

THE FINANCIAL BEHAVIOR AMONG MALAYSIAN PUBLIC SERVANTS

By

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ABSTRACT

This study aims to examine the relationship between financial behavior among public servants in Putrajaya with the level of financial literacy and demographic characteristics of respondents. The study covers a population of about 1500 civil servants. A total of 167 respondents participated in this study. Descriptive analysis was performed to analyze the correlation analysis in order to examine the relationship between levels of financial literacy and financial behavior of Malaysian public servants. ANOVA and T-test technique used to study the significant differences in financial literacy between the demographic factors. The chi-square analysis also conducted to measure the relationship between financial knowledge and the demographic factors. The results show that there are correlation exists between the level of financial literacy and the financial behavior among Malaysian public servants. However, there were mixed results between the demographic factors and the level of financial literacy among the participants.

Keywords: Financial Literacy, Financial Behavior, Public Servants, Civil Servants

ABSTRAK

Kajian ini bertujuan untuk menguji hubungan di antara tingkah laku kewangan di kalangan penjawat awam di Putrajaya dengan tahap celik kewangan dan faktor demografi responden. Kajian ini meliputi populasi penjawat awam seramai 1500 orang. Seramai 197 orang responden mengambil bahagian dalam kajian ini. Analisis diskriptif dilakukan untuk mengkaji hubungan di antara kadar celik kewangan dan tingkahlaku kewangan di kalangan penjawat awam di Malaysia. ANOVA dan Ujian-T digunakan untuk mengkaji perbezaan yang signifikan tahap celik kewangan di antara factor-faktor demografi. Analisis khi-kuasa dua juga dijalankan untuk mengukur hubungan antara pengetahuan kewangan dan faktor-faktor demografi.. Hasil kajian menunjukkan bahawa terdapat hubungan yang wujud di antara tahap celik kewangan dan tingkah laku kewangan di kalangan penjawat awam Malaysia. Walau bagaimanapun, terdapat hasil yang pelbagai antara tiga faktor demografi dan tahap celik kewangan di kalangan para responden.

Keywords: Celik Kewangan, Tingkah laku Kewangan, Penjawat Awam

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

As the revolution of financial markets grow faster than before, it now becomes increasingly necessary for consumers to be more conversant and competent in managing their finances. This is because changes in financial markets have resulted in the availability of a wider selection of financial products and services, making financial decisions more complicated. Easier access to credit cards, deregulation of financial markets, and technological improvements in the way financial services are distributed have undoubtedly left many consumers with a confusing array of investing opportunities and decisions to be made. Furthermore, if the consumer themselves did not prepare for the rapid changes happen in financial market, they probably will face with a lot of stress resulted from their illiteracy of the financial matters (Choi, 2009). All the financial problems faced by an individual might have a chain effect and create another problem in family and society. All of these issues in turn potentially lead to bigger problems, such as borrowing money without a license, blacklisted, litigation and bankruptcy.

For example, a report issued by the Malaysian High Court revealed that during the year 2009 alone, approximately 1,086 civil servants have been declared bankrupt (Berita Harian, 3 March 2011). The number of the cases reported had been increased a year after when 2,011 civil servants had been declared bankrupt (Berita Harian, 2 November 2012). Deputy Prime Minister (then) in the Prime Minister's Department

Datuk Liew Vui Keong also revealed that many civil servants in the country beset by serious indebtedness that may lead to bankruptcy problems. National News Agency (Bernama, 2009) was reported a total of 450,000 government employees are in a serious debt situation weighed debt including home loans, car, education, medical and home renovation.

A total of 2.4 million of Malaysian government employees in Malaysia contributed to a large number of human capital resources in the country. The salary scheme for civil servants is determined by the government and usually is the reference and benchmark for private sector employees' salary and it has been practiced over the years by the industry and employer. With the rising of cost of living over these years, the burden to maintain a comfort and lavish lifestyle might be a challenge. Home and car mortgage, study loan, credit card are some of the monthly commitment which leads to stressful financial burden. All these factors contributed to the bigger problem such as loan shark and bribery.(Lee, 2010) and bankruptcy.

According to statistics from Malaysia Department of Insolvency, there were 60 Malaysians declaring bankruptcy every day and 19,575 were categorized bankrupt in 2012 alone. With this data, there is growing concern in Malaysia about income management especially in household debt and overall financial wellbeing of Malaysians.

Being a civil servants, there are some guidelines they need to comply in order for being accepted as a civil servant and to continue serving as a civil servant. For the purpose of appointment in the civil service , in accordance with the Regulations of the Public Officers (Appointment ,Promotion and Termination of Service) Act 2012 paragraph 20 (1) (b) (v) states that every candidate will be appointed to the public service to make

declaration by statutory Declarations Act 1960 (Act 13), which declares itself to be not a bankrupt . For civil servants who are serving , Regulation 13 and Regulation 14 of the Public Officers (Conduct & Discipline) Regulations 1993 [PU(A)395/1993] which is a Federal law , as provided under Article 132 (2) of the Constitution sets out the Government's policy towards serious financial indebtedness (which includes even bankruptcy) as follows:

- i. Any public servant who suffered serious indebtedness may be subject to disciplinary action as is considered as to bring discredit or disrepute on the public service.
- ii. Regulation 14 (2) provides, among others, the Director General of Insolvency shall submit a report on the bankruptcy of the public servant to the Head of the civil service.
- iii. As a result of disciplinary action imposed, promotion of civil servants may be affected.

After retirement, civil servant found bankrupt is subject to the Pensions Act 1980 (Act 227). If a public servant is adjudicated a bankrupt then it will automatically be disqualified from receiving a pension, gratuity or other retirement benefits. To avoid such situation where a bankrupt government retirees not eligible for a pension, the government has now make amendments under subsection 20 (3) of the Pensions Act 1980 [Act 227] which pays allowances equal to the total value of pension receivable by a pensioner who is bankrupt. With the acceptance of such an allowance, payment for the purposes of the bankrupt's contribution to his bankruptcy estate will be continuous.

In order to overcome the problem related to financial matters among their citizen, some countries such as Australia (Consumer and Financial Literacy Taskforce), Canada (Canadian Centre for Financial Literacy, National Task Force on Financial Literacy) and United Kingdom (Financial Services Authority) even establish their own taskforce and agencies in order to educate and to control their citizens' financial literacy and financial education (Atkinson, Mckay, Kempson, & Collard, 2006; Robson, 2012; Worthington, 2006). The establishment of financial literacy agencies in those developed countries reflect the government's determination to provide the best education in financial management to their citizens.

