</tr>
<tr>
<td>Very important</td>
<td>37</td>
</tr>
<tr>
<td>N/A</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td><strong>3.03</strong></td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td><strong>1.56</strong></td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td><strong>1.25</strong></td>
</tr>
</tbody>
</table>
The level of importance of outlook of the card is evenly given by the respondents. It shows that they have different opinion the importance.

**Q9-4 Period of exemption of annual fee**

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>120</td>
</tr>
<tr>
<td>Important</td>
<td>46</td>
</tr>
<tr>
<td>Neutral</td>
<td>17</td>
</tr>
<tr>
<td>Unimportant</td>
<td>13</td>
</tr>
<tr>
<td>Very important</td>
<td>44</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>2.23</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>2.39</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.55</td>
</tr>
</tbody>
</table>
The respondents show their concern on the period of exemption of annual fee by stating this factor is very important.

**Q9-5 Co-brand card with university**

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>35</td>
</tr>
<tr>
<td>Important</td>
<td>38</td>
</tr>
<tr>
<td>Neutral</td>
<td>81</td>
</tr>
<tr>
<td>Unimportant</td>
<td>45</td>
</tr>
<tr>
<td>Very unimportant</td>
<td>39</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>3.06</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>1.60</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.26</td>
</tr>
</tbody>
</table>
31% of the respondents think that the contribution to the university given by the credit card issuer is important. It shows that they will consider other factors instead of self interests.

Q9-6 Other functions (e.g. Auto transfer to Octopus card)

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>25</td>
</tr>
<tr>
<td>Important</td>
<td>35</td>
</tr>
<tr>
<td>Neutral</td>
<td>61</td>
</tr>
<tr>
<td>Unimportant</td>
<td>60</td>
</tr>
<tr>
<td>Very important</td>
<td>51</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>3.33</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>1.62</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.27</td>
</tr>
</tbody>
</table>
48% of the respondents think the other functions of the credit card do not affect their consideration on applying a particular credit card.

**Q9-7 Friends’ recommendation**

<table>
<thead>
<tr>
<th>Level of importance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>23</td>
</tr>
<tr>
<td>Important</td>
<td>25</td>
</tr>
<tr>
<td>Neutral</td>
<td>55</td>
</tr>
<tr>
<td>Unimportant</td>
<td>57</td>
</tr>
<tr>
<td>Very important</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>3.52</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>1.67</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.29</td>
</tr>
</tbody>
</table>
The respondents show that friends’ recommendation is unimportant. There are even 30% of the respondents think that this factor is very unimportant.

**Hypothesis Testing for Question 9**

In this section we will conduct a hypothesis testing for Question 9: What factors can attract you when choosing credits cards provided by different banks or other financial institutions?

We will use two tails hypothesis-testing method to test the interval difference in the two means: small samples and variance, unknown and independent variables.

In our test, means and variances are the two variables that we used. If the t* values are fall outside the boundary of ± t at the statistic level a=0.1, the null hypothesis will be rejected otherwise will be accepted. If it is rejected, it means that the two interval are
significant different at the statistic level, and vice versa.

The following formula will be used in this test.

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{s_1(n_1-1) + s_2(n_2-1)} * \left(\frac{1}{n_1} + \frac{1}{n_2}\right) \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

Hypothesis Testing for Question 9 (Overall)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>243</td>
<td>2.38</td>
<td>1.95</td>
</tr>
<tr>
<td>9-2</td>
<td>243</td>
<td>2.7</td>
<td>1.71</td>
</tr>
<tr>
<td>9-3</td>
<td>243</td>
<td>3.03</td>
<td>1.56</td>
</tr>
<tr>
<td>9-4</td>
<td>243</td>
<td>2.23</td>
<td>2.39</td>
</tr>
<tr>
<td>9-5</td>
<td>243</td>
<td>3.06</td>
<td>1.60</td>
</tr>
<tr>
<td>9-6</td>
<td>243</td>
<td>3.33</td>
<td>1.62</td>
</tr>
<tr>
<td>9-7</td>
<td>243</td>
<td>3.52</td>
<td>1.67</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.286 or greater than +1.286
1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   \[ H_0: \mu_4 - \mu_1 = 0 \text{ (reject)} \]
   \[ H_a: \mu_4 - \mu_1 \neq 0 \]

   \[ t^* = \frac{2.23 - 2.38}{\sqrt{\frac{2.39(243 - 1) + 1.95(243 - 1)}{243 + 243 - 2}} * \sqrt{\frac{1}{243} + \frac{1}{243}}} \]
   \[ = \frac{-0.15}{1.473 * 0.09} \]
   \[ = \frac{-0.15}{0.133} \]
   \[ = -1.128 \]

   As \( t^* = -1.128 \), which is within the interval of \( \pm 1.286 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a=0.1 \).

   This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important in respondents’ mind.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

   \[ H_0: \mu_1 - \mu_2 = 0 \text{ (reject)} \]
   \[ H_a: \mu_1 - \mu_2 \neq 0 \]
As \( t^* = -2.63 \), which is outside the interval of \( \pm 1.286 \), we can conclude that we reject \( H_0 \). i.e. \( \mu_1 \) and \( \mu_2 \) are significant different at the statistic level \( a = 0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) is more important than credibility of the issuing bank (9-2) in the respondents’ mind.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Outlook of the card (9-3)

   \[
   \begin{align*}
   \text{Ho: } & \quad \mu_2 - \mu_3 = 0 \text{ (reject)} \\
   \text{Ha: } & \quad \mu_2 - \mu_3 \neq 0
   \end{align*}
   \]

   \[
   t^* = \frac{2.7 - 3.03}{\sqrt{\frac{1.71(243 - 1) + 1.56(243 - 1)}{243 + 243 - 2}} \times \frac{1}{243 + 1}} = \frac{-0.33}{1.279 \times 0.09} = \frac{-0.32}{0.115} = -2.87
   \]
As $t^*=-2.87$, which is outside the interval of $\pm 1.286$, we can conclude that we reject $H_0$ i.e. $\mu_2$ and $\mu_3$ are significant different at the statistic level $a=0.1$.

This means that credibility of the issuing bank (9-2) is more important that outlook of the card (9-3) in the respondents’ mind.

4. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Co-brand card with university (9-5)

   $H_0$: $\mu_3 - \mu_5 = 0$ (reject)
   $H_a$: $\mu_3 - \mu_5 \not= 0$

   $t^* = \frac{3.03 - 3.06}{\sqrt{\frac{1.56(243 - 1) + 1.6(243 - 1)}{243 + 243 - 2} \times \frac{1}{243} + \frac{1}{243}}} = -0.03$

   $= \frac{1.257 \times 0.09}{0.113} = -0.265$

As $t^*=-0.265$, which is within the interval of $\pm 1.286$, we can conclude that we accept $H_0$ i.e. $\mu_3$ and $\mu_5$ have no difference at the statistic level $a=0.1$.

This means that outlook of the card (9-3) and co-brand card with university (9-5) are the same important in the respondents’ mind.
5. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Other Functions (9-6)

   \[ \text{Ho: } \mu_5 - \mu_6 = 0 \text{ (reject)} \]

   \[ \text{Ha: } \mu_5 - \mu_6 \neq 0 \]

   \[
   t^* = \frac{3.06 - 3.33}{\sqrt{\frac{1.6(243 - 1) + 1.62(243 - 1)}{243 + 243 - 2}} \cdot \sqrt{\frac{1}{243} + \frac{1}{243}}} \\
   = \frac{-0.27}{1.269 \times 0.09} \\
   = \frac{-0.27}{0.114} \\
   = -2.368
   \]

   As \( t^* = -2.368 \), which is outside the interval of \( \pm 1.286 \), we can conclude that we reject \( \text{Ho} \)
   i.e. \( \mu_5 \) and \( \mu_6 \) are significant different at the statistic level \( a=0.1 \).

   This means that co-brand card with university (9-5) is more important than other functions (9-6) in the respondents’ mind.

6. The following two factors will be tested:
   - Other Functions (e.g. Add value to Octopus automatically) (9-6)
   - Friends’ recommendations (9-7)

   \[ \text{Ho: } \mu_6 - \mu_7 = 0 \text{ (reject)} \]

   \[ \text{Ha: } \mu_6 - \mu_7 \neq 0 \]
\[ t^* = \frac{3.33 - 3.52}{\sqrt{\frac{1.62(243 - 1) + 1.67(243 - 1)}{243 + 243 - 2}} \times \sqrt{\frac{1}{243} + \frac{1}{243}}} \]
\[ = \frac{-0.19}{1.283 \times 0.09} \]
\[ = \frac{-0.19}{0.115} \]
\[ = -1.652 \]

As \( t^* = -1.652 \), which is outside the interval of ±1.286, we can conclude that we reject the Ho i.e. \( \mu_5 \) and \( \mu_6 \) are significant different at the statistic level \( a = 0.1 \).

This means that other functions (9-6) is more important than friends’ recommendations (9-7) in the respondents’ mind.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

- **Most Attractive:**
  - Period of exemption of annual fee (9-4)
  - Souvenir given, bonus point scheme, shopping discount (9-1)

- **Next Attractive:**
  - Credibility of the issuing bank (9-2)
  - Outlook of the card (9-3)
  - Co-brand card with university (9-5)

- **Least Attractive:**
  - Other Functions (9-6)
  - Friends’ recommendations (9-7)
We have also divided the whole sample into different groups to conduct a deeply analysis, the groups are:

- Income Group 1: $0-$1200
- Income Group 2: $1201-$2400
- Income Group 3: $2401-$3600
- Income Group 4: $3601-$4800
- Income Group 5: $4801-$6000
- Income Group 6: $6000 and over
- Male
- Female
- Year 1
- Year 2
- Year 3
- Year 4
- Master Student Year 1
A. Hypothesis Testing for Question 9 (Income Group 1)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>66</td>
<td>2.25</td>
<td>1.88</td>
</tr>
<tr>
<td>9-2</td>
<td>66</td>
<td>2.64</td>
<td>1.98</td>
</tr>
<tr>
<td>9-3</td>
<td>66</td>
<td>2.86</td>
<td>1.84</td>
</tr>
<tr>
<td>9-4</td>
<td>66</td>
<td>2.14</td>
<td>2.12</td>
</tr>
<tr>
<td>9-5</td>
<td>66</td>
<td>3.05</td>
<td>1.92</td>
</tr>
<tr>
<td>9-6</td>
<td>66</td>
<td>3</td>
<td>1.83</td>
</tr>
<tr>
<td>9-7</td>
<td>66</td>
<td>3.38</td>
<td>1.74</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2938 or greater than +1.2938

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{s_1(n_1-1) + s_2(n_2-1)^{\frac{1}{2}} * \frac{1}{\sqrt{n_1}} + \frac{1}{\sqrt{n_2}}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \( \mu_4 - \mu_1 = 0 \) (reject)

   Ha: \( \mu_4 - \mu_1 \neq 0 \)
t* = \frac{2.14 - 2.25}{\sqrt{\frac{2.12(66 - 1) + 2.06(66 - 1)}{66 - 2}} \sqrt{\frac{1}{66} + \frac{1}{66}}} * \frac{1}{1.446} * \frac{0.174}{0.252} = -0.437

As t*=-0.437, which is within the interval of \pm 1.2938, we can conclude that we accept Ho i.e. \mu_4 and \mu_1 have no difference at the statistic level a=0.1.
This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important in income group 1’s mind.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of issuing the bank (9-2)

Ho: \mu_1 - \mu_2 = 0 (reject)
Ha: \mu_1 - \mu_2 \neq 0

t* = \frac{2.25 - 2.64}{\sqrt{\frac{2.06(66 - 1) + 1.98(104 - 1)}{66 + 66 - 2}} \sqrt{\frac{1}{66} + \frac{1}{66}}} * \frac{1}{1.421} * \frac{0.174}{0.247} = -1.579
As $t^*=-1.579$, which is outside the interval of $\pm 1.2938$, we can conclude that we reject $H_0$ i.e. $\mu_1$ and $\mu_2$ have significant different at the statistic level $a=0.1$.
This means that Souvenir given, bonus point scheme, shopping discount (9-1) and is more important than credibility of the issuing bank (9-2) in income group 1’s mind.

3. The following two factors will be tested:

- Credibility of the issuing bank (9-2)
- Outlook of the card (9-3)

$H_0: \mu_2 - \mu_3 = 0$ (reject)
$H_a: \mu_2 - \mu_3 \neq 0$

$$t^* = \frac{2.64 - 2.86}{\sqrt{\frac{1.98(66 - 1) + 1.84(66 - 1)}{66 + 66 - 2} \times \frac{1}{66} + \frac{1}{66}}}$$

$$= \frac{-0.22}{1.382 \times 0.174}$$

$$= -0.917$$

As $t^*=-0.917$, which is within the interval of $\pm 1.2938$, we can conclude that we accept $H_0$ i.e. $\mu_2$ and $\mu_3$ have no difference at the statistic level $a=0.1$.
This means that credibility of the issuing bank (9-2) and outlook of the card (9-3) are the same important in income group 1’s mind.
4. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Other functions (9-6)

   Ho: \( \mu_3 - \mu_6 = 0 \) (reject)
   Ha: \( \mu_3 - \mu_6 \neq 0 \)

   \[
   t^* = \frac{2.86 - 3}{\sqrt{\frac{1.84(66 - 1) + 1.83(66 - 1)}{66 + 66 - 2} \times \frac{1}{66} + \frac{1}{66}}} = -0.14
   \]

   \[
   \frac{1.353 \times 0.174}{0.235}
   = -0.596
   \]

   As \( t^* = -0.596 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept the Ho i.e. \( \mu_3 \) and \( \mu_6 \) have no difference at the statistic level \( \alpha = 0.1 \).

   This means that outlook of the card (9-3) and other functions (9-6) are the same important in the respondents’ mind.

5. The following two factors will be tested:
   - Other Functions (e.g. Add value to Octopus automatically) (9-6)
   - Co-brand card with university (9-5)

   Ho: \( \mu_6 - \mu_5 = 0 \) (reject)
   Ha: \( \mu_6 - \mu_5 \neq 0 \)
\[ t^* = \frac{3 - 3.05}{\sqrt{\frac{1.83(66 - 1) + 1.92(66 - 1)}{66 + 66 - 2} \cdot \frac{1}{66} + \frac{1}{66}}} \]

\[ = \frac{-0.05}{1.369 \times 0.174} \]

\[ = \frac{-0.05}{0.238} \]

\[ = -0.21 \]

As \( t^* = -0.21 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept \( H_0 \), i.e. \( \mu_6 \) and \( \mu_5 \) have no difference at the statistic level \( a = 0.1 \). This means that other functions (9-6) and co-brand card with university (9-5) are the same important in income group 1’s mind.

6. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Friends’ recommendations (9-7)

\[ H_0: \; \mu_5 - \mu_7 = 0 \text{ (reject)} \]

\[ H_a: \; \mu_5 - \mu_7 \neq 0 \]

\[ t^* = \frac{3.05 - 3.38}{\sqrt{\frac{1.92(66 - 1) + 1.74(66 - 1)}{66 + 66 - 2} \cdot \frac{1}{66} + \frac{1}{66}}} \]

\[ = \frac{-0.33}{1.353 \times 0.174} \]

\[ = \frac{-0.33}{0.235} \]

\[ = -1.404 \]
As $t^*=-1.404$, which is outside the interval of $\pm1.2938$, we can conclude that we reject $H_0$ i.e. $\mu_5$ and $\mu_7$ are significant different at the statistic level $\alpha=0.1$.
This means that co-brand card with university (9-5) is more important than friends’ recommendations (9-7) in income group 1’s mind.