1.2 The Research Problem

In a report by The Star dated on October 12, 2013, The Governor of Malaysia's Central Bank, Tan Sri Zeti Akhtar Aziz (2013) had stated that Malaysian household debts are among the highest (83%) in comparison to our neighbors, Singapore (67%) Hong Kong (58%) and Indonesia (15.8%).

A news report in Kosmo! dated 3 March 2009 also stated 1,086 of government servants have declared bankrupt as consequence of being guarantors, including of the misuse of credit card. Furthermore, in recent news report in Utusan Malaysia on 2 December 2013 also reported that from January till September 2013 there are 6,925 of Kuching resident had been declared as bankrupt.

Central Bank of Malaysia as on 5th July 2013 has enforced new credit management policy in order to further promote a sound and sustainable household sector and at the same time to control the overall Malaysian household credit (Central Bank of Malaysia, 2013). The measures are:

- i. Maximum tenure of 10 years for financing extended for personal use;
- ii. Maximum tenure of 35 years for financing granted for the purchase of residential and non-residential properties;
- iii. Prohibition on the offering of pre-approved personal financing products.

All these phenomena have shown that there are quite numbers of Malaysian citizen is having problem in managing their debt and financial affairs and afterward showed on the adverse implications of their financial decisions.

In align to the statement, the report from Public Service Department (*Jabatan Perkhidmatan Awam, JPA*) also showed an alarming debt situation among public servants. Even though the number of the serious data debt among the public servants had shown a declining number from year 2011, the number of the cases reported still need to be given serious attention.

Table 1.1: Serious Debt Data among Public Servants in 5 Years

No.	Group	Year				
		2009	2010	2011	2012	2013
1	Highest Management	1	0	0	0	0
2	Professional and Management	13	10	3	5	2
3	Executive	46	49	10	11	5
	TOTAL	60	59	13	16	7

(Source: Public Service Department)

The establishment of Credit Counselling and Debt Management Agency, or commonly known as *Agensi Kaunseling dan Pengurusan Kredit (AKPK)* in April 2006 by Central Bank of Malaysia objectively to help individuals take control of their financial situation and gain peace of mind that comes from the wise use of credit also a sign of

lack of capability of managing domestic financial matters among Malaysians and at the same time demonstrated the commitment of Malaysian government.

Based on the statistics obtained from the Credit Counselling and Debt Management Agency (or well known in Malay language term is AKPK for *Agensi Kaunseling dan Pengurusan Kredit*), Up to May 31, 2014, more than 271,694 individuals have counseling services from AKPK where 108,818 of them were assisted through the Debt Management Program. Of these, a total of 8,814 people or 8.1% were civil servants. Data acquired on Table 1.1 also revealed that more than 50% of people at the age of 20 to 39 years old are seeking help from AKPK shows that a large group of financial related problem comes from younger adults and more likely the junior executive level if they were in the government (Nuraini, Fazli, Husniyah, Amim, Mastura & Farhana 2013).

Table 1.2 : Age statistics of people enrolled in AKPK's Debt Management Program

At End	≥20 x <30		≥30 x <40		≥40		Total	
	No	%	No	%	No	%	No	%
2007	3,516	71.1	745	15.1	683	13.8	4,944	100
2008	4,910	35.1	4,829	34.5	4,248	30.4	13,987	100
2009	7,864	25.2	12,290	39.4	11,021	35.4	31,175	100
2010	10,526	22.7	18,479	39.8	17,451	37.6	46,456	100
2011	12,876	20.8	24,756	39.9	24,406	39.3	62,038	100
2012	14,761	19.2	30,782	40.0	31,418	40.8	76,961	100
2013	16,336	17.7	36,916	39.9	39,220	42.4	92,472	100
May-14	17,096	17.1	39,811	39.8	43,048	43.1	99,955	100

All these data lead to the question whether the public servants do not have basic financial knowledge that will assist them in making important financial decisions such

as housing mortgage, medical insurance, children education investment and retirement investment.

The study conducted by Ibrahim, Dahlia, Harun, Rabitah and Mohamed Isa in 2009 about the financial literacy among under graduate students in one the public higher education institutions, revealed that degree students are very much lacking in their financial knowledge and hence their money management skill are very weak. After these few years, those students must be going under employment by now and some of them might be serving in government sector as some in private sector and their money management skills can be questioned.

The findings of the study also aligned with a study by Lusardi, Mitchell, and Curto (2010) which findings indicate that the financial literacy among the young are low as the result shows that fewer than one-third of young adults possess basic knowledge of interest rates, inflation and risk diversification.

If the pattern of their spending has not change since the previous study in 2009, this might contribute to their financial illiteracy now, thus influence their financial behavior which contributes to the national macroeconomics decision and their own household economy. This pattern of illiteracy also will probably reflect on their financial decision making such as spending habit, credit management and mortgage decisions.

As far as concerned, there are little researches has been conducted to measure the level of financial management capability of Malaysian Public Servants, thus it is remains unknown and undiscovered of their level of financial literacy and financial behavior and how this will affect their well-being and day-to-day attitude.

In economics perspective, the level of financial literacy among citizens has two-way effect; macro and micro. At microeconomic level, some literatures proposes that there is a strong relationship between financial literacy and household welfare. Studies by Lusardi and Mitchell, (2007) had shown that households with less financial knowledge will results in less stocks ownership, tend not to plan for their retirement and receive lower asset levels. The other study by Stango and Zinman (2006) showed that the household with lower knowledge in finance usually borrow at higher interest rates.

Some problem might arise in resulted by possessing low in financial knowledge among the citizens. A study from Yoong, See, and Baronovich (2012) has found that problems which might arise are (a) the low public-sector employees' pension payments and the inadequate private-sector employees' EPF savings; (b) the gap between rising Malaysian living costs and living standards; (c) Malaysians' life longevity, susceptibility to diseases, rising medication and healthcare costs, as well as unavailability (in certain areas) and medical services privatization, and (d) finally the extended family systems' erosion and the nuclear family units' emergence.

Department of Statistics, 2008 had stated that Malaysians' life expectancy improvement from 72.76 in 2007 to 73.29 in 2008, would further imply heavier financial burden with rising medication/healthcare costs. Thus this might also affects on healthcare costs issue. Chia's (1996) study has indicated that elderly people aged 60 and above require more medical attention by visiting medical and healthcare centers, six times a year, on an average.

On the retirement resource issue in Malaysia, Kumar (1997) has also revealed that savings and retirement resources adequacy problems in the low- and mid-income groups were serious, as 38.2% of the total employed 'informal sector' Malaysians in

1998 were not covered by the EPF and any pension scheme i.e. the two pillars (L. Fox & Palmer, 2000). Of the remaining 61.8% covered employees, there are doubts that the EPF scheme, being subjected to lump-sum payments or pre-retirement withdrawals (Thillainathan, 2004), would be adequate to meet contributors' post-retirement financial needs (Caraher, 2000). Meanwhile, the pension payments scheme, unless it can be revised upward in line with inflations, would continue to present a similar problem to pensioners. These problems merit a reexamination or examination of the relevant financial learning issue, given the fact that the learning theory emphasizes the significant interaction between the individual, the nature of the material to be learnt and the context, within which learning takes place (Hershey & Mowen, 2000). For all age cohorts, their financial resources influence spending over their life cycle (Kock & Yoong, 2011).

The impacts on individuals and communities are various. As reported by Choi (2009) the effects of financial problems are increasing in the number of children struggling with stress because of their families' financial problems and much more likely to report health problems -mentally and physically. Davis and Mantler (2004) concluded financial stress was associated with lower satisfaction with marriage, thus will lead to marital disability. Furthermore, the study also showed that parents who are experiencing financial stress are less responsive to their children's needs, are less consistent in their parenting, and are more inconsistent in their discipline of children. Moreover parents who are struggling with financial issues also tend to abuse their children.

Research from Davis and Mantler(2004) stated that family with financial difficulties will consequence in lower marriage satisfaction, children abusing and broken family.

In a long term, the impact of the initial problem such as financial problem will create crucial impact on nation human development. Green (2013) in his research find that financial literacy could lead any nation to a successful future and to a better economy overall if implemented, comprehended and applied.

All of these problems have a potential to create bigger harm to the nation. Broken family might produce problematic children who in future rise to be a difficult citizen. Thus, the impact of the initial problem such as financial problem have a big probability to create crucial impact on nation human development.

From her previous studies about consequences of having financially illiterate citizens, Lusardi (2010) highlighted that if people are ill-equipped to make financial decisions, there can be consequences for the individuals themselves and for the economy as a whole. Same findings has been indicated by (Mahdzan and Tabiani, 2013) which said that the entire nation will be benefited if the citizens are more financially literate. In other word, citizen with well literate in finance will make better financial behavior. For example, people who are more financially literate will save more and placed the savings in financial assets which are then channeled through financial intermediaries to fund investments by firms. Subsequently, investments by firms will ultimately benefit the nation through higher productivity and economic growth. Furthermore, high savings can also hedge countries against economic downturns and financial crisis. Thus we can say at the macroeconomic level, individual who literates in finance will benefits the entire nation.

1.3 Purpose/Objective of the Study

The purpose of this study is to investigate the level of financial literacy among Malaysian Public Service and to examine the relationship between financial knowledge and personal characteristics. The result of the study also indicates the relationship of financial literacy level and financial behavior of Malaysian public servants. This study also emphasizes on the importance of financial literacy that reflects on financial behavior as in money management among Malaysian Public Servants.

The objectives of the study are:

- 1) To examine the relationship between financial attribute and financial behavior;
- 2) To examine the relationship between financial knowledge and demographic factors;
- 3) To examine the significant differences of financial attributes between demographic factors; and
- 4) To examine the level of Financial Literacy of Malaysian Public Servants

1.4 Research Questions

The research questions of this study are:

1. Is there any relationship between financial attribute and financial behavior of Malaysian public servants?
2. Is there any relationship between financial knowledge and demographic factors of Malaysian public servants?

3. Is there any differences of financial attributes between demographic factors of Malaysian public servants?

4. Are Malaysian public servants financially literate?

1.5 Scope of the Study

The area of investigation focuses on a diverse group of civil servants from the execution, management and professional as well as the top management from four (4) selected ministries in Putrajaya. The population from these ministries can represent overall population of Malaysian Public Servants. Total number of respondents is 1500 people. The selected ministries are Ministry of Health (MoH), Ministry of International Trade and Industry (MITI), Ministry of Rural and Regional Development (RRD) and Ministry of Natural Resources and Environment (NRE).

1.6 Significance of the Study

Based on this study, we will be able to know the level of financial literacy that government workers possess and how their knowledge in finance will reflect in their financial behavior. The relationship between the significant variables can be measured thus the appropriate suggestion can be made.

The findings from this study help to give overview to the policy maker about the alarming situation about the financial management ability of the public servant. Thus this also can help them to identify the area which contributes to the problem and to help them to formulate the right strategy to overcome the problem.

If the study has not been done in this area, this might lead to the citizen remains financially illiterate and may results them to make wrong financial decision (wrong choosing house mortgage, unplanned spending, overuse of credit card). This may possibly results in citizens with more debt, less savings and less wealth accumulation and leave them with financial difficulties.

1.7 Definitions of Key Terms

In this study, 'Malaysian Public Servants' is referring to Malaysian workers who serve the Government of Malaysia. This include all service group from Grade 1 to JUSA 'A' (if any). In the context of this study, the Malaysian Public Servant being presented by 1,500 government servants from four (4) selected ministries in Putrajaya.

'Financial Literacy' in this study refers to basic literacy and advanced literacy in financial management which being measured from the questionnaire.

'Financial Behavior' in this study refers to the action taken which resulted from the level of financial knowledge that one possess and also been referred to as 'Financial Decision Making'. This also measured from the questionnaire distributed.

The survey also asked about the demographic factors of the respondents. Demographic Factors in this study refer to the respondents' gender, age, service grade, length of service and their level of education.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

This chapter discusses about the revolution of the financial behavior and financial literacy study, definitions and reviews about the previous research in financial literacy and financial behavior. The past researches about the correlation between financial literacy and financial behavior, and the connection between demographic factors had on financial literacy were also discussed.

2.2 Conceptual Definitions/Evolution of Area of Study

There are very little studies in Malaysia had been found discussing about financial literacy among the local citizen. Generally, financial literacy studies in Malaysia are focusing on financial capability among college or university students and most of the research were discussing about the relationship between financial literacy among the students in Falahati, Paim, Ismail, and Haron, (2011); Ibrahim, Dahlia; Harun, Rabitah; Mohamed Isa, (2009); Lusardi, Mitchell, and Curto, (2010); Ramasawmy et al., (2013); Sabri, Macdonald, Masud, and Paim, (2008).

Other than that, the researcher mentioned about the importance of financial literacy and retirement (Lusardi and Mitchell, 2005, 2007; Yoong et al., 2012) and the importance of financial education as being revealed in Lee (2010) and Lusardi and Mitchell (2004).

An overview of the meaning and measurement of financial literacy is presented to highlight current limitations and to find research gaps exists in the last decades of research in this area.

Research from some scholars such as Yoong et al. (2012), Mahdzan and Tabiani (2013), Sabri et al. (2008) are the sample of the guidance studies which have similar context in Malaysian financial literacy.