**Brief Summary**

According to the test result above, we can have the following conclusion:
In the income group 1’s mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

*Most Attractive*: Period of exemption of annual fee (9-4)  
Souvenir given, bonus point scheme, shopping discount (9-1)

*Next Attractive*: Credibility of the issuing bank (9-2)  
Outlook of the card (9-3)  
Other Functions (9-6)  
Co-brand card with university (9-5)

*Least Attractive*: Friends’ recommendations (9-7)
B. Hypothesis Testing for Question 9 (Income Group 2)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>104</td>
<td>2.5</td>
<td>1.88</td>
</tr>
<tr>
<td>9-2</td>
<td>104</td>
<td>2.65</td>
<td>1.58</td>
</tr>
<tr>
<td>9-3</td>
<td>104</td>
<td>2.99</td>
<td>1.54</td>
</tr>
<tr>
<td>9-4</td>
<td>104</td>
<td>2.27</td>
<td>2.65</td>
</tr>
<tr>
<td>9-5</td>
<td>104</td>
<td>3.02</td>
<td>1.39</td>
</tr>
<tr>
<td>9-6</td>
<td>104</td>
<td>3.25</td>
<td>1.53</td>
</tr>
<tr>
<td>9-7</td>
<td>104</td>
<td>3.48</td>
<td>1.56</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2901 or greater than +1.2901

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1(n_1 - 1) + s_2(n_2 - 1)}{n_1 + n_2 - 2}} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \( \mu_4 - \mu_1 = 0 \) (reject)

   Ha: \( \mu_4 - \mu_1 \neq 0 \)
\[ t^* = \frac{2.27 - 2.5}{\sqrt{\frac{2.65(104 - 1) + 1.88(104 - 1)}{104 + 104 - 2} \times \frac{1}{104} + \frac{1}{104}}} = -0.23 \\
= -0.23 \\
= -0.23 \\
= -1.1 \]

As \( t^* = -1.1 \), which is within the interval of \( \pm 1.2901 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a = 0.1 \).

This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important in income group 2’s mind.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

\[ \text{Ho: } \mu_1 - \mu_2 = 0 \text{ (reject)} \]
\[ \text{Ha: } \mu_1 - \mu_2 \neq 0 \]

\[ t^* = \frac{2.5 - 2.65}{\sqrt{\frac{1.88(104 - 1) + 1.58(104 - 1)}{104 + 104 - 2} \times \frac{1}{104} + \frac{1}{104}}} = -0.15 \\
= -0.15 \\
= -0.15 \\
= -0.82 \]
As \( t^* = -0.82 \), which is within the interval of \( \pm 1.2901 \), we can conclude that we accept the Ho i.e. \( \mu_1 \) and \( \mu_2 \) have no difference at the statistic level \( a = 0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) and credibility of the issuing bank (9-2) are the same important in income group 2’s mind.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Outlook of the card (9-3)

   \[
   \begin{align*}
   &\text{Ho: } \mu_2 - \mu_3 = 0 \text{ (reject)} \\
   &\text{Ha: } \mu_2 - \mu_3 \neq 0
   \end{align*}
   \]

   \[
   t^* = \frac{2.65 - 2.99}{\sqrt{\frac{1.58(104 - 1) + 1.54(104 - 1)}{104 + 104 - 2} \times \frac{1}{104} + \frac{1}{104}}} = -0.34
   \]

   \[
   = \frac{-0.34}{1.25 \times 0.139} = -0.34 \\
   = \frac{-0.34}{0.174} = -1.95
   \]

   As \( t^* = -1.95 \), which is outside the interval of \( \pm 1.2901 \), we can conclude that we reject Ho i.e. \( \mu_2 \) and \( \mu_3 \) are significant different at the statistic level \( a = 0.1 \).

   This means that credibility of the issuing bank (9-2) is more important that outlook of the card (9-3) in income group 2’s mind.
4. The following two factors will be tested:
   ■ Outlook of the card (9-3)
   ■ Co-brand card with university (9-5)

   Ho: $\mu_3 - \mu_5 = 0$ (reject)
   Ha: $\mu_3 - \mu_5 \neq 0$

   \[
   t^* = \frac{2.99 - 3.02}{\sqrt{\frac{1.54(104 - 1) + 1.39(104 - 1)}{104 + 104 - 2} \times 1 \bigg/ \sqrt{104 + 104}}}
   \]

   \[
   = \frac{-0.03}{1.21 \times 0.139}
   \]

   \[
   = \frac{-0.03}{0.168}
   \]

   \[
   = -0.179
   \]

   As $t^* = -0.179$, which is within the interval of $\pm 1.2901$, we can conclude that we accept Ho
   i.e. $\mu_3$ and $\mu_5$ have no difference at the statistic level $a=0.1$.
   This means that outlook of the card (9-3) and co-brand card with university (9-5) are the
   same important in income group 2’s mind.

5. The following two factors will be tested:
   ■ Co-brand card with university (9-5)
   ■ Other Functions (9-6)

   Ho: $\mu_5 - \mu_6 = 0$ (reject)
   Ha: $\mu_5 - \mu_6 \neq 0$
\[ t^* = \frac{3.02 - 3.25}{\sqrt{\frac{1.39(104 - 1) + 1.53(104 - 1)}{104 + 104 - 2} \times \frac{1}{104^2} + \frac{1}{104}}} \]

\[ = -0.23 \]

\[ 1.208 \times 0.139 \]

\[ = -0.23 \]

\[ 0.168 \]

\[ = -1.369 \]

As \( t^* = -1.369 \), which is outside the interval of \( \pm 1.2901 \), we can conclude that we reject \( H_0 \) i.e. \( \mu_5 \) and \( \mu_6 \) are significant different at the statistic level \( \alpha = 0.1 \).

This means that co-brand card with university (9-5) is more important than other functions (9-6) in income group 2’s mind.

6. The following two factors will be tested:

- Other Functions (9-6)
- Friends’ recommendations (9-7)

\( H_0: \mu_6 - \mu_7 = 0 \) (reject)

\( H_a: \mu_6 - \mu_7 \neq 0 \)

\[ t^* = \frac{3.25 - 3.48}{\sqrt{\frac{1.53(104 - 1) + 1.56(104 - 1)}{104 + 104 - 2} \times \frac{1}{104^2} + \frac{1}{104}}} \]

\[ = -0.23 \]

\[ 1.243 \times 0.139 \]

\[ = -0.23 \]

\[ 0.173 \]

\[ = -1.329 \]
As \( t^* = -1.329 \), which is outside the interval of \( \pm 1.2901 \), we can conclude that we reject \( H_0 \) i.e. \( \mu_5 \) and \( \mu_6 \) are significant different at the statistic level \( a = 0.1 \).

This means that other functions (9-6) is more important than friends’ recommendations (9-7) in income group 2’s mind.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the income group 2’s mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

**Most Attractive:**
- Period of exemption of annual fee (9-4)
- Souvenir given, bonus point scheme, shopping discount (9-1)
- Credibility of the issuing bank (9-2)

**Next Attractive:**
- Outlook of the card (9-3)
- Co-brand card with university (9-5)

**Least Attractive:**
- Other Functions (9-6)
- Friends’ recommendations (9-7)
C. Hypothesis Testing for Question 9 (Income Group 3)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>36</td>
<td>2.36</td>
<td>1.78</td>
</tr>
<tr>
<td>9-2</td>
<td>36</td>
<td>2.67</td>
<td>1.66</td>
</tr>
<tr>
<td>9-3</td>
<td>36</td>
<td>3.31</td>
<td>1.13</td>
</tr>
<tr>
<td>9-4</td>
<td>36</td>
<td>2.11</td>
<td>2.33</td>
</tr>
<tr>
<td>9-5</td>
<td>36</td>
<td>3.14</td>
<td>1.61</td>
</tr>
<tr>
<td>9-6</td>
<td>36</td>
<td>3.69</td>
<td>1.6</td>
</tr>
<tr>
<td>9-7</td>
<td>36</td>
<td>3.58</td>
<td>1.79</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.3031 or greater than +1.3031.

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1(n_1 - 1) + s_2(n_2 - 1)}{n_1 + n_2 - 2} * \frac{1}{n_1} + \frac{1}{n_2}}}\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \(\mu_4 - \mu_1 = 0\) (reject)
   Ha: \(\mu_4 - \mu_1 \neq 0\)
As \( t^* = -0.74 \), which is within the interval of \( \pm 1.3031 \), we can conclude that we accept Ho i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a=0.1 \). This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important in income group 3’s mind.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

   Ho: \( \mu_1 - \mu_2 = 0 \) (reject)
   Ha: \( \mu_1 - \mu_2 \neq 0 \)

   \[
   t^* = \frac{2.36 - 2.67}{\sqrt{\frac{1.78(36-1)+1.66(36-1)}{36+36-2}} \cdot \sqrt{\frac{1}{36} + \frac{1}{36}}} \]

   \[
   = \frac{-0.31}{1.311 \cdot 0.236}
   \]

   \[
   = -0.31 \cdot \frac{1}{0.309}
   \]

   \[
   = -1.003
   \]
As \( t^* = -1.003 \), which is within the interval of \( \pm 1.3031 \), we can conclude that we accept the Ho i.e. \( \mu_1 \) and \( \mu_2 \) have no difference at the statistic level \( a = 0.1 \).
This means that souvenir given, bonus point scheme, shopping discount (9-1) and credibility of the issuing bank (9-2) are the same important in income group3’s mind.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Co-brand card with university (9-5)

   \[
   \text{Ho: } \mu_2 - \mu_5 = 0 \text{ (reject)}
   \]
   \[
   \text{Ha: } \mu_2 - \mu_5 \neq 0
   \]

   \[
   t^* = \frac{2.67 - 3.14}{\sqrt{\frac{1.66(36 - 1) + 1.61(36 - 1)}{36 + 36 - 2} \times \frac{1}{36} + \frac{1}{36}}} = -0.47
   \]

   \[
   \frac{1.279 \times 0.236}{0.302} = -1.556
   \]

As \( t^* = -1.556 \), which is outside the interval of \( \pm 1.3031 \), we can conclude that we reject Ho i.e. \( \mu_2 \) and \( \mu_5 \) have no difference at the statistic level \( a = 0.1 \).
This means that credibility of the issuing bank (9-2) is more important than co-brand card with university (9-5) income group3’s mind.
4. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Outlook of the card (9-3)

   Ho: $\mu_5 - \mu_3 = 0$ (reject)
   Ha: $\mu_5 - \mu_3 \neq 0$

   \[
   t^* = \frac{3.14 - 3.31}{\sqrt{\frac{1.61(36 - 1) + 1.13(36 - 1)}{36 + 36 - 2} \times \frac{1}{36} + \frac{1}{36}}} = \frac{-0.17}{0.236} = -0.726
   \]

   As $t^* = -0.616$, which is within the interval of $\pm 1.3031$, we can conclude that we accept Ho, i.e. $\mu_5$ and $\mu_3$ have no difference at the statistic level $a = 0.1$.

   This means that co-brand card with university (9-5) and outlook of the card (9-3) are the same important in income group 3’s mind.

5. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Friends' recommendations (9-7)

   Ho: $\mu_3 - \mu_7 = 0$ (reject)
   Ha: $\mu_3 - \mu_7 \neq 0$
As $t^*=0.947$, which is within the interval of $\pm 1.3031$, we can conclude that we accept Ho i.e. $\mu_3$ and $\mu_7$ have no difference at the statistic level $a=0.1$.
This means that outlook of the card (9-3) and friends’ recommendations (9-7) are the same important in income group 3’s mind.

6. The following two factors will be tested:
   - Friends’ recommendations (9-7)
   - Other Functions (9-6)

   \[ t^* = \frac{3.31 - 3.58}{\sqrt{\frac{1.13(36-1) + 1.79(36-1)}{36 + 36 - 2} \cdot \frac{1}{36} + \frac{1}{36}}} \]

   \[ = -\frac{0.27}{1.208 \times 0.236} \]

   \[ = -0.27 \]

   \[ = 0.285 \]

   \[ = -0.947 \]

   \[ = -0.358 \]
As $t^* = -0.358$, which is within the interval of $\pm 1.3031$, we can conclude that we accept $H_0$, i.e. $\mu_7$ and $\mu_6$ have no difference at the statistic level $a=0.1$.

This means that friends’ recommendations (9-7) and other functions (9-6) are the same important in income group 3’s mind.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the income group 3’s mind, the attractiveness of the factors that attract them to apply for the cards can be categorized into the followings:

**Most Attractive:**
- Period of exemption of annual fee (9-4)
- Souvenir given, bonus point scheme, shopping discount (9-1)
- Credibility of the issuing bank (9-2)

**Next Attractive:**
- Co-brand card with university (9-5)
- Outlook of the card (9-3)
- Friends’ recommendations (9-7)
- Other Functions (9-6)
D. Hypothesis Testing for Question 9 (Income Group 4)

<table>
<thead>
<tr>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>15</td>
<td>2.27</td>
</tr>
<tr>
<td>9-2</td>
<td>15</td>
<td>3.53</td>
</tr>
<tr>
<td>9-3</td>
<td>15</td>
<td>3.00</td>
</tr>
<tr>
<td>9-4</td>
<td>15</td>
<td>2.60</td>
</tr>
<tr>
<td>9-5</td>
<td>15</td>
<td>3.40</td>
</tr>
<tr>
<td>9-6</td>
<td>15</td>
<td>4.07</td>
</tr>
<tr>
<td>9-7</td>
<td>15</td>
<td>4.29</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.3406 or greater than +1.3406

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1(n_1 - 1) + s_2(n_2 - 1)}{n_1 + n_2 - 2}} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \( \mu_1 - \mu_4 = 0 \) (reject)

   Ha: \( \mu_1 - \mu_4 \neq 0 \)
\[ t^* = \frac{2.27 - 2.6}{\sqrt{\frac{2.64(15 - 1) + 2.11(15 - 1)}{15 + 15 - 2}} \cdot \sqrt{\frac{1}{15} + \frac{1}{15}}} \]
\[ = \frac{-0.33}{1.54 \times 0.365} \]
\[ = -0.33 \div 0.562 \]
\[ = -0.587 \]

As \( t^* = -0.587 \), which is within the interval of \( \pm 1.3406 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_1 \) and \( \mu_4 \) have no difference at the statistic level \( a = 0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) and period of exemption of annual fee (9-4) are the same important in income group 4’s mind.

2. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Outlook of the card (9-3)

\( H_0: \ \mu_4 - \mu_3 = 0 \) (reject)
\( H_a: \ \mu_4 - \mu_3 \neq 0 \)

\[ t^* = \frac{2.6 - 6}{\sqrt{\frac{2.11(15 - 1) + 1.57(15 - 1)}{15 + 15 - 2}} \cdot \sqrt{\frac{1}{15} + \frac{1}{15}}} \]
\[ = \frac{-0.4}{1.356 \times 0.365} \]
\[ = -0.4 \div 0.495 \]
\[ = -0.808 \]
As \( t^* = -0.808 \), which is within the interval of \( \pm 1.3406 \), we can conclude that we accept the
Ho i.e. \( \mu_4 \) and \( \mu_3 \) have no difference at the statistic level \( a = 0.1 \).
This means that period of exemption of annual fee (9-4) and outlook of the card (9-3) are
the same important in income group 4’s mind.

3. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Co-brand card with university (9-5)

   \[
   \begin{align*}
   \text{Ho: } & \quad \mu_3 - \mu_5 = 0 \text{ (reject)} \\
   \text{Ha: } & \quad \mu_3 - \mu_5 \neq 0 \\
   t^* & = \frac{3 - 3.4}{\sqrt{\frac{1.57(15-1) + 1.54(15-1)}{15+15-2} \times \frac{1}{15} \times \frac{1}{15}}} \\
   & = -0.879
   \end{align*}
   \]

   As \( t^* = -0.879 \), which is within the interval of \( \pm 1.3406 \), we can conclude that we accept Ho i.e. \( \mu_3 \) and \( \mu_5 \) have no difference at the statistic level \( a = 0.1 \).
This means that outlook of the card (9-3) and co-brand card with university (9-5) are the
same important in income group 4’s mind.
4. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Credibility of the issuing bank (9-2)

   Ho: \( \mu_5 - \mu_2 = 0 \) (reject)
   Ha: \( \mu_5 - \mu_2 \neq 0 \)

   \[
   t^* = \frac{3.4 - 3.53}{\sqrt{\frac{1.54(15-1) + 1.55(15-1)}{15+15-2} \times \frac{1}{15} + \frac{1}{15}}} = -0.13 \\
   = -0.13 \times 0.365 \\
   = -0.0454 \\
   = -0.286
   \]

   As \( t^* = -0.286 \), which is within the interval of \( \pm 1.3406 \), we can conclude that we accept Ho i.e. \( \mu_5 \) and \( \mu_2 \) have no difference at the statistic level \( a=0.1 \).

   This means that co-brand card with university (9-5) and credibility of the issuing bank (9-2) are the same important in income group 4’s mind.

5. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Other Functions (9-6)

   Ho: \( \mu_2 - \mu_6 = 0 \) (reject)
   Ha: \( \mu_2 - \mu_6 \neq 0 \)
\[ t^* = \frac{3.53 - 4.07}{\sqrt{\frac{1.55(15-1) + 1.15(15-1)}{15+15-2}} \times \sqrt{\frac{1}{15} + \frac{1}{15}}} \]
\[ = \frac{-0.54}{1.162 \times 0.365} \]
\[ = \frac{-0.54}{0.424} \]
\[ = -1.274 \]

As \( t^* = -1.274 \), which is within the interval of \( \pm 1.3406 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_2 \) and \( \mu_6 \) have no difference at the statistic level \( \alpha = 0.1 \).
This means that credibility of the issuing bank (9-2) and other functions (9-6) are the same important in income group 4’s mind.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friends’ Recommendations (9-7)

   \[ H_0: \ \mu_6 - \mu_7 = 0 \) (reject)\]

   \[ H_a: \ \mu_6 - \mu_7 \neq 0 \]

   \[ t^* = \frac{4.07 - 4.29}{\sqrt{\frac{1.15(15-1) + 1.14(15-1)}{15+15-2}} \times \sqrt{\frac{1}{15} + \frac{1}{15}}} \]
\[ = \frac{-0.22}{1.07 \times 0.365} \]
\[ = \frac{-0.22}{0.390} \]
\[ = -0.562 \]
As $t^*=-0.562$, which is within the interval of $\pm1.3406$, we can conclude that we reject $H_0$ i.e. $\mu_6$ and $\mu_7$ have no difference at the statistic level $\alpha=0.1$.
This means that other functions (9-6) and friends’ recommendations (9-7) are the same important in income group 4’s mind.

**Brief Summary**

According to the test result above, we can have the following conclusion:
In the income group 4’s mind, the attractiveness of the factors that attract them to apply for the cards can be categorized into the followings:

**Most Attractive:**
Souvenir given, bonus point scheme, shopping discount (9-1)
Period of exemption of annual fee (9-4)

**Next Attractive:**
Outlook of the card (9-3)
Co-brand card with university (9-5)
Credibility of the issuing bank (9-2)

**Least Attractive:**
Other Functions (9-6)
Friends’ recommendations (9-7)

As after the hypothesis testing, we have found that we will accept all the test result, however, we still hope to find out some difference between those factors, so we use the difference between their mean to categorize them.
E. Hypothesis Testing for Question 9 (Income Group 5)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>5</td>
<td>2.2</td>
<td>2.7</td>
</tr>
<tr>
<td>9-2</td>
<td>5</td>
<td>2.4</td>
<td>1.8</td>
</tr>
<tr>
<td>9-3</td>
<td>5</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>9-4</td>
<td>5</td>
<td>2.2</td>
<td>3.2</td>
</tr>
<tr>
<td>9-5</td>
<td>5</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>9-6</td>
<td>5</td>
<td>2.8</td>
<td>1.2</td>
</tr>
<tr>
<td>9-7</td>
<td>5</td>
<td>2.8</td>
<td>1.2</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.4759 or greater than +1.4759

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{s_1(n_1-1) + s_2(n_2-1)} \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Credibility of the issuing bank (9-2)

   Ho: \( \mu_4 - \mu_2 = 0 \) (reject)

   Ha: \( \mu_4 - \mu_2 \neq 0 \)
As $t^* = -0.2$, which is within the interval of ±1.4759, we can conclude that we accept $H_0$ i.e. $\mu_4$ and $\mu_2$ have no difference at the statistic level $\alpha=0.1$.

This means that period of exemption of annual fee (9-4) and credibility of the issuing bank (9-2) are the same important in income group 5’s mind.

2. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Co-brand card with university (9-5)

   $H_0$: $\mu_2 - \mu_5 = 0$ (reject)
   $H_a$: $\mu_2 - \mu_5 \neq 0$

   $t^* = \frac{2.4 - 2.6}{\sqrt{\frac{1.8(5-1) + 2.8(5-1)}{5 + 5 - 2} \times \frac{1}{5} + \frac{1}{5}}} = \frac{-0.2}{1.517 \times 0.632} = \frac{-0.2}{0.959} = -0.209$
As $t^* = -0.209$, which is within the interval of $\pm 1.4759$, we can conclude that we accept Ho i.e. $\mu_2$ and $\mu_5$ have no difference at the statistic level $a=0.1$.

This means that credibility of the issuing bank (9-2) and co-brand card with university are the same important in income group 5’s mind.

3. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Other Functions (9-6)

   $H_0$: $\mu_5 - \mu_6 = 0$ (reject)
   $H_a$: $\mu_5 - \mu_6 \neq 0$

   $$t^* = \frac{2.6 - 2.8}{\sqrt{\frac{2.8(5-1)+1.2(5-1)}{5+5-2}} \times \sqrt{\frac{1}{5} + \frac{1}{5}}} = \frac{-0.2}{1.414 \times 0.632} = \frac{-0.2}{0.894} = -0.224$$

   As $t^* = -0.224$, which is within the interval of $\pm 1.4759$, we can conclude that we accept Ho i.e. $\mu_5$ and $\mu_6$ have no difference at the statistic level $a=0.1$.

   This means that co-brand card with university (9-5) and other functions (9-6) are the same important in income group 5’s mind.
4. The following two factors will be tested:
   - Other Functions (9-6)
   - Outlook of the card (9-3)

   Ho: \( \mu_6 - \mu_3 = 0 \) (reject)
   Ha: \( \mu_6 - \mu_3 \neq 0 \)

   \[
   t^* = \frac{2.8 - 3}{\sqrt{\frac{1.2(5-1) + 0.5(5-1)}{5+5-2} \cdot \frac{1 + 1}{5 + 5}}} = \frac{-0.2}{0.922 \cdot 0.632} = \frac{-0.2}{0.582} = -0.344
   \]

   As \( t^* = -0.344 \), which is within the interval of \( \pm 1.4759 \), we can conclude that we accept Ho i.e. \( \mu_6 \) and \( \mu_3 \) have no difference at the statistic level \( a = 0.1 \).

   This means that other functions (9-6) and outlook of the card (9-3) are the same important in income group 5’s mind.

**Brief Summary**

In the income group 5, the mean of Period of exemption of annual fee (9-4) and Souvenir given, bonus point scheme, shopping discount (9-1) are the same, meaning that they are in the same category. We have chosen the mean of Period of exemption of annual fee (9-4) to calculate the \( t^* \) value. Also, the mean of other functions and friends’ recommendations are the same, too, so we categorize them into the same group, and we have chosen the mean of other functions to calculate the \( t^* \) value.
As after the hypothesis testing, we have found that we will accept all the test result, this means that all seven factors are the same important to the respondents in this income group 5.
F. Hypothesis Testing for Question 9 (Income Group 6)

<table>
<thead>
<tr>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>14</td>
<td>2.46</td>
</tr>
<tr>
<td>9-2</td>
<td>14</td>
<td>2.77</td>
</tr>
<tr>
<td>9-3</td>
<td>14</td>
<td>3.27</td>
</tr>
<tr>
<td>9-4</td>
<td>14</td>
<td>2.29</td>
</tr>
<tr>
<td>9-5</td>
<td>14</td>
<td>3.15</td>
</tr>
<tr>
<td>9-6</td>
<td>14</td>
<td>4.08</td>
</tr>
<tr>
<td>9-7</td>
<td>14</td>
<td>3.75</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.3450 or greater than +1.3450

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{s_1(n_1 - 1) + s_2(n_2 - 1)} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \( \mu_4 - \mu_1 = 0 \) (reject)

   Ha: \( \mu_4 - \mu_1 \neq 0 \)
As \( t^* = -0.281 \), which is within the interval of \( \pm 1.3450 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( \alpha=0.1 \).

This means that period of exemption of annual fee (9-4) and Souvenir given, bonus point scheme, shopping discount (9-1) are the same important in income group 6’s mind.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

\[
H_0: \mu_1 - \mu_2 = 0 \text{ (reject)}
\]

\[
H_a: \mu_1 - \mu_2 \neq 0
\]

\[
t^* = \frac{2.46 - 2.77}{\sqrt{\frac{2.27(14 - 1) + 1.53(14 - 1)}{14 + 14 - 2} \times \frac{1}{14} + \frac{1}{14}}} = \frac{-0.31}{1.378 \times 0.378} = \frac{-0.31}{0.52} = -0.596
\]
As $t^*=-0.596$, which is within the interval of $\pm 1.3450$, we can conclude that we accept $H_0$ i.e. $\mu_1$ and $\mu_2$ have no difference at the statistic level $a=0.1$.

This means that souvenir given, bonus point scheme, shopping discount (9-1) and credibility of the issuing bank (9-2) are the same important to income group 6.

3. The following two factors will be tested:

- Credibility of the issuing bank (9-2)
- Co-brand card with university (9-5)

$$
H_0: \mu_2 - \mu_5 = 0 \text{ (reject)}
$$

$$
H_a: \mu_2 - \mu_5 \neq 0
$$

$$
t^* = \frac{2.77 - 3.15}{\sqrt{\frac{1.53(14 - 1) + 1.81(14 - 1)}{14 + 14 - 2} \left( \frac{1}{14} + \frac{1}{14} \right)}} \times \sqrt{\frac{1}{14} + \frac{1}{14}}
$$

$$
= \frac{-0.38}{1.292 \times 0.378}
$$

$$
= -0.38
$$

$$
= 0.488
$$

$$
= -0.779
$$

As $t^*=-0.779$, which is within the interval of $\pm 1.3450$, we can conclude that we accept $H_0$ i.e. $\mu_2$ and $\mu_5$ have no difference at the statistic level $a=0.1$.

This means that credibility of the issuing bank (9-2) and co-brand card with university (9-5) are the same important to income group 6.
4. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Outlook of the card (9-3)

   \[ \text{Ho: } \mu_5 - \mu_3 = 0 \text{ (reject)} \]
   \[ \text{Ha: } \mu_5 - \mu_3 \neq 0 \]

   \[ t^* = \frac{3.15 - 3.27}{\sqrt{\frac{1.81(14 - 1) + 1.82(14 - 1)}{14 + 14 - 2} \cdot \frac{1}{14} + \frac{1}{14}}} \]

   \[ = \frac{-0.12}{1.347 \times 0.378} \]

   \[ = \frac{-0.12}{0.509} \]

   \[ = -0.236 \]

   As \( t^* = -0.236 \), which is within the interval of \( \pm 1.3450 \), we can conclude that we accept Ho i.e. \( \mu_5 \) and \( \mu_3 \) have no difference at the statistic level \( a = 0.1 \).

   This means that co-brand card with university (9-5) and outlook of the card are the same important to income group 6.

5. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Friends’ Recommendations (9-7)

   \[ \text{Ho: } \mu_3 - \mu_7 = 0 \text{ (reject)} \]
   \[ \text{Ha: } \mu_3 - \mu_7 \neq 0 \]
As \( t^* = -0.876 \), which is within the interval of \( \pm 1.3450 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_3 \) and \( \mu_7 \) have no difference at the statistic level \( \alpha = 0.1 \).

This means that outlook of the card (9-3) and friends’ recommendations (9-7) are the same important to income group 6.

6. The following two factors will be tested:
   - Friends’ Recommendations (9-7)
   - Other Functions (9-6)

   \[ H_0: \mu_7 - \mu_6 = 0 \text{ (reject) } \]

   \[ H_a: \mu_7 - \mu_6 \neq 0 \]

   \[
t^* = \frac{3.75 - 4.08}{\sqrt{\frac{2.39(14 - 1) + 1.08(14 - 1)}{14 + 14 - 2} \cdot \frac{1}{14} + \frac{1}{14}}} = -0.33 \quad \frac{1.317 \times 0.378}{0.498} = -0.663
\]
As $t^*=-0.663$, which is within the interval of $\pm 1.3450$, we can conclude that we accept $H_0$ i.e. $\mu_7$ and $\mu_6$ have no difference at the statistic level $a=0.1$.

This means that friends’ recommendations (9-7) and other functions (9-6) are the same important to income group 6.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the income group 6’s mind, the attractiveness of the factors that attract them to apply for the cards can be categorized into the followings:

- **Most Attractive:**
  - Period of exemption of annual fee (9-4)
  - Souvenir given, bonus point scheme, shopping discount (9-1)
  - Credibility of the issuing bank (9-2)

- **Next Attractive:**
  - Co-brand card with university (9-5)
  - Outlook of the card (9-3)

- **Least Attractive:**
  - Friends’ recommendations (9-7)
  - Other Functions (9-6)

As after the hypothesis testing, we have found that we will accept all the test result, however, we still hope to find out some difference between those factors, so we use the difference between their mean to categorize them.
G. Hypothesis Testing for Question 9 (Male)

<table>
<thead>
<tr>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1 109</td>
<td>2.43</td>
<td>2.1</td>
</tr>
<tr>
<td>9-2 109</td>
<td>2.68</td>
<td>1.81</td>
</tr>
<tr>
<td>9-3 109</td>
<td>2.94</td>
<td>1.56</td>
</tr>
<tr>
<td>9-4 109</td>
<td>2.28</td>
<td>2.5</td>
</tr>
<tr>
<td>9-5 109</td>
<td>3.08</td>
<td>1.57</td>
</tr>
<tr>
<td>9-6 109</td>
<td>3.36</td>
<td>1.77</td>
</tr>
<tr>
<td>9-7 109</td>
<td>3.5</td>
<td>1.68</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2901 or greater than +1.2901

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{s_1^2(n_1 - 1) + s_2^2(n_2 - 1)} \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \sqrt{\frac{n_1 + n_2 - 2}{n_1 n_2}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

H0: \( \mu_4 - \mu_1 = 0 \) (reject)

Ha: \( \mu_4 - \mu_1 \neq 0 \)
\[ t^* = \frac{2.28 - 2.43}{\sqrt{\frac{2.5(109 - 1) + 2.1(109 - 1)}{109 + 109 - 2} \times \frac{1}{109} + \frac{1}{109}}} \]

\[ = -0.15 \]

\[ 1.517 \times 0.135 \]

\[ = -0.15 \]

\[ 0.205 \]

\[ = -0.732 \]

As \( t^* = -0.732 \), which is within the interval of \( \pm 1.2091 \), we can conclude that we accept Ho i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a=0.1 \).

This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important to male respondent’s mind.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

Ho: \( \mu_1 - \mu_2 = 0 \) (reject)

Ha: \( \mu_1 - \mu_2 \neq 0 \)

\[ t^* = \frac{2.43 - 2.68}{\sqrt{\frac{2.1(109 - 1) + 1.81(109 - 1)}{109 + 109 - 2} \times \frac{1}{109} + \frac{1}{109}}} \]

\[ = -0.25 \]

\[ 1.398 \times 0.135 \]

\[ = -0.25 \]

\[ 0.189 \]

\[ = -1.323 \]
As $t^*=-1.323$, which is outside the interval of $\pm1.2091$, we can conclude that we reject Ho i.e. $\mu_1$ and $\mu_2$ are significant at the statistic level $a=0.1$. This means that souvenir given, bonus point scheme, shopping discount (9-1) is more important than credibility of the issuing bank (9-2) to male respondents.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Outlook of the card (9-3)

   $\text{Ho: } \mu_2 - \mu_3 = 0$ (reject)  
   $\text{Ha: } \mu_2 - \mu_3 \neq 0$

   
   $t^* = \frac{2.68 - 2.94}{\sqrt{\frac{1.81(109 - 1) + 1.56(109 - 1)}{109 + 109 - 2} \times \frac{1}{109} + \frac{1}{109}}} \approx 1.109(56.1) - 1.109(81.1) + - 26.0$ 
   $\approx -1.350$ 
   $\approx 177.0$ 
   $\approx 1.469$

   As $t^*=-1.469$, which is outside the interval of $\pm1.2091$, we can conclude that we reject Ho i.e. $\mu_2$ and $\mu_3$ are significant different at the statistic level $a=0.1$. This means that credibility of the issuing bank (9-2) is more important than outlook of the card (9-3) to male respondents.
4. The following two factors will be tested:
   ■ Outlook of the card (9-3)
   ■ Co-brand card with university (9-5)

   Ho: $\mu_3 - \mu_5 = 0$ (reject)

   Ha: $\mu_3 - \mu_5 \neq 0$

   $$t^* = \frac{2.94 - 3.08}{\sqrt{\frac{1.56(109-1) + 1.57(109-1)}{109 + 109 - 2} * \frac{1}{109} + \frac{1}{109}}}$$

   $$= -\frac{0.14}{1.251 \times 0.135}$$

   $$= -\frac{0.14}{0.169}$$

   $$= -0.828$$

   As $t^*=-0.828$, which is within the interval of $\pm 1.2091$, we can conclude that we accept Ho i.e. $\mu_3$ and $\mu_5$ have no difference at the statistic level $\alpha=0.1$.