Only a few research has examined this issue in Malaysia context, and particularly among civil servants (Nuraini et. al 2013). Also, there is scarce research on financial well-being among Malaysians' especially employees, while workers' debt in current situation is growing more rapidly than inflation. Through the decreasing employment prospects, income instability and eroded purchasing power of Malaysian households, workers' financial security became a main concern among policy makers (Fazli & Leila, 2003). Thus, in this study, the main objective is to identify the determinants of public servants income management with a statistical analysis in order to better understanding the determinants that influence the overall financial wellbeing in context of income management by public servants.

2.2.1 Financial Behavior

Similar to financial literacy topic, the discussion and study about financial behavior are not widely discussed in Malaysia. Let alone the study about financial behavior in Malaysian public servant context. The phrase 'financial behavior' itself hasn't been used widely. It usually been called as financial decision making or financial decision (Green, 2013). Some study directly referring the 'behavior' to something more direct action such as investment behavior or saving behavior and planning for retirement.

(Lusardi & Mitchell, 2005; Mahdzan & Tabiani, 2013; Mazumdar, 2014; Sadi, Asl, Rostami, Gholipour, & Gholipour, 2011; Yoong et al., 2012).

(Lusardi & Mitchell, 2005) in their study directly correlates the financial literacy with retirement plan which is one of act of the financial behavior. The scholars assessed that those who lack a retirement plan are those with low levels of financial literacy.

Green (2013) defined financial decisions as decisions or a selection of possible choices made with the applied knowledge of financial literacy. As for Remund (2010b) said that financial decisions are greatly influenced by a constant battle between the generating of goods and services in the marketplace and a person's limited reserves to acquire such goods and services.

2.2.2 Financial Literacy

The Organisation for Economic Co-operation and Development (OECD) International Network on Financial Education (INFE) has defined financial literacy as a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing. (Hung, Parker, Yoong, and Yoong, 2009)

The terms financial literacy, financial knowledge and financial education often are used interchangeably in the literature and popular media. Few scholars have attempted to define or differentiate these terms. Unlike health literacy, which is typically measured using one of the three standardized tests, there currently are no standardized instruments to measure financial literacy. Most of the studies sharing same definition

and concept about financial literacy. Below are some of the summarized of the definitions of financial literacy from the previous researches.

Table 2.1 shows the various definition of financial literacy from various scholars.

Table 2.1: Definition of Financial Literacy

Author	Definition
Buckland, (2010),	A possible definition for financial literacy is having the appropriate knowledge, skills and attitude about daily and longer-term finances to maintain or promote one's financial well-being.
Hilgert, Hogarth, and Beverley (2003)	Financial knowledge (or understanding)
Financial Industry Regulatory Authority (FINRA, 2003)	The understanding ordinary investors have of market principles, instruments, organizations and regulations.

<p>Moore (2003)</p>	<p>Individuals are considered financially literate if they are competent and can demonstrate they have used knowledge they have learned. Financial literacy cannot be measured directly so proxies must be used. Literacy is obtained through practical experience and active integration of knowledge. As people become more literate they become increasingly more financially sophisticated and it is conjectured that this may also mean that an individual may be more competent.</p>
<p>Mandell (2007) (pp.163-164)</p>	<p>The ability to evaluate the new and complex financial instruments and make informed judgments in both choice of instruments and extent of use that would be in their own best long-run interests</p>
<p>Lusardi and Mitchell (2007c)</p>	<p>Familiarity with “the most basic economic concepts needed to make sensible saving and investment decisions” (p. 36).</p>

Lusardi and Tufano (2008)	Focus on debt literacy, the authors defining it as “the ability to make simple decisions regarding debt contracts, in particular how one applies basic knowledge about interest compounding, measured in the context of everyday financial choices” (p. 1).
ANZ Bank (2008), drawn from Schagen (2007)	“The ability to make informed judgements and to take effective decisions regarding the use and management of money” (p. 1).
Lusardi (2008a, 2008b)	“Knowledge of basic financial concepts, such as the working of interest compounding, the difference between nominal and real values, and the basics of risk diversification” (p. 2).

It can be seen that most of the definitions emphasize about the ‘knowledge’ of financial terms and concepts. Words like ‘competent’, ‘familiarity’ and ‘ability to evaluate’ are all referring to the knowledge concepts of financial.

The deeper definition of the financial literacy involves term such as skills, attitude, informed judgement and financially sophisticated.

2.3 Financial Literacy and Demographic Factors

Some researches discussed about the connection between the financial literacy and demographic factors. (Lusardi, 2013) in her research had investigated about the financial literacy around the world, found that financial literacy is alarming low among specific demographic group, with age, education levels, employment status and gender as factors. In education wise, the scholar found that the higher level of education indicates in higher level of financial literacy. Financial knowledge is also found higher among people who are working rather than those who are unemployed. In gender aspect, the research also indicated that women are poorer in the level of financial literacy compared to men.

The education factors and financial literacy were discussed in Lusardi (2010) research. The study had revealed that higher education have an impact in the level of financial literacy. People with high education level more likely to set aside money for their children education and have used tax-advantaged saving account. The study also showed that the people with higher education level also more likely to invest wisely.

2.4 Review and Evaluation of Past Relevant and Related Studies

In Malaysian context, the area of financial literacy and the importance of finance are relatively new (Mahdzan and Tabiani, 2013). As the exploratory research, the authors suggested that further research should be conducted in this area.

Hence, there are a few studies correlate financial literacy with the financial education in Malaysian perspective as discussed in Ramasawmy, Thapermall, Dowlut, and Ramen (2013); Sabri, Macdonald, Masud, and Paim (2008) and some from the

international researches for example in Lusardi and Mitchell (2004); Sprow Forte (2012) and Tisdell, Taylor, and Forte, (2013).

On the other researches studies about the relationship between financial literacy and planning to retirement as in Lusardi and Mitchell (2005), (2007); Remund (2010) and Yoong et al. (2012).

Buckland (2010) suggested relatively, there are two kinds of consumers which are passive consumers and active consumers. Both kinds of consumers have different approach in terms of their attitude, skills and knowledge about finance. The difference approach will lead them to different financial strategy and decisions. A passive consumer, accepting his or her finances as they are and developing knowledge and skills necessary to select appropriate financial services depending on their financial experience. On the other hand, an active consumer develop knowledge and skills to select particular financial services and may lead the individual to critically question the financial and indeed the entire economic system, embracing some aspects and rejecting others.

In other study, Yoong, See, and Baronovich (2012) suggested that financial learning makes a significant contribution to financial literacy level, with the present of demographic attributes.

2.5 Summary

There are more studies need to done in financial literacy area in order to contribute to the body of knowledge in this area. Since the references of the study in this area in Malaysian context are very limited, the need to refer the other studies from different

context are considered necessary in order to get familiar with the concept and the problem faced.

CHAPTER 3

THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses about the research methodology used throughout the study in order to determine the form of data analysis which will be used to answer the research questions. This chapter has been divided into several parts which will be described in detail, including the research framework, hypothesis development, research approach, research subject, questionnaire / instrument, data collection method, and statistical analysis technique.

3.2 Research Framework/ Model



Figure 3.1: Theoretical Framework

Figure 3.1 displays the research framework of this study which shows the relationship between independent variable (financial literacy) and dependent variable which is the financial behavior among public servants. This research framework has been derived from a number of literature reviews that shows how the independent variable related

to the dependent variable which had been discussed in chapter two. The link between the demographic factors and financial literacy is to show the differences between those variable exist (if any).

3.3 Hypotheses Development

The main focus of the research is to examine whether elements in financial literacy have any relationship and influence the financial behavior of public servants. Based on the different background of civil servant, especially in terms of gender, age, employment, service grade and length of service this studies will assume that there is a difference in terms of the level of financial literacy based on their financial behavior.

With these assumptions, several significant hypotheses have been develop to confirm the research as follows:

H1: Public servants' level of financial literacy has a significant relationship on their financial behaviour

H2: There are relationship exist between the financial knowledge and the demographic factors of public servants; and

H3: There are differences in financial attributes between different demographic groups; and

H4: Public servants in Malaysia are financially literate.

3.4 Research Approach

The questionnaires were given to the respondents via email and Facebook message as well as hardcopy. Four ministries from Putrajaya were selected randomly to represent the population. The selected ministries are Ministry of Health (MoH), Ministry of International Trade and Industry (MITI), Ministry of Rural and Regional Development (RRD) and Ministry of Natural Resources and Environment (NRE). Those ministries represent various size of the ministries and were randomly selected to represent the population.

Based on research by Krejcie and Morgan (1970), 306 questionnaires needed to represent the population of 1500 government servants in Putrajaya. Therefore, total of 450 questionnaires have been distributed by using electronic surveys, emails and hardcopies.

Table 3.1: The Distribution of Survey

Ministry	Approach	Amount distributed
Ministry of Health (MoH)	Electronic survey and hardcopy	200
Ministry of International Trade and Industry (MITI)	Hardcopy	75
Ministry of Rural and Regional Development (RRD)	Hardcopy	75
Ministry of Natural Resources and Environment (NRE)	Electronic survey and hardcopy	100

Table 3.1 shows the distribution method used in the survey. The amount of the survey distributed based on the size of the ministry. More surveys were distributed to the

larger ministry such as Ministry of Health and lower amount to the small ministry such as Ministry of Rural and Regional Development (RRD).

Only hardcopy surveys distributed to MITI and RRD since both are the small ministries. Furthermore, only some of the department of MITI are located in Putrajaya because the ministry headquarters is at Jalan Duta, Kuala Lumpur and out of the study population area. Therefore, the electronic survey distribution might be a little harder to segregate the distribution between the different places in the same ministry.

3.5 Questionnaire/ Instrument

In measuring level of financial literacy, the questionnaire was based on the question used by International Network of Financial Education (INFE). The same set of question used by Central Bank of Malaysia to measure the level of financial literacy of Malaysian Citizen. The questionnaire measuring level of financial behaviour will be based on Fünfgeld and Wang (2009).

Table 3.2: Sources of Questionnaire

PART	VARIABLES	ADAPT/ ADOPT/ SELF DEVELOPED	SOURCE
A	Respondent's Background / Demography	Self Developed	-
B	Financial Behaviour	Adapt	Fünfgeld and Wang (2009)
C	Financial Literacy	Adopt	International Network of Financial Education (INFE). (Adopt)

The questionnaire consists of 31 questions divided into three main sections. Section A presented the financial behaviour concept which have 16 numerical scale questions. Statements on the financial literacy concept were presented in section B. Section B consists of 10 questions testing about the respondents' financial literacy.

The statements in sections A were evaluated on a five-point numerical scale rating. The scale rating was indicated as follow:

Strongly Disagree 5 4 3 2 1 Strongly Agree

The respondents were asked to indicate to what extent they agreed/disagreed with each statement.

Section B however has scale rating questions and multiple choice questions where respondents need to tick (√) to the answers applicable to them. A few questions also

need the respondent to compute base on the question given and write the answer. This is important to know their mathematical knowledge to know the financial level.

Finally, section C will gather information about respondent's demographic factors such as age, gender, service grade, length of service and education level. The section will be using fixed-alternative questions, open questions and simple-dichotomy question.

The letter of consent attached to each questionnaire ensured that the respondents understood the purpose of the questionnaire and also afforded them an opportunity to declare their willingness to participate in the research.

3.6 Data Collection Method

3.6.1 Population and Sampling

The total of 450 questionnaires have been spread out to the selected four ministries via emails, electronic surveys and hardcopy questionnaires. Based on research by Krejcie and Morgan (1970), 306 samples were needed to represent the total of 1,500 population.

3.6.2 Survey Materials

Since the respondents are made up of civil servants in various positions and grades, the dual-language questionnaire, English and Bahasa Malaysia were prepared. The 11-page questionnaire has been printed in booklet sized survey. The survey consists with three (3) sections in order to accomplish the objectives of the study.

3.6.3 Data Collecting Procedure

The data collection were conducted from mid of September until early October 2014. The online survey have been designed by using the Google Doc application and been distributed via emails and Facebook Messenger. At the same time, the 450 hardcopy surveys also been distributed to the four selected ministries. A representative was assigned from each ministry to help researcher in conducting the survey. Table 3.3 shows the data collected between ministries.

Table 3.3: Amount of Data Collected Between Ministries

Ministry	Amount distributed	Amount Collected	Amount used to analyze
Ministry of Health (MoH)	200	138	93
Ministry of International Trade and Industry (MITI)	75	21	21
Ministry of Rural and Regional Development (RRD)	75	16	16
Ministry of Natural Resources and Environment (NRE)	100	44	37
Total	450	219	167

As shows in Table 3.3, out of 450 surveys distributed, 219 were returned. However, 52 of the questionnaires cannot be used as there were a lot of unanswered questions and missing values between questions. If the data were used based on the unfinished questionnaire, it was worried that the result might not indicate the real outcome.

3.6.4 Technique of Data Analysis

Out of 450 questionnaires distributed, 219 were returned and only 167 questionnaires were potentially available for analysis. The response rate are 37.11%. The analysis were conducted by using SPSS Version 22. In order to answer the objective of this study, the descriptive analysis were used. The relationship between the Financial Literacy as independent variable and Financial Behavior as dependent variable were using the correlation analysis.