   This means that outlook of the card (9-3) and co-brand card with university (9-5) are the same important to male respondents.

5. The following two factors will be tested:
   ■ Co-brand card with university (9-5)
   ■ Other Functions (9-6)

   Ho: $\mu_5 - \mu_6 = 0$ (reject)

   Ha: $\mu_5 - \mu_6 \neq 0$
As \( t^* = -1.609 \), which is outside the interval of \( \pm 1.2091 \), we can conclude that we reject Ho i.e. \( \mu_5 \) and \( \mu_6 \) are significant different at the statistic level \( a = 0.1 \).

This means that co-brand card with university (9-5) is more important than other functions (9-6) to male respondents.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friend’s Recommendations (9-7)

   Ho: \( \mu_6 - \mu_7 = 0 \) (reject)
   Ha: \( \mu_6 - \mu_7 \neq 0 \)

   \[
   t^* = \frac{3.08 - 3.36}{\sqrt{\frac{1.57(109-1) + 1.77(109-1)}{109 + 109 - 2} \cdot \frac{1}{109} + \frac{1}{109}}} 
   \]

   \[
   = \frac{-0.28}{1.292 \cdot 0.135} 
   \]

   \[
   = -0.28 
   \]

   \[
   = 0.174 
   \]

   \[
   = -1.609 
   \]
As $t^*=-0.791$, which is within the interval of $\pm 1.2091$, we can conclude that we accept $H_0$ i.e. $\mu_6$ and $\mu_7$ have no difference at the statistic level $a=0.1$.

This means that other functions (9-6) and friends’ recommendations are the same important to male respondents.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the male respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

**Most Attractive:**
- Period of exemption of annual fee (9-4)
- Souvenir given, bonus point scheme, shopping discount(9-1)

**Next Attractive:**
- Credibility of the issuing bank (9-2)
- Outlook of the card (9-3)
- Co-brand card with university (9-5)

**Least Attractive:**
- Other Functions (9-6)
- Friends’ recommendations (9-7)
H. Hypothesis Testing for Question 9 (Female)

<table>
<thead>
<tr>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>134</td>
<td>2.34</td>
</tr>
<tr>
<td>9-2</td>
<td>134</td>
<td>2.72</td>
</tr>
<tr>
<td>9-3</td>
<td>134</td>
<td>3.1</td>
</tr>
<tr>
<td>9-4</td>
<td>134</td>
<td>2.18</td>
</tr>
<tr>
<td>9-5</td>
<td>134</td>
<td>3.05</td>
</tr>
<tr>
<td>9-6</td>
<td>134</td>
<td>3.31</td>
</tr>
<tr>
<td>9-7</td>
<td>134</td>
<td>3.54</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2876 or greater than +1.2876

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{s_1(n_1 - 1) + s_2(n_2 - 1)} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \( \mu_4 - \mu_1 = 0 \) (reject)
   Ha: \( \mu_4 - \mu_1 \neq 0 \)
\[
t^* = \frac{2.18 - 2.34}{\sqrt{\frac{2.32(134 - 1) + 1.84(134 - 1)}{134 + 134 - 2} \times \frac{1}{134} + \frac{1}{134}}} = \frac{-0.16}{1.44 \times 0.122} = \frac{-0.16}{0.176} = -0.909
\]

As \( t^* = -0.909 \), which is within the interval of \( \pm 1.2876 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a = 0.1 \).

This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important to female respondents.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

   \( H_0: \mu_1 - \mu_2 = 0 \) (reject)

   \( H_a: \mu_1 - \mu_2 \neq 0 \)

   \[
t^* = \frac{2.34 - 2.72}{\sqrt{\frac{1.84(134 - 1) + 1.64(134 - 1)}{134 + 134 - 2} \times \frac{1}{134} + \frac{1}{134}}} = \frac{-0.38}{1.319 \times 0.122} = \frac{-0.38}{0.161} = -2.36
\]
As \( t^* = -2.36 \), which is outside the interval of \( \pm 1.2876 \), we can conclude that we reject Ho i.e. \( \mu_1 \) and \( \mu_2 \) are significant different at the statistic level \( a = 0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) is more important than credibility of the issuing bank to female respondents.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Co-brand card with university (9-5)

\[
\begin{align*}
\text{Ho: } & \mu_2 - \mu_5 = 0 \text{ (reject)} \\
\text{Ha: } & \mu_2 - \mu_5 \neq 0
\end{align*}
\]

\[
t^* = \frac{2.72 - 3.05}{\sqrt{\frac{1.64(134 - 1) + 1.53(134 - 1)}{134 + 134 - 2}} \cdot \sqrt{\frac{1}{134} + \frac{1}{134}}}
\]

\[
= \frac{-0.33}{1.279 \cdot 0.122}
\]

\[
= -0.33 \quad \div \quad 0.156
\]

\[
= -2.115
\]

As \( t^* = -2.115 \), which is outside the interval of \( \pm 1.2876 \), we can conclude that we reject Ho i.e. \( \mu_2 \) and \( \mu_5 \) are significant different at the statistic level \( a = 0.1 \).

This means that credibility of the issuing bank (9-2) is more important than co-brand card with university (9-5) to female respondents.
4. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Outlook of the card (9-3)

   Ho: $\mu_5 - \mu_3 = 0$ (reject)
   Ha: $\mu_5 - \mu_3 \neq 0$

   $$t^* = \frac{3.05 - 3.1}{\sqrt{\frac{1.66(134 - 1) + 1.55(134 - 1)}{134 + 134 - 2} \times \frac{1}{134} + \frac{1}{134}}}$$

   $$= \frac{-0.05}{1.267 \times 0.122}$$

   $$= \frac{-0.05}{0.155}$$

   $$= -0.322$$

   As $t^* = -0.32$, which is within the interval of $\pm 1.2876$, we can conclude that we accept Ho, i.e. $\mu_5$ and $\mu_3$ have no difference at the statistic level $\alpha = 0.1$.

   This means that co-brand card with university (9-5) and outlook of the card (9-3) are the same important to female respondents.

5. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Other Functions (9-6)

   Ho: $\mu_3 - \mu_6 = 0$ (reject)
   Ha: $\mu_3 - \mu_6 \neq 0$
As \( t^* = -1.4 \), which is outside the interval of \( \pm 1.2876 \), we can conclude that we reject Ho i.e. \( \mu_3 \) and \( \mu_6 \) are significant different at the statistic level \( \alpha = 0.1 \).

This means that outlook of the card (9-3) is more important than other functions (9-6) to female respondents.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friend’s Recommendations (9-7)

   \[ \text{Ho: } \mu_6 - \mu_7 = 0 \text{ (reject)} \]

   \[ \text{Ha: } \mu_6 - \mu_7 \neq 0 \]

   \[
   t^* = \frac{3.31 - 3.54}{\sqrt{\frac{1.5(134 - 1) + 1.68(134 - 1)}{134 + 134 - 2}} \cdot \frac{1}{\sqrt{134}} + \frac{1}{\sqrt{134}}} = \frac{-0.23}{1.261 \times 0.122} = \frac{-0.23}{0.154} = -1.494
   \]
As $t^* = -1.494$, which is outside the interval of $\pm 1.2876$, we can conclude that we reject $H_0$ i.e. $\mu_6$ and $\mu_7$ are significant different at the statistic level $a=0.1$.

This means that other functions (9-6) is more important than friends’ recommendations (9-7) to female respondents.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the female respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

*Most Attractive:*  
Period of exemption of annual fee (9-4)  
Souvenir given, bonus point scheme, shopping discount (9-1)

*Next Attractive:*  
Credibility of the issuing bank (9-2)  
Co-brand card with university (9-5)  
Outlook of the card (9-3)  
Other Functions (9-6)

*Least Attractive:*  
Friends’ recommendations (9-7)
I. Hypothesis Testing for Question 9 (Year 1)

<table>
<thead>
<tr>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>74</td>
<td>2.45</td>
</tr>
<tr>
<td>9-2</td>
<td>74</td>
<td>2.63</td>
</tr>
<tr>
<td>9-3</td>
<td>74</td>
<td>2.81</td>
</tr>
<tr>
<td>9-4</td>
<td>74</td>
<td>2.36</td>
</tr>
<tr>
<td>9-5</td>
<td>74</td>
<td>2.96</td>
</tr>
<tr>
<td>9-6</td>
<td>74</td>
<td>3.18</td>
</tr>
<tr>
<td>9-7</td>
<td>74</td>
<td>3.33</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2938 or greater than +1.2938.

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{s_1(n_1-1) + s_2(n_2-1)} * \frac{1}{n_1} + \frac{1}{n_2}}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

Ho: \(\mu_4 - \mu_1 = 0\) (reject)

Ha: \(\mu_4 - \mu_1 \neq 0\)
As \( t^* = -0.36 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept Ho i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a = 0.1 \).

This means that Period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important to Year 1 respondents.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

   \[ H_0: \mu_1 - \mu_2 = 0 \text{ (reject)} \]

   \[ H_a: \mu_1 - \mu_2 \neq 0 \]

   \[
t^* = \frac{2.45 - 2.63}{\sqrt{\frac{2.06(74 - 1) + 2.13(74 - 1)}{74 + 74 - 2} \times \left( \frac{1}{74} + \frac{1}{74} \right)}} = \frac{-0.18}{1.447 \times 0.164} = \frac{-0.18}{0.237} = -0.759
   \]
As $t^*=-0.786$, which is within the interval of $\pm 1.2938$, we can conclude that we accept $H_0$ i.e. $\mu_1$ and $\mu_2$ have no difference at the statistic level $a=0.1$.

This means that Souvenir given, bonus point scheme, shopping discount (9-1) and Credibility of the issuing bank (9-2) are the same important to Year 1 respondents.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Outlook of the card (9-3)

   $H_0$: $\mu_2-\mu_3 = 0$ (reject)

   $H_a$: $\mu_2-\mu_3 \neq 0$

   $t^* = \frac{2.63 - 2.81}{\sqrt{\frac{2.13(74 - 1) + 1.76(74 - 1)}{74 + 74 - 2} \times \frac{1}{74} + \frac{1}{74}}} = -0.18$

   $= \frac{-0.18}{1.395 \times 0.164} = -0.786$

   As $t^*=-0.786$, which is within the interval of $\pm 1.2938$, we can conclude that we accept $H_0$ i.e. $\mu_2$ and $\mu_3$ have no difference at the statistic level $a=0.1$.

   This means that credibility of the issuing bank (9-2) and outlook of the card (9-3) are the same important to Year 1 respondents.
4. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Co-brand card with university (9-5)

   Ho: \( \mu_3 - \mu_5 = 0 \) (reject)

   Ha: \( \mu_3 - \mu_5 \neq 0 \)

   \[
   t^* = \frac{2.81 - 2.96}{\sqrt{\frac{1.76(74 - 1) + 1.73(74 - 1)}{74 + 74 - 2} * \frac{1}{74} + \frac{1}{74}}}
   \]

   \[
   = \frac{-0.15}{1.321 * 0.164}
   \]

   \[
   = \frac{-0.15}{0.217}
   \]

   \[
   = -0.691
   \]

   As \( t^* = -0.691 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept Ho i.e. \( \mu_3 \) and \( \mu_5 \) have no difference at the statistic level \( a=0.1 \).

   This means that outlook of the card (9-3) and co-brand card with university (9-5) are the same important to Year 1 respondents.

5. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Other Functions (9-6)

   Ho: \( \mu_5 - \mu_6 = 0 \) (reject)

   Ha: \( \mu_5 - \mu_6 \neq 0 \)
\[ t^* = \frac{2.96 - 3.18}{\sqrt{\frac{1.73(74 - 1) + 1.87(74 - 1)}{74 + 74 - 2}} \times \frac{1}{74} + \frac{1}{74}} \]

\[ = \frac{-0.22}{1.342 \times 0.164} \]

\[ = -0.22 \]

\[ = -1.164 \]

As \( t^* = -1 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_5 \) and \( \mu_6 \) have no difference at the statistic level \( \alpha = 0.1 \).

This means that co-brand card with university (9-5) and other functions (9-6) are the same important to Year 1 respondents.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friend’s Recommendations (9-7)

\[ H_0: \mu_6 - \mu_7 = 0 \text{ (reject)} \]

\[ H_a: \mu_6 - \mu_7 \neq 0 \]

\[ t^* = \frac{3.18 - 3.33}{\sqrt{\frac{1.87(74 - 1) + 1.99(74 - 1)}{74 + 74 - 2}} \times \frac{1}{74} + \frac{1}{74}} \]

\[ = \frac{-0.15}{1.389 \times 0.164} \]

\[ = -0.15 \]

\[ = -0.658 \]
As $t^*=-0.658$, which is within the interval of $\pm 1.2876$, we can conclude that we accept $H_0$, i.e. $\mu_6$ and $\mu_7$ have no difference at the statistic level $a=0.1$.

This means that other functions (9-6) and friends’ recommendations (9-7) are the same important to Year 1 respondents.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the Master Student Year 1 respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

*Most Attractive:*
- Period of exemption of annual fee (9-4)
- Souvenir given, bonus point scheme, shopping discount (9-1)

*Next Attractive:*
- Credibility of the issuing bank (9-2)
- Co-brand card with university (9-5)
- Outlook of the card (9-3)
- Other Functions (9-6)
- Friends’ recommendations (9-7)

As after the hypothesis testing, we have found that we will accept all the test result, however, we still hope to find out some difference between those factors, so we use the difference between their mean to categorize them.
J. Hypothesis Testing for Question 9 (Year 2)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>82</td>
<td>2.37</td>
<td>2.11</td>
</tr>
<tr>
<td>9-2</td>
<td>82</td>
<td>2.69</td>
<td>1.82</td>
</tr>
<tr>
<td>9-3</td>
<td>82</td>
<td>3.24</td>
<td>1.25</td>
</tr>
<tr>
<td>9-4</td>
<td>82</td>
<td>2.05</td>
<td>2.27</td>
</tr>
<tr>
<td>9-5</td>
<td>82</td>
<td>3.11</td>
<td>1.6</td>
</tr>
<tr>
<td>9-6</td>
<td>82</td>
<td>3.45</td>
<td>1.39</td>
</tr>
<tr>
<td>9-7</td>
<td>82</td>
<td>3.67</td>
<td>1.21</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2922 or greater than +1.2922

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1(n_1-1)+s_2(n_2-1)}{n_1+n_2-2}} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}
\]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount, etc (9-1)

   Ho: \( \mu_4 - \mu_1 = 0 \) (reject)

   Ha: \( \mu_4 - \mu_1 \neq 0 \)
As \( t^* = -1.385 \), which is outside the interval of \( \pm 1.2922 \), we can conclude that we reject \( H_0 \) i.e. \( \mu_4 \) and \( \mu_1 \) are significant different at the statistic level \( a = 0.1 \).

This means that Period of exemption of annual fee (9-4) is more important than Souvenir given, bonus point scheme, shopping discount (9-1) to Year 2 respondents.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

   \( H_0: \ \mu_1 - \mu_2 = 0 \) (reject)

   \( H_a: \ \mu_1 - \mu_2 \neq 0 \)

   \[
   t^* = \frac{2.37 - 2.69}{\sqrt{\frac{2.11(82 - 1) + 1.82(82 - 1)}{82 + 82 - 2}} \times \sqrt{\frac{1}{82} + \frac{1}{82}}} \\
   = \frac{-0.32}{1.402 \times 0.156} \\
   = -0.32 \\
   = -0.219 \\
   = -1.461
   \]
As \( t^* = -1.461 \), which is outside the interval of \( \pm 1.2922 \), we can conclude that we reject \( H_0 \), i.e. \( \mu_1 \) and \( \mu_2 \) are significant different at the statistic level \( \alpha = 0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) are more important than credibility of the issuing bank (9-2) to Year 2 respondents.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Co-brand card with university (9-5)

   \[
   \begin{align*}
   H_0: & \quad \mu_2 - \mu_5 = 0 \quad \text{(reject)} \\
   H_a: & \quad \mu_2 - \mu_5 \neq 0
   \end{align*}
   \]

   \[
   t^* = \frac{2.69 - 3.11}{\sqrt{\frac{1.82(82 - 1) + 1.6(82 - 1)}{82 + 82 - 2} \left( \frac{1}{82} + \frac{1}{82} \right)}} = -0.42 \\
   = \frac{-0.41}{1.308 \times 0.156} = -2.06
   \]

   As \( t^* = -2.06 \), which is outside the interval of \( \pm 1.2922 \), we can conclude that we reject \( H_0 \), i.e. \( \mu_2 \) and \( \mu_5 \) are significant different at the statistic level \( \alpha = 0.1 \).

   This means that credibility of the issuing bank (9-2) are more important than co-brand card with university (9-5) to Year 2 respondents.
4. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Outlook of the card (9-3)

   Ho: \( \mu_5 - \mu_3 = 0 \) (reject)
   Ha: \( \mu_5 - \mu_3 \not= 0 \)

   \[
   t^* = \frac{3.11 - 3.24}{\sqrt{\frac{1.6(82 - 1) + 1.25(82 - 1)}{82 + 82 - 2}} \cdot \sqrt{\frac{1}{82} + \frac{1}{82}}}
   \]

   \[
   = -0.13
   \]

   \[
   = -0.699
   \]

   As \( t^* = -0.699 \), which is within the interval of \( \pm 1.2922 \), we can conclude that we accept Ho i.e. \( \mu_5 \) and \( \mu_3 \) have no difference at the statistic level \( a = 0.1 \).

   This means that co-brand card with university (9-5) and outlook of the card (9-3) are the same important to Year 2 respondents.

5. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Other Functions (9-6)

   Ho: \( \mu_3 - \mu_6 = 0 \) (reject)
   Ha: \( \mu_3 - \mu_6 \not= 0 \)
\[
t^* = \frac{3.24 - 3.45}{\sqrt{\frac{1.25(82 - 1) + 1.39(82 - 1)}{82 + 82 - 2}} * \sqrt{\frac{1}{82} + \frac{1}{82}}}
\]
\[
= -\frac{0.21}{1.149 * 0.156}
\]
\[
= -0.179
\]
\[
= -1.173
\]

As \(t^* = -1.173\), which is within the interval of \(\pm 1.2922\), we can conclude that we accept \(H_0\) i.e. \(\mu_3\) and \(\mu_6\) have no difference at the statistic level \(a = 0.1\).

This means that outlook of the card (9-3) and other functions (9-6) are the same important to Year 2 respondents.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friend’s Recommendations (9-7)

   \(H_0: \mu_6 - \mu_7 = 0\) (reject)

   \(H_a: \mu_6 - \mu_7 \neq 0\)

   \[
t^* = \frac{3.45 - 3.67}{\sqrt{\frac{1.39(82 - 1) + 1.21(82 - 1)}{82 + 82 - 2}} * \sqrt{\frac{1}{82} + \frac{1}{82}}}
\]
\[
= -\frac{0.22}{1.14 * 0.156}
\]
\[
= -0.22
\]
\[
= -0.137
\]
\[
= -1.606
\]
As \( t^* = -1.606 \), which is outside the interval of \( \pm 1.2922 \), we can conclude that we reject \( H_0 \) i.e. \( \mu_6 \) and \( \mu_7 \) are significant different at the statistic level \( a = 0.1 \). This means that other functions (9-6) is more important than friends’ recommendations (9-7) to Year 2 respondents.

**Brief Summary**

According to the test result above, we can have the following conclusion:
In the Year 2 respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorized into the followings:

*Most Attractive:* Period of exemption of annual fee (9-4)

*Next Attractive:* Souvenir given, bonus point scheme, shopping discount (9-1)
Credibility of the issuing bank (9-2)
Co-brand card with university (9-5)
Outlook of the card (9-3)
Other Functions (9-6)

*Least Attractive:* Friends’ recommendations (9-7)
K. Hypothesis Testing for Question 9 (Year 3)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>71</td>
<td>2.41</td>
<td>1.9</td>
</tr>
<tr>
<td>9-2</td>
<td>71</td>
<td>2.75</td>
<td>1.44</td>
</tr>
<tr>
<td>9-3</td>
<td>71</td>
<td>3</td>
<td>1.57</td>
</tr>
<tr>
<td>9-4</td>
<td>71</td>
<td>2.32</td>
<td>2.49</td>
</tr>
<tr>
<td>9-5</td>
<td>71</td>
<td>3.07</td>
<td>1.54</td>
</tr>
<tr>
<td>9-6</td>
<td>71</td>
<td>3.32</td>
<td>1.63</td>
</tr>
<tr>
<td>9-7</td>
<td>71</td>
<td>3.49</td>
<td>1.9</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.2938 or greater than +1.2938.

\[ t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1(n_1-1) + s_2(n_2-1)}{n_1+n_2-2}} * \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   Ho: \( \mu_4 - \mu_1 = 0 \) (reject)
   Ha: \( \mu_4 - \mu_1 \neq 0 \)
As $t^*=0.361$, which is within the interval of $\pm 1.2938$, we can conclude that we accept $H_0$ i.e. $\mu_4$ and $\mu_1$ have no difference at the statistic level $\alpha=0.1$.

This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important to Year 3 respondents.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

   \[ H_0: \mu_1 - \mu_2 = 0 \text{ (reject)} \]
   \[ H_a: \mu_1 - \mu_2 \neq 0 \]

   \[ t^* = \frac{2.41 - 2.75}{\sqrt{\frac{1.9(71-1) + 1.44(71-1)}{71 + 71 - 2} \cdot \frac{1}{71} + \frac{1}{71}}} \]

   \[ t^* = -0.34 \]

   \[ 1.292 \times 0.168 \]

   \[ = -0.34 \]

   \[ 0.217 \]

   \[ = -1.567 \]
As \( t^* = -1.567 \), which is outside the interval of \( \pm 1.2938 \), we can conclude that we reject Ho i.e. \( \mu_1 \) and \( \mu_2 \) are significant different at the statistic level \( a=0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) is more important than Credibility of the issuing bank (9-2) to Year 3 respondents.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Outlook of the card (9-3)

   \[
   \begin{align*}
   &Ho: \quad \mu_2 - \mu_3 = 0 \quad \text{(reject)} \\
   &Ha: \quad \mu_2 - \mu_3 \neq 0
   \end{align*}
   \]

   \[
   t^* = \frac{2.75 - 3}{\sqrt{\frac{1.44(71) + 1.57(71)}{71 + 71 - 2} \times \frac{1}{71} + \frac{1}{71}}} \\
   = \frac{-0.25}{1.227 \times 0.168} \\
   = -0.25 \\
   = 0.206 \\
   = -1.214
   \]

   As \( t^* = -1.214 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept Ho i.e. \( \mu_2 \) and \( \mu_3 \) have no difference at the statistic level \( a=0.1 \).

   This means that credibility of the issuing bank (9-2) and outlook of the card (9-3) are the same important to Year 3 respondents.
4. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Co-brand card with university (9-5)

Ho: $\mu_3 - \mu_5 = 0$ (reject)
Ha: $\mu_3 - \mu_5 \neq 0$

$$t^* = \frac{3 - 3.07}{\sqrt{\frac{1.57(71-1) + 1.54(71-1)}{71 + 71 - 2} \times \frac{1}{71} + \frac{1}{71}}}$$

$$= \frac{-0.07}{1.247 \times 0.168}$$

$$= \frac{-0.07}{0.209}$$

$$= -0.335$$

As $t^* = -0.335$, which is within the interval of $\pm 1.2938$, we can conclude that we accept Ho i.e. $\mu_3$ and $\mu_5$ have no difference at the statistic level $a = 0.1$.

This means that outlook of the card (9-3) and co-brand card with university (9-5) are the same important to Year 3 respondents.

5. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Other Functions (9-6)

Ho: $\mu_5 - \mu_6 = 0$ (reject)
Ha: $\mu_5 - \mu_6 \neq 0$
As $t^* = -1.179$, which is within the interval of $\pm 1.2938$, we can conclude that we accept $H_0$ i.e. $\mu_5$ and $\mu_6$ have no difference at the statistic level $\alpha = 0.1$.
This means that co-brand card with university (9-5) and other functions (9-6) are the same important to Year 3 respondents.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friend’s Recommendations (9-7)

   $H_0: \mu_6 - \mu_7 = 0$ (reject)

   $H_a: \mu_6 - \mu_7 \neq 0$

   \[
   t^* = \frac{3.32 - 3.49}{\sqrt{\frac{1.63(71 - 1) + 1.9(71 - 1)}{71 + 71 - 2}} \times \sqrt{\frac{1}{71} + \frac{1}{71}}} = \frac{-0.17}{1.329 \times 0.168} = \frac{-0.17}{0.223} = -0.762
   \]
As \( t^* = -0.762 \), which is within the interval of \( \pm 1.2938 \), we can conclude that we accept Ho i.e. \( \mu_6 \) and \( \mu_7 \) have no difference at the statistic level \( a = 0.1 \).

This means that other functions (9-6) and friends’ recommendations (9-7) are the same important to Year 3 respondents.

**Brief Summary**

According to the test result above, we can have the following conclusion:

In the Year 3 respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the following:

- **Most Attractive:**
  - Period of exemption of annual fee (9-4)
  - Souvenir given, bonus point scheme, shopping discount (9-1)

- **Next Attractive:**
  - Credibility of the issuing bank (9-2)
  - Outlook of the card (9-3)
  - Co-brand card with university (9-5)
  - Other Functions (9-6)
  - Friends’ recommendations (9-7)
L. Hypothesis Testing for Question 9 (Year 4)

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>7</td>
<td>2.14</td>
<td>1.14</td>
</tr>
<tr>
<td>9-2</td>
<td>7</td>
<td>2.86</td>
<td>0.14</td>
</tr>
<tr>
<td>9-3</td>
<td>7</td>
<td>2.83</td>
<td>2.17</td>
</tr>
<tr>
<td>9-4</td>
<td>7</td>
<td>2.57</td>
<td>2.95</td>
</tr>
<tr>
<td>9-5</td>
<td>7</td>
<td>3.43</td>
<td>0.95</td>
</tr>
<tr>
<td>9-6</td>
<td>7</td>
<td>2.86</td>
<td>1.48</td>
</tr>
<tr>
<td>9-7</td>
<td>7</td>
<td>3.67</td>
<td>0.67</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.4149 or greater than +1.4149

\[
t^* = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1(n_1-1) + s_2(n_2-1)}{n_1 + n_2 - 2}} \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

1. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Period of exemption of annual fee (9-4)

   Ho:  \( \mu_1 - \mu_4 = 0 \) (reject)

   Ha:  \( \mu_1 - \mu_4 \neq 0 \)
\[ t^* = \frac{2.14 - 2.57}{\sqrt{\frac{1.14(7 - 1) + 2.95(7 - 1)}{7 + 7 - 2} * \frac{1}{7} + \frac{1}{7}}} = \frac{-0.43}{1.43 * 0.535} = \frac{-0.43}{0.765} = -0.562 \]

As \( t^* = -0.562 \), which is within the interval of \( \pm 1.4149 \), we can conclude that we accept Ho i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( a=0.1 \).

This means that souvenir given, bonus point scheme, shopping discount (9-1) and period of exemption of annual fee (9-4) are the same important to Year 4 respondents.

2. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Outlook of the card (9-3)

Ho: \( \mu_4 - \mu_3 = 0 \) (reject)

Ha: \( \mu_4 - \mu_3 \neq 0 \)

\[ t^* = \frac{2.57 - 2.83}{\sqrt{\frac{2.95(7 - 1) + 2.17(7 - 1)}{7 + 7 - 2} * \frac{1}{7} + \frac{1}{7}}} = \frac{-0.26}{1.6 * 0.535} = \frac{-0.26}{0.856} = -0.304 \]
As \( t^* = -0.304 \), which is within the interval of \( \pm 1.4149 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_4 \) and \( \mu_3 \) have no difference at the statistic level \( \alpha = 0.1 \).
This means that period of exemption of annual fee (9-4) and outlook of the card (9-3) are the same important to Year 4 respondents.

3. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Credibility of the issuing bank (9-2)

\[
\begin{align*}
Ho: & \quad \mu_3 - \mu_2 = 0 \text{ (reject)} \\
Ha: & \quad \mu_3 - \mu_2 \neq 0 \\
t^* & = \frac{2.83 - 2.86}{\sqrt{\frac{2.17(7 - 1) + 0.14(7 - 1)}{7 + 7 - 2} \times \left( \frac{1}{7} + \frac{1}{7} \right)}} \\
& = \frac{-0.03}{1.075 \times 0.535} \\
& = -0.03 \\
& = 0.575 \\
& = -0.052
\end{align*}
\]

As \( t^* = -0.052 \), which is within the interval of \( \pm 1.4149 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_3 \) and \( \mu_2 \) have no difference at the statistic level \( \alpha = 0.1 \).
This means that outlook of the card (9-3) and Credibility of the issuing bank (9-2) are the same important to Year 4 respondents.
4. The following two factors will be tested:
- Credibility of the issuing bank (9-2)
- Co-brand card with university (9-5)

\[ \text{Ho: } \mu_2 - \mu_5 = 0 \text{ (reject)} \]
\[ \text{Ha: } \mu_2 - \mu_5 \neq 0 \]

\[
t^* = \frac{2.86 - 3.43}{\sqrt{\frac{0.14(7-1) + 0.95(7-1)}{7 + 7 - 2} \left( \frac{1}{7} + \frac{1}{7} \right)}} = \frac{-0.57}{0.738 \times 0.535} = \frac{-0.57}{0.395} = -1.44
\]

As \( t^* = -1.44 \), which is outside the interval of \( \pm 1.4149 \), we can conclude that we reject Ho i.e. \( \mu_2 \) and \( \mu_5 \) are significant difference at the statistic level \( \alpha = 0.1 \). This means that credibility of the issuing bank (9-2) is more important than co-brand card with university (9-5) to Year 4 respondents.

5. The following two factors will be tested:
- Co-brand card with university (9-5)
- Friends’ Recommendations (9-7)

\[ \text{Ho: } \mu_5 - \mu_7 = 0 \text{ (reject)} \]
\[ \text{Ha: } \mu_5 - \mu_7 \neq 0 \]
$$t^* = \frac{3.43 - 3.67}{\sqrt{\frac{0.95(7-1) + 0.67(7-1)}{7+7-2} \times \frac{1}{7} + \frac{1}{7}}}$$

$$= -0.24$$

$$\frac{0.9 \times 0.535}{0.482}$$

$$=-0.498$$

As \(t^*=-0.498\), which is within the interval of \(\pm1.4149\), we can conclude that we accept \(H_0\) i.e. \(\mu_5\) and \(\mu_7\) have no difference at the statistic level \(\alpha=0.1\).

This means that co-brand card with university and friends’ recommendations are the same important to Year 4 respondents.

**Brief Summary**

In the Year 4 respondents, the mean of reliability of the banks and financial intermediates (9-2) and other functions (9-6) are the same, meaning that they are in the same category and we have chosen the mean of reliability of the banks and financial intermediates (9-2).

According to the test result above, we can have the following conclusion:

In the Year 4 respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

**Most Attractive:**

*Souvenir given, bonus point scheme, shopping discount (9-1)*

*Period of exemption of annual fee (9-4)*

*Outlook of the card (9-3)*
Credibility of the issuing bank (9-2)
Other Functions (9-6)

Next Attractive:
Co-brand card with university (9-5)
Friends’ recommendations (9-7)
M. Hypothesis Testing for Question 9 (Master Student Year 1)(Year M1)

<table>
<thead>
<tr>
<th>Number of respondents</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1</td>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td>9-2</td>
<td>7</td>
<td>2.83</td>
</tr>
<tr>
<td>9-3</td>
<td>7</td>
<td>3.75</td>
</tr>
<tr>
<td>9-4</td>
<td>7</td>
<td>1.43</td>
</tr>
<tr>
<td>9-5</td>
<td>7</td>
<td>3.17</td>
</tr>
<tr>
<td>9-6</td>
<td>7</td>
<td>4.17</td>
</tr>
<tr>
<td>9-7</td>
<td>7</td>
<td>4.4</td>
</tr>
</tbody>
</table>

The null hypothesis will be rejected if the observed calculated t value is less than -1.4149 or greater than +1.4149

\[ t^* = \frac{(x1 - x2) - (\mu_1 - \mu_2)}{s_1(n1-1) + s_2(n2-1)} \times \sqrt{\frac{1}{n1} + \frac{1}{n2}} \]

1. The following two factors will be tested:
   - Period of exemption of annual fee (9-4)
   - Souvenir given, bonus point scheme, shopping discount (9-1)

   \[ \text{Ho: } \mu_4 - \mu_1 = 0 \text{ (reject) } \]
   \[ \text{Ha: } \mu_4 - \mu_1 \neq 0 \]
\[ t^* = \frac{1.43 - 1.5}{\sqrt{\frac{0.29(7 - 1) + 0.7(7 - 1)}{7 + 7 - 2}} \times \frac{1}{7} + \frac{1}{7}} \]

\[ = \frac{-0.07}{0.704 \times 0.535} \]

\[ = -0.07 \]

\[ = 0.377 \]

\[ = -0.186 \]

As \( t^* = -0.186 \), which is within the interval of \( \pm 1.4149 \), we can conclude that we accept \( H_0 \) i.e. \( \mu_4 \) and \( \mu_1 \) have no difference at the statistic level \( \alpha = 0.1 \).