Response Rate

Table 3.4 : *Sample Study Response Rate (n = 167)*

Questionnaire response	Frequency	Rate
Number of questionnaires distributed	450	100.00
Returned questionnaires	219	54.75
Usable questionnaire	167	37.11

Based on Table 3.4, the usable questionnaires are 167 or 37.11 percent from the total number of the surveys distributed. The excluded questionnaires were not accepted to be analyzed for the reason that the surveys are not completely answered and too many missing value between the questions. If the excluded questionnaires was to be used, it might lead to incorrect and improper result.

3.7 Statistical Methods/ Analysis

This study conducted seven (7) research hypotheses by using the analysis as in Table 3.5 as below.

Table 3.5 :Hypothesis and Analysis used

No.	Hypothesis	Analysis
H1	Public servants' level of financial attribute has a significant relationship with their financial behavior	Correlation
H2	There are relationship between financial knowledge and demographic groups	Chi-Square
H3	There are differences in financial attributes and different demographic groups	T-test or One Way ANOVA
H4	Public servant in Malaysia are financially literate	Descriptive analysis

3.9 Summary

In this chapter, the method and the analysis strategy used were described including the sample of the study, the material used, the procedure in conducting survey and the technique of data analysis chosen in the study. The result of the test will be explained in the next chapter 4.

CHAPTER 4

DATA FINDINGS AND ANALYSIS

4.1 Introduction

This chapter will disclose the result of the analysis conducted. It begins with the descriptions of the demographic characteristics of the respondents, followed by reliability test conducted. The relationship of Financial Literacy and Financial Behavior was tested by using the correlation test and the descriptive analysis were used to measure the mean of financial literacy. The relationship between demographic factors and financial literacy were explained by using chi-square technique. To examine the significant between differences of Financial Attributes and Demographic Factors, ANOVA test and T-test were used.

4.2 Demographic Characteristics of the Respondents

Table 4.1 shows the demographic profile of the participants. The demographic distribution between genders in this study showed that there are more female respondents (132) with compared to male respondents (35). This huge distribution between both genders might be because of the distribution of the survey was distributed among female representatives from three out of four ministries. There might be tendency to give the survey to the representatives' colleagues which were same in gender. Furthermore, the representatives were also worked in 'office based' environment which more likely to have more female worker rather than male. Most the participants are from age 26 to 30 years old with 54 participants, continues with

participants' age range 31 to 35 with 52 participants. The youngest was 20 years old and the oldest was 58 years old. Only 30.5 percent of the participants came from professional officers, grade 41 and above while 66.5 percent of the participants were relatively new in service which are serving less than 10 years, consistent with the respondents' young age range.

As for academic qualification, 38.9 percent of them were a diploma holders, 28.1 percent had a bachelor degree and only 6 percent had a master degree and 1.2 percent had a PhD. Half of the respondents came from the Ministry of Health (50.9%), continues with Ministry of Natural Resources and Environment (25.1%). Ministry of International Trade and Industry (MITI) and Ministry of Rural and Regional Development (RRD) both had 12 percent of respondents each.

Table 4.1: Demographic Characteristics of Respondents

Variable	Frequency	%
Gender		
Male	35	21
Female	132	79
Age (year)		
20-25	9	5.39
26-30	54	32.34
31-35	52	31.14
36-40	24	14.37
41-45	11	6.59
46-50	5	2.99
51-55	7	4.19
56-60	5	2.99
Service Grade		
<16	13	7.78
17-29	89	53.29
30-40	14	8.38
41-44	39	23.35
48-54	12	7.19
>54	0	0

Length of Service		
<5 years	42	25.15
6-10	69	41.32
11-15	27	16.17
16-20	7	4.19
21-25	4	2.40
26-30	7	4.19
31-35	9	5.39
>35 years	2	1.20
Academic Qualification		
PMR/SPM	43	25.7
Diploma/STPM	65	38.9
Bachelor	47	28.1
Master	10	6
PhD	2	1.2
Ministry		
NRE	42	25.1
KKM	85	50.9
MITI	20	12
KKLW	20	12

In general, the description of the sample of study mirrored somewhat the characteristics of the general population of public servants in Putrajaya in particular with respect to the age and service grade of the public servants. The majority of respondents also comes from Ministry Health which is one of the largest ministry in Putrajaya. These results indicated that the sample of this study appeared to be representative of the population of Malaysian public servants in Putrajaya.

4.3 Reliability Test

The reliability test need to be done in order to measure consistency and stability. The most popular test of interitem consistency reliability is the Cronbach's coefficient alpha, which is used for multipoint-scaled items (Sekaran, 2014). The nearer the test value to 1, the more consistent and stable the measurement. This study used the reliability test to measure the consistency and stability in Financial Behavior and Financial Literacy context.

A value of 0.7 in the Cronbach's alpha was considered adequate to ensure reliability of the internal consistency of the questionnaire Nunnally & Bernstein (1994). Flynn, Schroeder, & Sakakibara (1995) argued that a Cronbach's alpha of 0.60 and above was considered an effective reliability for judging a scale. Researchers suggested that the reliability coefficient of variable less than 0.60 was considered to be poor, those exceeding 0.70 range were acceptable. A good reliability measurement would be close to 1.

Table 4.2 shows the Cronbach's Alpha value of Financial Behavior which is 0.608. The value more than 0.6 is considered acceptable according to Hair, Black, Babin, Anderson, and Tatham, (2010). Three (3) items which are fb2, fb4 and fb6 were dropped from the 16 questions and only 13 items were used. And for financial literacy, one (1) items were dropped from four (4) items and only three items were used in the test.

Table 4.2: Reliability coefficients for the variables

Variable	Number of items	Items dropped	Cronbach Alpha
Financial Behavior	13	3 (fb2, fb4, fb6)	0.608
Financial Literacy (Likert Scale)	3	1(fl9)	0.718

4.4 Descriptive Analysis

According to Hair et al. (2010), the standard deviation describes the spread or variability of the sample distribution values from the mean, and is perhaps the most valuable index of dispersion. The responses in a sample distribution of numbers do not fall very close to the mean of the distribution, if the estimated standard deviation is large. If the estimated standard deviation is small, the distribution values are close to

mean (Hair et al., 2010). It means, if the estimated standard deviation is smaller than 1, it means the respondents were very consistent in their opinions, and if the estimated standard deviation is more than 3, it means the respondents had a lot of variability in their opinions (Hair et al., 2010). A low standard deviation indicates that the data points tend to be very close to the same value (the mean), while high standard deviation indicates that the data are “spread out” over a large range of values.

The standard deviations for all variables depicts in Table 4.3 were less than 1.00, meaning that the variations on the respondents' opinions were small and the value was close in each other.