This means that period of exemption of annual fee (9-4) and souvenir given, bonus point scheme, shopping discount (9-1) are the same important to Year M1 respondents.

2. The following two factors will be tested:
   - Souvenir given, bonus point scheme, shopping discount (9-1)
   - Credibility of the issuing bank (9-2)

\[ H_0: \quad \mu_1 - \mu_2 = 0 \text{ (reject)} \]

\[ H_a: \quad \mu_1 - \mu_2 \neq 0 \]

\[ t^* = \frac{1.5 - 2.83}{\sqrt{\frac{0.7(7 - 1) + 1.37(7 - 1)}{7 + 7 - 2}} \times \frac{1}{7} + \frac{1}{7}} \]

\[ = \frac{-1.33}{1.017 \times 0.535} \]

\[ = -1.33 \]

\[ = 0.544 \]

\[ = -2.445 \]
As $t^* = -2.455$, which is outside the interval of $\pm 1.4149$, we can conclude that we reject $H_0$ i.e. $\mu_1$ and $\mu_2$ are significant different at the statistic level $\alpha = 0.1$.
This means that souvenir given, bonus point scheme, shopping discount (9-1) is more important than credibility of the issuing bank (9-2) to Year M1 respondents.

3. The following two factors will be tested:
   - Credibility of the issuing bank (9-2)
   - Co-brand card with university (9-5)

   $H_0$: $\mu_2 - \mu_5 = 0$ (reject)
   $H_a$: $\mu_2 - \mu_5 \neq 0$

   
   \[ t^* = \frac{2.83 - 3.17}{\sqrt{\frac{1.37(7-1) + 2.57(7-1)}{7 + 7 - 2} \left( \frac{1}{\sqrt{\frac{1}{7} + \frac{1}{7}}} \right)}} \]
   
   \[ = \frac{-0.34}{1.404 \times 0.535} \]
   
   \[ = -0.34 \]
   
   \[ = 0.75 \]
   
   \[ = -0.453 \]

As $t^* = -0.453$, which is within the interval of $\pm 1.4149$, we can conclude that we accept $H_0$ i.e. $\mu_2$ and $\mu_5$ have no difference at the statistic level $\alpha = 0.1$.
This means that credibility of the issuing bank (9-2) and co-brand card with university (9-5) are the same important to Year M1 respondents.
4. The following two factors will be tested:
   - Co-brand card with university (9-5)
   - Outlook of the card (9-3)

   Ho: $\mu_5 - \mu_3 = 0$ (reject)
   Ha: $\mu_5 - \mu_3 \neq 0$

   $t^* = \frac{3.17 - 3.75}{\sqrt{\frac{2.57(7-1) + 0.92(7-1)}{7+7-2} \cdot \left(\frac{1}{7} + \frac{1}{7}\right)}}$

   $= \frac{-0.58}{1.321 \cdot 0.535}$

   $= -0.82$

   As $t^* = -0.82$, which is within the interval of ±1.4149, we can conclude that we accept Ho i.e. $\mu_5$ and $\mu_3$ have no difference at the statistic level $\alpha=0.1$.

   This means that co-brand card with university (9-5) and outlook of the card (9-3) are the same important to Year M1 respondents.

5. The following two factors will be tested:
   - Outlook of the card (9-3)
   - Other Functions (9-6)

   Ho: $\mu_3 - \mu_6 = 0$ (reject)
   Ha: $\mu_3 - \mu_6 \neq 0$
As $t^*=-0.808$, which is within the interval of $\pm 1.4149$, we can conclude that we accept $H_0$, i.e. $\mu_3$ and $\mu_6$ have no difference at the statistic level $a=0.1$. This means that outlook of the card (9-3) and other functions (9-6) are the same important to Year M1 respondents.

6. The following two factors will be tested:
   - Other Functions (9-6)
   - Friend’s Recommendations (9-7)

   $H_0$: $\mu_6 - \mu_7 = 0$ (reject)

   $H_a$: $\mu_6 - \mu_7 \neq 0$

   $t^* = \frac{3.75 - 4.17}{\sqrt{\frac{0.92(7-1) + 0.97(7-1)}{7 + 7 - 2} \cdot \frac{1}{7} + \frac{1}{7}}} = \frac{-0.42}{0.972 \times 0.535} = \frac{-0.42}{0.52} = -0.808$

   $t^* = \frac{4.17 - 4.4}{\sqrt{\frac{0.97(7-1) + 0.8(7-1)}{7 + 7 - 2} \cdot \frac{1}{7} + \frac{1}{7}}} = \frac{-0.23}{0.971 \times 0.535} = \frac{-0.23}{0.503} = -0.457$
As $t^*=-0.457$, which is within the interval of $\pm 1.4149$, we can conclude that we reject $H_0$ i.e. $\mu_6$ and $\mu_7$ have no difference at the statistic level $a=0.1$.

This means that other functions (9-6) and friends’ recommendations (9-7) are the same important to Year M1 respondents.

**Brief Summary**

According to the test result above, we can have the following conclusion:
In the Year 1 Master Year 1 respondents’ mind, the attractiveness of the factors that attract them to apply for the cards can be categorize into the followings:

*Most Attractive:*
- Period of exemption of annual fee (9-4)
- Souvenir given, bonus point scheme, shopping discount (9-1)

*Next Attractive:*
- Credibility of the issuing bank (9-2)
- Co-brand card with university (9-5)
- Outlook of the card (9-3)
- Other Functions (9-6)
- Friends’ recommendations (9-7)
Summary of Question 9

To summarize Question 9, we found that most of the respondents followed similar pattern. Most of them think that Period of exemption of annual fee (9-4) and Souvenir given, bonus point scheme, shopping discount(9-1) are the most attractive factors. Then are Credibility of the issuing bank (9-2), Co-brand card with university (9-5) and Outlook of the card (9-3). Most of them see that Other Functions (9-6) and Friends’ recommendations (9-7) are the least attractive factors.

Similar case can be found in the six different income groups, there only one difference, it is respondents of income group 3 and 6 see that Credibility of the issuing bank (9-2) is also very important to them.

For the male and female, we found that male not only see friends’ recommendations (9-7) as least important, they also see other functions as least important..

For the different years’ students, their cases are quite similar to the whole group that mentioned above.
Question 10

Under what condition will you use your credit card for payment? (Please choose any 3 out of the following options that you think the most important. Use 1, 2, 3 to rank their importance, 1 is the most important, 2 is less important)

We give 3 points to the choices that the respondents think the most important, 2 points to the less important choice and 1 point to the least important choice. And we get the following data.

<table>
<thead>
<tr>
<th>Condition Using Credit Card</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>410</td>
</tr>
<tr>
<td>Entertainment</td>
<td>163</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>146</td>
</tr>
<tr>
<td>Payment of Other Credit Card A/C</td>
<td>13</td>
</tr>
<tr>
<td>Groceries</td>
<td>92</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>148</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>79</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>16</td>
</tr>
<tr>
<td>Discounts</td>
<td>6</td>
</tr>
<tr>
<td>Bonus Points Given</td>
<td>2</td>
</tr>
<tr>
<td>Free Gifts</td>
<td>1</td>
</tr>
<tr>
<td>Restaurants</td>
<td>0</td>
</tr>
<tr>
<td>Forgot to Bring Cash</td>
<td>3</td>
</tr>
<tr>
<td>Installments</td>
<td>2</td>
</tr>
<tr>
<td>N/A</td>
<td>377</td>
</tr>
<tr>
<td>Total [243*(1+2+3)]</td>
<td>1458</td>
</tr>
</tbody>
</table>
The most popular use of credit card of the respondents is shopping. The second common situation is for entertainment. The third situation is auto transfer and payment of fees.
Question 10

Income Group 1 ($0 - $1200)

<table>
<thead>
<tr>
<th>Situation Using Credit Card</th>
<th>No. of Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>90</td>
</tr>
<tr>
<td>Entertainment</td>
<td>42</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>42</td>
</tr>
<tr>
<td>Payment for Other Credit Card A/C</td>
<td>6</td>
</tr>
<tr>
<td>Groceries</td>
<td>20</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>50</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>18</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>3</td>
</tr>
<tr>
<td>Discounts</td>
<td>3</td>
</tr>
<tr>
<td>Bonus Points Given</td>
<td>2</td>
</tr>
<tr>
<td>Presents</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>137</strong></td>
</tr>
</tbody>
</table>
The most common situation for respondents from income group 1 is shopping, which is consistent with the overall result of Question 10. But it is different that the second common situation of using credit card is payment of fees.
### Question 10

**Income Group 2 ($1201 - $2400)**

<table>
<thead>
<tr>
<th>Situation Using Credit Card</th>
<th>No. of Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>174</td>
</tr>
<tr>
<td>Entertainment</td>
<td>76</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>68</td>
</tr>
<tr>
<td>Payment for Other Credit Card A/C</td>
<td>5</td>
</tr>
<tr>
<td>Groceries</td>
<td>36</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>55</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>37</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>7</td>
</tr>
<tr>
<td>Discounts</td>
<td>3</td>
</tr>
<tr>
<td>Forgot to Bring Cash</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>464</strong></td>
</tr>
</tbody>
</table>
The result from income group 2 is very consistent with the overall result of Question 10. It is because that the majority of the respondents are from such income group, affected the overall result in a large extent.
**Question 10**

**Income Group 3 ($2401 - $3600)**

<table>
<thead>
<tr>
<th>Situation Using Credit Card</th>
<th>No. of Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>76</td>
</tr>
<tr>
<td>Entertainment</td>
<td>25</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>17</td>
</tr>
<tr>
<td>Payment for Other Credit Card A/C</td>
<td>2</td>
</tr>
<tr>
<td>Groceries</td>
<td>20</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>16</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>7</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>1</td>
</tr>
<tr>
<td>Interest-Free Instalments</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Situation Using Credit Cards**  
 *(Group 3)*

![Bar chart showing the distribution of points across different situations using credit cards](chart.png)
For income group 3, the third common situation that using credit card is groceries. The fourth and fifth situations are auto transfer and payment of fees respectively.

**Question 10**

**Income Group 4 ($3601 - $4800)**

<table>
<thead>
<tr>
<th>Situation Using Credit Card</th>
<th>No. of Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>21</td>
</tr>
<tr>
<td>Entertainment</td>
<td>3</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>12</td>
</tr>
<tr>
<td>Groceries</td>
<td>5</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>9</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>

The result got from income group 4 is quite different although the most common situation is still shopping. Buying groceries and entertainment is sharply decreased from the overall result of the sample.
Question 10

Income Group 5 ($4801 - $6000)

<table>
<thead>
<tr>
<th>Situation Using Credit Card</th>
<th>No. of Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>10</td>
</tr>
<tr>
<td>Entertainment</td>
<td>2</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>4</td>
</tr>
<tr>
<td>Groceries</td>
<td>3</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>3</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>1</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

For respondents from income group 5, the second common use of credit card is auto transfer. It is stated that the use of cash transfer is relatively higher than respondents from other income groups.
Question 10

Income Group 6 ($6000 or above)

<table>
<thead>
<tr>
<th>Situation Using Credit Card</th>
<th>No. of Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>30</td>
</tr>
<tr>
<td>Entertainment</td>
<td>13</td>
</tr>
<tr>
<td>Auto Transfer</td>
<td>3</td>
</tr>
<tr>
<td>Groceries</td>
<td>1</td>
</tr>
<tr>
<td>Payment of Fees</td>
<td>15</td>
</tr>
<tr>
<td>Online Shopping</td>
<td>10</td>
</tr>
<tr>
<td>Cash Advance</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
</tr>
</tbody>
</table>

Respondents from income group 6 show that they are not used to buy groceries with credit card. But their consumption pattern is quite similar to others that the most common use of credit card is for shopping.
**Question 11**

After owning credit card(s), has the amount of your expenditure changed?

<table>
<thead>
<tr>
<th>Change of Expenditure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>20</td>
</tr>
<tr>
<td>Slightly increase</td>
<td>86</td>
</tr>
<tr>
<td>Remain unchanged</td>
<td>94</td>
</tr>
<tr>
<td>Decrease</td>
<td>1</td>
</tr>
<tr>
<td>N/A</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

The number of respondents who have increase in expenditure after having credit card is only slight more than that of those who have no effect on expenditure. This is quite different from one of our hypotheses that the amount of expenditure of tertiary students will be increased after they have credit card.
**Question 12**

Will you consider your payment ability each time when you use your credit card(s)?

<table>
<thead>
<tr>
<th>Consideration of payment ability</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Often</td>
<td>132</td>
</tr>
<tr>
<td>Sometimes</td>
<td>42</td>
</tr>
<tr>
<td>Seldom</td>
<td>10</td>
</tr>
<tr>
<td>Never</td>
<td>16</td>
</tr>
<tr>
<td>N/A</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

66% of the respondents show that they will often think of their payment ability before using credit card.
Question 13

How often will you check the balance of your credit card account(s)

<table>
<thead>
<tr>
<th>Checking Balance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Often</td>
<td>64</td>
</tr>
<tr>
<td>Sometimes</td>
<td>79</td>
</tr>
<tr>
<td>Seldom</td>
<td>38</td>
</tr>
<tr>
<td>Never</td>
<td>20</td>
</tr>
<tr>
<td>N/A</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

Checking Balance

More than half of the respondents will control their consumption by checking the outstanding balance of their credit card accounts.
Question 14

How much is the average monthly balance of your credit card account?

Average Monthly Balance

<table>
<thead>
<tr>
<th>No. of observations</th>
<th>172</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>$0 - $15000</td>
</tr>
<tr>
<td>Mean</td>
<td>$1614.07</td>
</tr>
<tr>
<td>Variance</td>
<td>8831607.9</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2971.8</td>
</tr>
</tbody>
</table>

The answers given by the respondents are in a big range and the deviation between each observation is quite large. It shows that the consumption volume of the respondents is quite different.

Question 15

After you received your monthly account statement, when will you pay for the balance?

<table>
<thead>
<tr>
<th>When Settle Balance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately</td>
<td>33</td>
</tr>
<tr>
<td>Before payment due date</td>
<td>114</td>
</tr>
<tr>
<td>At payment due date</td>
<td>50</td>
</tr>
<tr>
<td>Continue to owe</td>
<td>1</td>
</tr>
<tr>
<td>N/A</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
</tr>
</tbody>
</table>
More than half of the respondents stated that they would settle the balance of the credit card accounts in order to prevent from paying late charges and interest.

**Question 16**

Do you know the charges of your credit card?

i) Annual finance charge for outstanding balance

<table>
<thead>
<tr>
<th>Annual Interest</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>5</td>
</tr>
<tr>
<td>Wrong</td>
<td>177</td>
</tr>
<tr>
<td>Total</td>
<td>182</td>
</tr>
</tbody>
</table>
Almost all of the respondents are not clear about the amount of annual interest of their credit cards.

ii) Late charges

<table>
<thead>
<tr>
<th>Late Charges</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>19</td>
</tr>
<tr>
<td>Wrong</td>
<td>163</td>
</tr>
<tr>
<td>Total</td>
<td>182</td>
</tr>
</tbody>
</table>

![Annual Interest](image)

![Late Charges](image)
The percentage of respondents who can answer the right answer is getting bigger than that in part (i). It may be because most of the banks charge the same amount for the late payment.

**Question 17**

*Have you ever owed credit card debt?*

<table>
<thead>
<tr>
<th>Checking Balance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Often</td>
<td>64</td>
</tr>
<tr>
<td>Sometimes</td>
<td>79</td>
</tr>
<tr>
<td>Seldom</td>
<td>38</td>
</tr>
<tr>
<td>Never</td>
<td>20</td>
</tr>
<tr>
<td>N/A</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
</tr>
</tbody>
</table>

![Owing Credit Card Debt](image)
64% of respondents said they have never owed credit card debt. It shows that they will not owe credit card for long term.