Table 4.3: Descriptive for the major variables

Variable	Mean	Standard Deviation
Financial Behavior	2.83	.45
Financial Literacy	3.05	.38

Note: All items used a 5-point Likert scale with (1=Strongly disagree and 5=Strongly agree)

Table 4.3 also presents the summary of means of the variables. The mean for Financial Behavior as dependent variable was 2.83 and mean for Financial Literacy as independent variable was 3.05. According to McCleary & Brown (2002), mean subscale score range into 4 equal quartiles as follows: low (1.00 to 1.99), moderate-low (2.00 to 2.99), moderate-high (3.00 to 3.99), high (4.00 to 5.00). Financial Literacy mean in this study score shows in moderate-high range and Financial Behavior mean score 2.83 is in moderate-low in scale.

4.5 Financial Literacy and Financial Behavior

A Pearson correlation matrix was conducted to see direction, strength and significance of relationships among the variables. Correlation could range between -1.0 or +1.0 and

it is important to know if any correlation found between two variables is significant or not. This study attempted to identify the relationships, if any, between the predictors of independent variables and the dependent variable.

Table 4.4: Correlations between Variables

		Correlations	
		FIN_LIT	FIN_BEH
FIN_LIT	Pearson Correlation	1	.186*
	Sig. (2-tailed)		.016
	N	167	167
FIN_BEH	Pearson Correlation	.186*	1
	Sig. (2-tailed)	.016	
	N	167	167

*. Correlation is significant at the 0.05 level (2-tailed).

From Table 4.4, the correlation coefficients between dependent variable and independent variable were value more than 0.05 and it shows that the correlation are significant between the Financial Literacy and Financial Behavior among Malaysian Public Servants. In other word, any changes in one variable may effects the other positively or negatively.

4.6 Financial Attributes and Demographic Factors

The financial literacy of the participants was measured by analysis of variance or ANOVA analysis of the financial attributes and three demographic factors which are gender, academic qualification and length of service. A one-way ANOVA was utilized to determine if there was a statistically significant difference between the mean financial contribute and different personal characteristics of the public servants. This

type of technique is used for examining the differences between the means of two or more populations. An interval scale is used to measure the dependent variable and nominal scale is used for the independent variable, because the respondents are grouped into different categories.

The results in comparing the financial behavior between the age, service scheme group, academic qualification and length of service are shown below.

4.6.1 Gender

The financial literacy level was analyzed using a T-test to look at the differences between the dichotomous personal characteristic of gender and continuous financial attribute mean score. Base on Table 4.5, the P value score of .711 in 2-tailed significance indicates that there are no significant differences between male and female public servants. It means the level of financial literacy shown in the financial attributes are the same between male and female.

Table 4.5: Differences between gender and Financial Attributes

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
FIN_LIT	Equal variances assumed	.542	.462	-.371	165	.711	-.03203	.08645	-.20272	.13865
	Equal variances not assumed			-.422	65.207	.674	-.03203	.07593	-.18366	.11959

4.6.2 Academic Qualification

In financial attribute aspect, Table 4.6 indicates that most of the respondents irrespective of their academic qualification shows no differences in financial attribute aspect in financial literacy. The P value is .361 which means that no matter high or low the education level of public servants, it doesn't contribute to their financial literacy level.

Table 4.6 : Differences in Financial Literacy based on Academic Qualification

ANOVA

FIN_LIT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.898	4	.225	1.095	.361
Within Groups	33.241	162	.205		
Total	34.140	166			

4.6.3 Age

There is no significant difference ($p > .05$) in financial attribute between different age group of public servants are shown in Table 4.7.

Table 4.7: Differences Financial Literacy based on age group

ANOVA

FIN_LIT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.133	34	.239	1.214	.218
Within Groups	26.007	132	.197		
Total	34.140	166			

4.6.4 Length of Service

Length of service in public sector might indicate the qualities in finance the public servants gained throughout the service. Thus, the survey tested about the financial attribute comparing with the duration in public service of the respondents.

Table 4.8 : Differences in Financial Literacy based on Length of Service

ANOVA					
FIN_LIT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.852	7	.693	3.763	.001
Within Groups	29.288	159	.184		
Total	34.140	166			

Table 4.8 shows the difference in financial attributes with groups which have different duration in public service. The result shows that there is a significant difference between groups towards the financial attributes. In other words, the duration of service in government sector does have the impact on the financial attributes among the public servants.

4.6.5 Service Grade

In government sector, the level of service grade indicates the level of education gained and also the experience in civil service. Thus, those indicators might show the level in financial literacy of the civil servants. However, based on Table 4.9, the P value of .662 indicates that no matter the level of grade in service, it shows no difference in the level of financial literacy of civil servants.

Table 4.9 : Differences in Financial Literacy based on Service Grade

ANOVA

FIN_LIT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.327	19	.175	.836	.662
Within Groups	30.813	147	.210		
Total	34.140	166			

4.7 Financial Knowledge and Demographic Factors

The financial literacy of the participants was measured by analysis of their respond to: mathematical ability, inflation concept, interest rate, compounding interest, financial risk, and diversification of risk concept. The chi-square analysis were used across three demographic factors which are gender, academic qualification and length of service. When the P value is equal or less than .05, it means that the results are significant and a relationship exists between variables.

4.7.5 Gender

Table 4.10 until Table 4.15 show the results of a chi square test between genders and basic financial knowledge of the respondents. The significances show the P values of more than .05, which means that there is no difference in financial knowledge between genders of the civil servants.

Table 4.10 : Mathematical Ability between Genders

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.925 ^a	11	.629
Likelihood Ratio	10.013	11	.529
Linear-by-Linear Association	.138	1	.710
N of Valid Cases	167		

a. 17 cells (70.8%) have expected count less than 5. The minimum expected count is .21.

Table 4.11 : Inflation knowledge between Genders

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.226 ^a	2	.329
Likelihood Ratio	2.348	2	.309
Linear-by-Linear Association	.506	1	.477
N of Valid Cases	167		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.96.

Table 4.12 : Interest rate knowledge between Genders

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.520 ^a	3	.036
Likelihood Ratio	7.739	3	.052
Linear-by-Linear Association	7.414	1	.006
N of Valid Cases	165		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .21.

Table 4.13 : Compounding interest knowledge between Genders

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.993 ^a	3	.393
Likelihood Ratio	2.759	3	.430
Linear-by-Linear Association	2.406	1	.121
N of Valid Cases	167		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.68.

Table 4.14 : Financial Risk knowledge between Genders

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.587 ^a	2	.037
Likelihood Ratio	5.429	2	.066
Linear-by-Linear Association	.378	1	.538
N of Valid Cases	167		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.51.

Table 4.15 : Diversification of Risk knowledge between Genders

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.287 ^a	2	.866
Likelihood Ratio	.297	2	.862
Linear-by-Linear Association	.080	1	.778
N of Valid Cases	166		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.92.