**Question 18**

Refer to the last question, if yes, how many time(s) in a year?

**Times of Owing Credit Card Debt**

<table>
<thead>
<tr>
<th>No. of observations</th>
<th>193</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0-10</td>
</tr>
<tr>
<td>Mean</td>
<td>0.5751</td>
</tr>
<tr>
<td>Variance</td>
<td>1.8446</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.3582</td>
</tr>
</tbody>
</table>

**Question 19**

Have you ever used cash advance?

<table>
<thead>
<tr>
<th>Cash Advance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>170</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
</tr>
</tbody>
</table>
Have you ever used cash advance?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>12%</td>
</tr>
<tr>
<td>No</td>
<td>88%</td>
</tr>
</tbody>
</table>

Question 20

Refer to the last question, if yes, how many time(s) in a year?

<table>
<thead>
<tr>
<th>No. of Times Used Cash Advance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of observations</td>
<td>197</td>
</tr>
<tr>
<td>Range</td>
<td>0-15</td>
</tr>
<tr>
<td>Mean</td>
<td>0.4594</td>
</tr>
<tr>
<td>Variance</td>
<td>3.9932</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.9983</td>
</tr>
</tbody>
</table>

The mean number of times used cash advance is 0.4594 which is less half time. The standard deviation shows that the difference between each answer is quite large, which means that some respondents may never tried for cash advance before and some may be used to use cash advance.
Question 21

What is the maximum amount of money that you used cash advance?

Maximum Amount of Cash Advance

<table>
<thead>
<tr>
<th>No. of observations</th>
<th>196</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>$0 - $15,000</td>
</tr>
<tr>
<td>Mean</td>
<td>438.27</td>
</tr>
<tr>
<td>Variance</td>
<td>4124323</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2030.84</td>
</tr>
</tbody>
</table>

The mean amount of cash advance is $438.27 where standard deviation is 2030.84. This large amount of standard deviation shows that the deviation between each respondent’s answer varies.

Question 22

Please write down your opinion concerning credit card.

The respondents state in this question that they think credit card provides convenience to them. Also, they show their concern on the weaknesses of credit card such as security problem, privacy of cardholders, insufficient information given during application, high annual interest, etc. Some respondents worry about their own control on using credit cards.
Chapter 5
Existing Problems Concerning Credit Cards for Tertiary Students
Chapter 5 Existing Problems Concerning Credit Cards for Tertiary Students

5.1 Credit Card Debt

The big amount of credit limit of tertiary students and the consumption pattern of nowadays’ youngsters cause the problem of credit card debt among tertiary students. Credit card debt then leads to couples of problems to tertiary students.

The normal credit limit for tertiary students is between $12,000 and $15,000. This amount of credit card limit is very large to normally low-income tertiary students. The limit already lost the function of “limiting” consumption as this is much greater than the average monthly income of most of the tertiary students. Also, now credit card issuing bank always leagued with retail stores to offer discounts for cardholders and there are so many plus service, for example, auto transfer, cash advance. If tertiary students cannot probably use those functions of credit cards, they will easily get into financial problems.

The principle of credit card is distorted by the cardholders. The origin of using credit card is that you provided your credit for the bank and so the bank offers you the service of paying for your consumption and it is a must for cardholders to settle the monthly balance of their accounts in order to keep their credit. According to this principle, if cardholders should keep their consumption on budget in order to stay credible. But nowadays, people just think that credit card issuing bank help people can pay for them first and they think clearing credit card account balance is not necessary. The atmosphere of owing credit card debt among tertiary students’ group is especially serious.
We have interviewed with two tertiary students who carry credit card debt. They are both year 3 students and owe credit card for $15,000 and $11,000 respectively. Student 1 used cash advance to overdraft money for other use. Because of the high interest of amount of cash advance, the ball of his credit card debt rolled to bigger and bigger. Student 2 used credit card for her daily consumption. Because of lack of financial control, she has owed this amount of debt now.

In order to pay for the debt, Student 1 and 2 have to do part-time jobs and Student 1 even said his study is affected in certain extent. They feel stress of carrying the debt and worried that they cannot clear the debt. The problem gets worsen that they did not share this sad feeling with family members.

In fact, this thought can lead to long-term impact.

First, the burden of credit card debt can cause psychological unhealthy to cardholders as they always feel stress of being a debtor as mentioned in the case. In 1999, there are two US college students committed suicide as they have huge amount of credit card debt. This may happened in Hong Kong too if the tertiary students still keep on consuming without control.

Second, owing credit card debt can cause long-term effect in your future financial planning. Once the record of payment of cardholders is not good, the credit card issuing bank can disclose the record to other banks. When the cardholders want to lend for loan (including mortgage, personal loan, loan for car purchase) from banks in the future, the consideration of bank will be affected by their record.
5.2 Policy of Card Issuing Banks

We think that the bank should also be responsible for the existing problems of credit cards of tertiary students. The policy that the banks imposed is too beneficial to tertiary students and sometimes too aggressive.

Credit card issuing banks set the tertiary students as their potential customers. Every academic year, they spend large amount of money in marketing their credit cards to tertiary students. But the banks show their negligence of the seriousness of credit card problems of tertiary students.

The credit card application process of tertiary students is set too simple. Referring to our interviewee who is a credit card promoter, credit card issuing banks allow tertiary students no need to fill in all the “required” information in the application form. The required documents are just copy of their Hong Kong ID card and student ID card. The banks use free welcome gifts without any conditions required in order to attract the students. Also, the banks do not think too much through the approval period of tertiary students’ application. They usually issue credit cards to tertiary students without assuring their payment ability or credit reference of how many credit cards they already have. This as-simple-as-possible application process causes the students to make imprudence decision without considering their financial ability.

Also, there is not any professional training program for credit card promoters. The promoters are only required to know what are the selling points of the credit cards and how to attract as many as people to apply. In fact, it should be the responsibility for credit card promoter to tell applicants what they should first consider before applying the card.
Chapter 6
Conclusion
Chapter 6 Conclusion

As a conclusion, we have studied in the origin of the credit cards; process and requirements for application of credit cards; and the benefits for the cardholders.

We investigated in the opinion of tertiary students concerning credit cards by conducting a survey. We get their personal information, source and amount of income, number of credit cards they have and actually using. We try to find out the reasons for having credit card. We test if they have right attitude on choosing credit cards by asking them what factors affecting their decision on application. The conditions that they will use credit card let us know more on their consumption pattern. Also, we ask different areas concerning their use of credit card in order to know if they have used their credit card properly.

There are couples of problems concerning tertiary students’ credit cards. They are the psychological impact and personal credit impact from credit card debt, the policy of the credit card issuer, and the poor standard of credit card promoter.

Hypotheses concerning most tertiary students have credit card, not familiar with charges and they may use cash advance are consistent with the results of the survey. But hypothesis of lack of consideration of repayment power is rejected by the result of the survey. Reason for having credit card is that it provides convenience to them. Overall speaking, they will first consider the period for exemption of annual fee, presents given, bonus point scheme, shopping discounts when they apply for credit card.

The reason for this result may due to the difference between sample size of our survey and the survey conducted by Democratic Party, which we use it to set our hypotheses.
Chapter 7
Recommendations
Chapter 7 Recommendations

The problems of tertiary students using credit cards are quite serious recently, however, it is useless that just to tell them that using credit card is not good and may causes financial hazards to them. On the other hand, we should teach them how to use the cards wisely so that they can enjoy the benefits of using credit cards. The following paragraphs are some suggestions to solve the problems that we had found from this study. Part I concerning how the student can use their cards wisely and in a better ways, the Part II concerning the security problems.

Part I

In this part, we state some points regarding credit cards use that the student should pay attention to, we also suggests some ways to the to the solve the problems that we found, and recommend what the students should do in order to use their card wisely.

Choose Suitable Credit cards

There are many different credit cards credit cards for tertiary student in Hong Kong. We suggest that students should choose the credit card very carefully and they should choose the cards that most suitable for them only, they should not just put the welcome gifts of applying the cards only. They should also consider the reliability of bank and the financial intermediates. This no problem for them that they are attracted by the welcome gift, but after they found that the card is useless, they should cancel the cards and do not just put them aside. It is because if you just put them aside soon you would forget that you carry that card, and when the exemption of the annual fee is finished, you may not know about it and the bank and financial intermediate may charge you the fee and you will suffer a loss.
Understand the Terms and Conditions.

Most of the students that applying credit cards are attracted by the welcome gift, they always pay little attention to the terms and conditions that they have to follow. So we suggest that they should understand the terms and conditions before they apply a credit card. If they do not read the terms and conditions clearly, they may breach the terms and suffer a great loss. For instance, the term state very clear that the amount of APRs, but you fail to know about that, it may finally caused you to pay a very high interest. For another instances, the terms state very clear about your liabilities and the companies liabilities, if you do not read and understand it before, you may conduct some actions that violate the terms and conditions but you still liable for them. To protect your right, you should read the terms and conditions clear and follow them tightly.

Make a Credit Card Register

Sometimes, you may find that you do not know how much do you use this month and exceed the credit limit. Make a credit card register can help you to solve this problem. You should make a remark in the register every times you use the cards, this can help you to know how much you had used during the month, and the balance left, so that you would exceed the credit limit.

Do Not Make Cash Advance

Cash advance is function to be used under the emergent situation because it incurs a high interest. We suggest that tertiary student should not use cash advance because they are hard to pay for the high interest, and if they use cash advance frequently, it may lead them to carry a large debts before their graduation. So we think that they can use credit cards to pay but do not use it to make cash advance. They cannot bare the burden and consequence of it.
Keep the Monthly Statement

We also suggest that the cardholder should keep the monthly statement. It is because the statement can be an evident, if there are arguments with the banks and the financial intermediates.

Make Good Use of the Statement Dates

We found that most of the tertiary students owe more than one credit cards. Every card account has its own statement dates, some may be in the beginning of the months and some may be at the end of the months. We suggest that they should get good use to these statement dates. For instance, if one card’s statement is coming soon, in order to use the cards wisely and enjoy the benefits, the tertiary student should not use that card to pay, indeed he/she should use another card which statement date is not coming soon. This can help you to allocate your expenditure better and prepare the amount you needed to pay for it.

Part II

In this part, we give our recommendations concerning the problems of security.

On-line shopping

We found that some of the respondents might use their credit cards for on-line shopping. As the security regarding on-line shopping and payment is still in doubt, the cardholders information can easily being retrieved if the security measures of the internet shops are poor and students may suffer a loss if their card information is carried by others, as other people can use your card information to shop on the net. So we suggest that if the student cardholders really want to shop online, they should choose some shops that have a better security measures, so that your information would not be disclosed easily.
Entertainment

We found that most of the respondents might use their credit cards in some entertainment places, such as, Karaoke boxes and restaurants. However, we learnt from the real cases that, some people might commit illegal actions. For instance, they may get your card information, use the information to make fake cards, and this may cause loss to the original cardholder. In order to protect them, we suggest that students should avoid using credit cards in such places.

ATM password

Most of the banks and financial intermediates provide the cardholder an ATM password. With the password the cardholder can get cash from the ATM. We suggest that the student should change the original password once they received it. Also, they should disclose it to other people, as others can use it to make cash advance and it causes loss to the cardholder. So we suggest that they should keep their password secret.

Photocopies of the Identity card and student card

Normally, students have to give the photocopies of their identity cards and student cards to the banks and financial intermediates. For the reason of security, we suggest that they should include the following sentences on the photocopies, “This is a copy of my cards for applying XXX banks credit card. This copy cannot be used in other ways.” The sentences should be write on the copies but do not cover the information and the photograph. Others cannot use the copies in other places, and you need not to afraid that the staff of the banks and financial intermediates in some illegal ways.

To conclude, every matter has two faces, use of credit cards can bring many benefits and convenient to tertiary students, however if they use them improperly, they may carry
credit card debts and suffer great loss. And we cannot stop the tertiary student to use credit cards, if the students can bare the above recommendations in mind, the problems concerning tertiary student’s credit cards can be solved to certain extent.
Chapter 8
Limitations and Suggestions for Future Research
Chapter 8 Limitations and Suggestions For Future Research

8.1 Limitations

1. Improper Time Management.

We could not manage our time well, for example, we originally set that we have to use 1-2 months to distribute and collect the questionnaires, as we did not management our time well, we totally use about 3 months to finish this process.

2. Defaults in Questionnaire

We found that there are some mistakes in the questionnaire of the survey. For example, the section of other s in question 9, we forgot to give scale (1 to 5) for respondents to circle the answer. Thus although some of the respondents have filled in other factors for them to choose credit card, the result cannot be count as no scale is chosen.

3. Unclear Instructions Given to Questionnaire Distributors

We have given some questionnaire to friends for distributions. But we found that we forgot to give enough instructions in answering the question. So there are few questionnaire is classified as invalid because of this.

4. Lack of Reference Books

The number of this secondary data is very limited, especially the case in Hong Kong. That is why we have to depend on the interviews with tertiary students and credit card promoter.
8.2 Suggestions for Future Research

The following five suggestions are given for students who will conduct research in the future:

1. Choosing Topic

The most important step of conducting a research is choosing and setting the topic of the research. A good topic can help you to conduct the research more smoothly. So when you choose research topic, you should choose the one that you are more familiarized. Also, you should choose a topic that has more secondary resources and references, so that more support can be given to your research.

2. Setting Timetable

Setting a timetable can help you to manage the time better. After setting the timetable, you have to follow it tightly. This can also provide us more time to proofread the report so that the flow of the report can be smoother. Also, if we can follow the timetable, this means we can meet the deadlines.

3. Distribution of Questionnaires

After setting the questionnaires, you should first distribute them to a small group of interviewees in order to find out any problems of the questions, and then you should finalize your questionnaires. After that, you could distribute the finalized questionnaires to your targeted interviewees. This process can help us to reduce the mistakes of the questionnaires and on the other hand, improve the accuracy of the research.
4. Frequent meeting with Project Instructor.

We also suggest that you should meet with your project instructor frequently. This can help you to final out any mistake immediately and rescue the problems, so that the mistakes and problems do not affect the research so much. Otherwise, the problems and mistakes may become incurable.

5. Conducting the research with partner

As the workload of a research project is very heavy and this is a time and energy consuming project, we suggest that students can choose to conduct the research with partner. We the help from the partner, new ideas and dimensions can be brought into the research and the scope of the research can be in a broader way. Also, if you conduct your research with partners, you can motivate each other and bring fun during the process of conducting the research.

We think that follow the above five suggestions, student can conduct their research study more smoothly.
Reference / Bibliography
Reference/ Bibliography


Money in Hong Kong: A Brief Introduction, Hong Kong Monetary Authority, 2000.

Official Website of Hong Kong Monetary Authority

Official Website of Education and Manpower Bureau
http://www.info.gov.hk/emb/

大學生信用卡易申請. 明報. 2000 年 7 月 22 日
Available: http://www.wisenews.net

卡數撇帳率勢見雙位數. 東方日報. 2002 年 4 月 29 日

近九成大學生持兩信用卡. 東方日報. 2000 年 12 月 3 日
香港信用卡市場競爭日趨激烈, 經濟日報, 2001 年 10 月 10 日

銀行積極爭取大學生客戶, 新報, 2001 年 9 月 27 日
Available: http://www.wisenews.net
Appendixes
Appendix I
Questionnaires
Chinese Version

大專生信用卡的意見問卷調查

我們是嶺南大學工商管理系(風險及保險管理)三年級學生，現正撰寫畢業論文而進行關於大專生的信用卡意見調查，目的在於研究使用信用卡對大專生的影響。你所提供的資料只供學術用途，絕對不會公開發表，希望得到你的支持！多謝！

1. 性別： □ 男  □ 女

2. 就讀年級： __________

3. 年齡： □ 18-20  □ 21-23  □ 24-26  □ 27 歲或以上

4. 你的主要收入來源是甚麼? (可選擇多項)
   □ 家人給予的零用錢  □ 助學金  □ 兼職
   □ 其他 請註明： _____________

5. 總計你的收入來源，你的每月平均收入有多少？
   □ $0-$1200  □ $1201-$2400  □ $2401-$3600
   □ $3601-$4800  □ $4801-$6000  □ $6000 以上

6. 你現時擁有多少張信用卡？
   □ 沒有  □ 一張  □ 兩張  □ 三張
   □ 四張  □ 五張  □ 五張以上 請註明： ______________

7. 你實際會使用的信用卡有多少張呢？
   □ 沒有  □ 一張  □ 兩張  □ 三張
   □ 四張  □ 五張  □ 五張以上 請註明： ______________

8. 你為什麼希望擁有信用卡？(請選出你認為最重要的一項)
   □ 付款方便  □ 可以現金透支  □ 人有我有
   □ 身份象徵  □ 其他 請註明： ________________________
9. 當申請某銀行(或某機構)之信用卡時, 你認為該銀行(或機構)最吸引你的因素是: (請圈出你認為的數字, 1 為最重要; 5 為最不重要)

i. 有禮品, 積分優惠, 商舖優惠和現金回贈  1  2  3  4  5
ii. 發卡銀行/公司的可靠性  1  2  3  4  5
iii. 信用卡的美觀  1  2  3  4  5
iv. 免年費年期  1  2  3  4  5
v. 大學聯營信用卡 (例如: 恆生理大信用卡)  1  2  3  4  5
vi. 其他功能 (例如: 即時轉賬到八達通)  1  2  3  4  5
vii. 朋友推薦  1  2  3  4  5
viii. 其他    請註明: ____________________________________________

10. 在什麼情況下, 你會使用信用卡付款? (請選擇其中最重要三項)

口 購物    □ 購買日用品 (例如: 超級市場)
口 娛樂場所 (例如: 卡拉 OK, 戲院)    □ 繳費 (例如: 流動電話費)
口 自動轉帳其他費用    □ 網上購物 (例如: 訂購戲票)
口 轉賬至其他信用戶口    □ 現金透支
口 其他    請註明: ____________________________________________

11. 申請信用卡後, 你的消費支出有否改變?

口 增加    □ 略為增加    □ 保持不變    □ 減少

12. 每當簽賬時, 會否考慮自己的還款能力?    經常    間中    很少    從不

13. 你會否經常查詢自己信用卡戶口的結餘?

口 經常    間中    很少    從不

14. 你通常什麼時候才會清還信用卡戶口結餘?

口 立即繳交    □ 到期還款日前    □ 到期還款日    □ 繼續拖欠

15. 你是否清楚你所使用的信用卡所收取的費用?
(如多張信用卡, 請選擇你最常用的作答)

信用卡名稱: ____________________________
所屬銀行: ____________________________
i) 年息:    □ 清楚    請列明: ____%    □ 不清楚
ii) 過期還款的每月罰款: □ 清楚    請列明: ____________    □ 不清楚

16. 請問閣下曾否試過拖欠信用卡款項?

口 經常    間中    很少    從不
17. 承上題，如有，你每年平均拖欠多少次？ ________ 次

18. 你有否試過用信用卡現金透支？ □ 有 □ 沒有

19. 承上題，如有，你每年平均透支多少次？ ________ 次

20. 你所試過最高透支多少錢？ $__________________

21. 請寫下你對信用卡的其他意見

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

——— 問卷已經完畢，多謝你的幫忙！———
Survey on Credit Card of HK Tertiary Students

Hi! We are year 3 RIM (Risk and Insurance Management) students of Lingnan University. We are now conducting a survey on the use of credit card of Hong Kong tertiary students for our final year project. By analyzing the result of the survey, we would like to know the effect of using credit cards on the students. The information that you provided will only be used for academic purpose and absolutely not be disclosed to public. We hope to get your help. Thank you!

1, Sex: □ Male □ Female

2, Year of study: ___________

3, Age: □ 18-20 □ 21-23 □ 24-26 □ 27 or above

4, What is(are) the main source(s) of your monthly income? (Can choose more than one option)
   □ Pocket money given by family members □ Scholarship/Grant and Loan
   □ Part-time job □ Others Please specify: ______________

5, By adding all of your income sources, how much is your monthly income?
   □ $0-$1200 □ $1201-$2400 □ $2401-$3600
   □ $3601-$4800 □ $4801-$6000 □ $6000 以上

6, How many credit cards do you own?
   □ 0 □ 1 □ 2 □ 3
   □ 4 □ 5 □ more than 5 Please specify: __________

7, How many credit cards you are actually using?
   □ 0 □ 1 □ 2 □ 3
   □ 4 □ 5 □ more than 5 Please specify: __________

8, What is the reason for you to have credit card? (Please choose one that you think is the most important)
   □ Convenient for shopping □ Cash Advance □ Friends do
   □ Personal identity □ Others Please specify: __________

9, What factor(s) attract(s) you to apply for a bank/financial institution’s credit card?
   (Please circle out 1, 2, 3, 4 or 5; 1 is the most important; 5 is the least important)
Souvenir given, bonus point scheme, shopping discount 1 2 3 4 5
Credibility of the issuing bank 1 2 3 4 5
Outlook of the card 1 2 3 4 5
Period of exemption of annual fee 1 2 3 4 5
Co-brand card with university 1 2 3 4 5
Other functions (e.g. Auto transfer to Octopus card) 1 2 3 4 5
Friends’ recommendation 1 2 3 4 5
Others Please specify: ____________________ 1 2 3 4 5

10, Under what condition will you use your credit card for payment? (Please choose any 3 out of the following options that you think the most important. Use 1, 2, 3 to rank their importance, 1 is the most important, 2 is less important)
☐ Shopping ☐ Buying groceries (e.g. At supermarket)
☐ Auto transfer ☐ Entertainment (e.g. At karaoke box)
☐ Online shopping ☐ Payment for other charges (e.g. Mobile phone fees)
☐ Cash advance ☐ Payment for balance of other credit card account(s)
☐ Others Please specify: __________________________

11, After owning credit card(s), has the amount of your expenditure changed?
☐ Increase ☐ Slightly increase ☐ Remain unchanged ☐ Decrease

12, Will you consider your payment ability each time when you use your credit card(s)?
Often Sometimes Seldom Never

13, How often will you check the balance of your credit card account(s)?
Often Sometimes Seldom Never

14, How much is the average monthly balance of your credit card account?
HK$ __________________

15, After you received your monthly account statement, when will you pay for the balance?
☐ Immediately ☐ Before payment due date ☐ On payment due date ☐ Not pay yet

16, Do you know the charges of your credit card?
(If you own more than 1 credit card, please choose the one that u use most frequently to answer)

Name of credit card: _______________________
Issued bank / financial institution: _______________________
i) Annual finance charge for outstanding balance: ☐ Yes Pls specify: ____%
□ No
i) Late charges: □ Yes  Pls specify:$__________ □ No

17. Have you ever owe credit card debt?
Often    Sometimes    Seldom    Never

18. Refer to the last question, if yes, how many time(s) in a year?   ______time(s)

19. Have you ever used cash advance?    □ Yes    □ No

20. Refer to the last question, if yes, how many time(s) in a year?   ______time(s)

21. What is the maximum amount of money that you used cash advance?
$______________

22. Please write down your opinion concerning credit card.

________________________________________________________
________________________________________________________
________________________________________________________

—— End. Thank you for your help! ———
# Appendix II

## Statistics on Terms and Conditions of Credit Card Issuing Banks

<table>
<thead>
<tr>
<th>Terms</th>
<th>Banks mentioning it in application forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Annualized Percentage Rate of interest (APR) for retail purchase and cash advance</td>
<td>id, AE, Citibank, HS, CV</td>
</tr>
<tr>
<td>Amount of Annual Fee</td>
<td>AE, AIG, Citibank, HS, id, CV</td>
</tr>
<tr>
<td>Applicants understand the provisions of the Personal Data (Privacy) Ordinance and the Code of Practice on Consumer Credit Data approved and issued under the Ordinance</td>
<td>AE, id</td>
</tr>
<tr>
<td>Use of the Card</td>
<td>AE, HS, id</td>
</tr>
<tr>
<td>- sign the card immediately after receiving the card</td>
<td></td>
</tr>
<tr>
<td>Credit Limit</td>
<td>AE, HS</td>
</tr>
<tr>
<td>- charge of overlimit</td>
<td></td>
</tr>
<tr>
<td>Liability of Charges</td>
<td>AE, HS</td>
</tr>
<tr>
<td>Statement</td>
<td>AE, In Town, HS, id, Orix</td>
</tr>
<tr>
<td>- show the previous balance, retail purchase of the month, the current balance, minimum payment of the month, payment due date, etc.</td>
<td></td>
</tr>
<tr>
<td>Finance Charges</td>
<td>AE, AIG, In Town, HS, id, Orix</td>
</tr>
<tr>
<td>Agreement with Minimum Payment</td>
<td>AE, In Town, CV</td>
</tr>
<tr>
<td>- $50 or stated percentage of the outstanding balance</td>
<td></td>
</tr>
<tr>
<td>Late Payment Charges</td>
<td>AE, id, Orix</td>
</tr>
<tr>
<td>Payments</td>
<td>AE, In Town, id</td>
</tr>
<tr>
<td>Lost, Stolen or Misused Cards</td>
<td>AE, AIG, In Town, id</td>
</tr>
<tr>
<td>Enforcement Expenses</td>
<td>AE</td>
</tr>
<tr>
<td>Topic</td>
<td>AE, HS</td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Overseas Charges</td>
<td>AE</td>
</tr>
<tr>
<td>Dishonored Payments</td>
<td>AE</td>
</tr>
<tr>
<td>Problems with Bills or Purchases</td>
<td>AE</td>
</tr>
<tr>
<td>Renewal Cards</td>
<td>AE</td>
</tr>
<tr>
<td>Exchange Control, Tax and Legal Requirements</td>
<td>AE</td>
</tr>
<tr>
<td>Privacy Ordinance Notice and Consent</td>
<td>AE</td>
</tr>
<tr>
<td>Cash of Travelers Cheques</td>
<td>AE</td>
</tr>
<tr>
<td>Recurring payments</td>
<td>AE</td>
</tr>
<tr>
<td>Authorization and Suspension</td>
<td>AE, HS</td>
</tr>
<tr>
<td>Cancellation</td>
<td>AE</td>
</tr>
<tr>
<td>Liability of bank</td>
<td>AE</td>
</tr>
<tr>
<td>Liability of the company’s costs of recovery and enforcement of the Terms and Conditions</td>
<td>AIG</td>
</tr>
<tr>
<td>Change of Terms and Conditions</td>
<td>AE, In Town</td>
</tr>
<tr>
<td>Notice</td>
<td>AE</td>
</tr>
<tr>
<td>Liability of Gross Negligence</td>
<td>AIG, In Town, id</td>
</tr>
<tr>
<td>Liability of Supplementary Cardholder’s Debts</td>
<td>AIG, CV</td>
</tr>
<tr>
<td>Agreement of Taking Care the PIN</td>
<td>In Town, id, Orix</td>
</tr>
<tr>
<td>Agreement of Taking Good Care of the Card</td>
<td>In Town, id, Orix</td>
</tr>
<tr>
<td>Termination</td>
<td>HS, Orix, CV</td>
</tr>
<tr>
<td>ATM services</td>
<td>HS</td>
</tr>
</tbody>
</table>
Note: AE = American Express Classic Credit Card
AIG = AIG Credit Card
Citibank = Citibank Credit Card
CV = Compass Visa
HS = Hang Seng U-Smart Credit Card
Id = Standard and Chartered Manhattan id Credit Card
In Town = Bank of China In Town Credit Card
Orix = Orix Credit Card
Appendix III
Dialogue of Interview of Credit Card Promoter

The interviewee is a tertiary student. She works as a part-time credit card promoter of one famous credit card among tertiary students’ group.

**Question:** How long do you working as a credit card promoter?

**Answer:** It is my part-time job. The card company only contacts me to work at “road show” (promotion counter) set at universities or institutes. I have worked for two academic years.

**Question:** What are you responsible for?

**Answer:** I have to promote the credit card for tertiary students to apply. To do it, I have to explain to them what welcome gifts they can have and what benefits they can get if they have our company’s credit card. Also, I have to answer their question concerning application and our credit card.

**Question:** Is it a hard work for being a credit card promoter?

**Answer:** Definitely not! As when the students heard about the welcome gifts and the benefits, they will apply for the card immediately. I think they are attracted by the free gifts.

**Question:** How much do your company pay to you?

**Answer:** $50 per hour and there is bonus commission for us if we can exceed the quota set by the company. The commission can up to thousands of dollar.
Question: Is there any training or briefing program provided by the company you work for?

Answer: Yes. We have to attend for one briefing program lasting for about 30 minutes. The staff will introduce the information we have to mention during promotion. We can ask questions at the end of the briefing.

Question: What is the application process of credit card?

Answer: They only have to fill in the application form. We will photocopy their Hong Kong ID card and student card. They no need to provide any residential proof.

Question: What information is needed from customers?

Answer: There are many parts of information they have to give in the application form. But in fact they no need to fill in all the parts. They only have to provide their personal data. For the part of “Parents’ Information” they can only give name of one of their parent. For the part of “Credit Reference”, we can allow them not to fill in. It is a strategy of the company. It is because it can save time for each application and then we can have more people applying the card.

Question: Can you tell us more about the credit card promotion of the bank you work for?

Answer: Sure. The credit card promotion of our company aims at targeting tertiary students. Besides promotion in campus, our company will also sponsor for the activities held by societies of the universities and thus can make chance for the company to promote its credit cards. For example, promotion in the orientation camps through sponsorship is a common mean within the credit card industry. It is an effective way for attracting tertiary students to apply for our cards. When we sponsor money to the activities they held, the committee members of
students’ societies will help us to promote the cards too. One of my ex-classmates is working at the bank during summer holiday. Her responsibility is to organize sponsorship to activities of each trip. Also, she and her colleagues need to appear in the camps for promotion. You know, there are so many universities and institutes in Hong Kong and each student union and each society of the faculty will hold orientation camp. It is really an attractive promotion channel for the banks.

**Question:** Why credit card issuing banks like to promote cards to tertiary students so much?

**Answer:** I think because the banks think that tertiary students are potential customers for them. They observed that the consumption of some tertiary students is already great during their study as most of them got part-time jobs or pocket money from family. When they graduated, their purchasing power will get larger and larger. So the banks think that they should get these potential customers as soon as they are still students and one day they may become important customers of the bank. Also, the banks will use every mean to keep their customers, for example, exemption of annual fee, bonus points given, etc.
## Appendix IV
### Interview with Tertiary Students Who Carrying Credit Card Debt

<table>
<thead>
<tr>
<th>Question</th>
<th>Student 1</th>
<th>Student 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Year of Study</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Age</td>
<td>21-23</td>
<td>21-23</td>
</tr>
<tr>
<td>Source of Income</td>
<td>Part-time Job</td>
<td>Part-time Job</td>
</tr>
<tr>
<td>Average total income per month</td>
<td>$4,801-$6,000</td>
<td>$3,601-$4,800</td>
</tr>
<tr>
<td>How many credit cards do you have?</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>How many credit cards do you actually use?</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Which credit card that you owe the most debt?</td>
<td>HSBC</td>
<td>HSBC</td>
</tr>
<tr>
<td>How much debt have you owed?</td>
<td>$15,000</td>
<td>$11,000</td>
</tr>
<tr>
<td>How long have you been owing such debt?</td>
<td>About 2 years</td>
<td>1 year</td>
</tr>
<tr>
<td>Do you still use that card for consumption?</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Why have you owed such debt?</td>
<td>Cash advance for other use</td>
<td>Shopping, daily expenses</td>
</tr>
<tr>
<td>How much will you pay for the card each month?</td>
<td>Around $5,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Where does the money that you used for paying debt come from?</td>
<td>Part-time job, lucky money from horseracing gambling</td>
<td>Part-time job</td>
</tr>
<tr>
<td>Question</td>
<td>Response 1</td>
<td>Response 2</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>If you have most of the time to work for part-time job, will it affect your study?</td>
<td>A little bit</td>
<td>No</td>
</tr>
<tr>
<td>How about social relationships?</td>
<td>Still close with friends but not family</td>
<td>Still close</td>
</tr>
<tr>
<td>Have you told your family members regarding the debt?</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>If yes, what are their responses? Will it worsen the relationship between you and your family members?</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>If no, why?</td>
<td>Do not want to make them worried and put stress on them</td>
<td>Do not want them worry</td>
</tr>
<tr>
<td>How do you feel with this burden? Any stress?</td>
<td>Heavy stress</td>
<td>Stress, afraid cannot clear the debt</td>
</tr>
<tr>
<td>After this incident, will you change your consumption pattern?</td>
<td>Maybe, not sure</td>
<td>Yes</td>
</tr>
</tbody>
</table>