Based on all of the tables measuring the elements in financial knowledge, the P value of all the elements are more than .05 except for interest rate and financial risk elements

which have P value less than .05. Table 4.12 shows the P value of .036 and Table 4.14 with P value of .037. Both of the elements have significant differences with the gender of the civil servants which means that there are dissimilarity in financial knowledge in both elements between male and female civil servants.

4.7.1 Academic Qualification

A chi-square test was conducted to identify if any difference existed in the financial literacy levels of public servants who have various level of academic qualifications. Table 4.16 until Table 4.22 show the relationship of the elements in financial knowledge with the education level of public servants.

Table 4.16: Mathematical Ability between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.664 ^a	8	.793
Likelihood Ratio	5.443	8	.709
Linear-by-Linear Association	.597	1	.440
N of Valid Cases	167		

a. 11 cells (73.3%) have expected count less than 5. The minimum expected count is .01.

Table 4.17 : Inflation knowledge between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.810 ^a	8	.160
Likelihood Ratio	12.135	8	.145
Linear-by-Linear Association	1.914	1	.166
N of Valid Cases	167		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .46.

Table 4.18 : Interest rate knowledge between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.899 ^a	12	.247
Likelihood Ratio	12.109	12	.437
Linear-by-Linear Association	3.085	1	.079
N of Valid Cases	165		

a. 16 cells (80.0%) have expected count less than 5. The minimum expected count is .01.

Table 4.19 : Compounding rate knowledge between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.746 ^a	12	.256
Likelihood Ratio	15.725	12	.204
Linear-by-Linear Association	.036	1	.850
N of Valid Cases	167		

a. 10 cells (50.0%) have expected count less than 5. The minimum expected count is .10.

Table 4.20 : Financial Risk knowledge between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.048 ^a	8	.149
Likelihood Ratio	12.316	8	.138
Linear-by-Linear Association	4.171	1	.041
N of Valid Cases	167		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is .14.

Table 4.21 : Inflation concept knowledge between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.574 ^a	8	.695
Likelihood Ratio	6.877	8	.550
Linear-by-Linear Association	.013	1	.909
N of Valid Cases	167		

a. 10 cells (66.7%) have expected count less than 5. The minimum expected count is .07.

Table 4.22 : Risk Diversification knowledge between Academic Qualification Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.002 ^a	8	.082
Likelihood Ratio	13.688	8	.090
Linear-by-Linear Association	.022	1	.883
N of Valid Cases	166		

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .29.

From all the tables above, there are none of the elements shows the significant differences between the financial knowledge and academic qualification of the public servants. It means that no matter how high or how low the education of the civil servants, it shows no difference in their financial knowledge.

4.7.2 Age

The age of the public servants may indicates the maturity in all life aspects including in finance as the older one may get, the more financial situation he or she might be encountered. Table 4.23 until Table 4.28 below show the results of chi-square test in order to measure the relationship of financial knowledge of civil servants and their age.

Table 4.23: Mathematical Ability between Age Group

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	104.678 ^a	68	.003
Likelihood Ratio	24.130	68	1.000
Linear-by-Linear Association	2.474	1	.116
N of Valid Cases	167		

a. 94 cells (89.5%) have expected count less than 5. The minimum expected count is .01.

Table 4.24 : Inflation knowledge between Age Group

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	76.394 ^a	68	.227
Likelihood Ratio	88.972	68	.045
Linear-by-Linear Association	.885	1	.347
N of Valid Cases	167		

a. 101 cells (96.2%) have expected count less than 5. The minimum expected count is .23.

Table 4.25 : Interest rate knowledge between Age Group

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	243.647 ^a	102	.000
Likelihood Ratio	35.879	102	1.000
Linear-by-Linear Association	.410	1	.522
N of Valid Cases	165		

a. 129 cells (92.1%) have expected count less than 5. The minimum expected count is .01.

Table 4.26 : Compounding interest knowledge between Age Group

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	109.388 ^a	102	.291
Likelihood Ratio	100.686	102	.518
Linear-by-Linear Association	1.431	1	.232
N of Valid Cases	167		

a. 132 cells (94.3%) have expected count less than 5. The minimum expected count is .05.

Table 4.27 : Financial risk knowledge between Age Group

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	98.831 ^a	68	.009
Likelihood Ratio	77.799	68	.195
Linear-by-Linear Association	.232	1	.630
N of Valid Cases	167		

a. 94 cells (89.5%) have expected count less than 5. The minimum expected count is .07.

Table 4.28 : Risk diversification knowledge between Age Group

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	87.540 ^a	68	.056
Likelihood Ratio	94.389	68	.019
Linear-by-Linear Association	.055	1	.815
N of Valid Cases	166		

a. 98 cells (93.3%) have expected count less than 5. The minimum expected count is .14.

Based from all of the tables showing the analysis of the relationship between elements in financial knowledge and demographic factors of civil servants, three factors show significant differences between the factors and the age of the public servants. The

factors which are mathematical ability (Table 4.23), interest rate (Table 4.25) and financial risk (Table 4.27) indicates the P value of .003, .000 and .009 respectively. On the other hand, other three financial knowledge elements which are inflation, compounding interest and risk diversification show that there are no difference between different ages of government employees in these three elements.

4.7.4 Length of Service

The longer the civil servants work in government sector, it can be said that the person might have more understanding and ability in most of aspects including in managing personal finance. Chi-square tests were conducted to measure the level of financial knowledge and the relationship it may have with the length of service in government sector. Table 4.29 until Table 4.34, below show the chi-square results.

Table 4.29 : Mathematical Ability between Length of Service Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.376 ^a	14	.013
Likelihood Ratio	10.330	14	.738
Linear-by-Linear Association	.228	1	.633
N of Valid Cases	167		

a. 18 cells (75.0%) have expected count less than 5. The minimum expected count is .01.

Table 4.30 : Inflation concept knowledge between Length of Service Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.771 ^a	14	.704
Likelihood Ratio	11.444	14	.651
Linear-by-Linear Association	.045	1	.833
N of Valid Cases	167		

a. 15 cells (62.5%) have expected count less than 5. The minimum expected count is .46.

Table 4.31 : Interest rate knowledge between Length of Service Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.785 ^a	21	.599
Likelihood Ratio	13.586	21	.887
Linear-by-Linear Association	2.554	1	.110
N of Valid Cases	165		

a. 26 cells (81.3%) have expected count less than 5. The minimum expected count is .01.

Table 4.32 : Compounding interest knowledge between Length of Service Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.469 ^a	21	.127
Likelihood Ratio	24.638	21	.263
Linear-by-Linear Association	.032	1	.857
N of Valid Cases	167		

a. 23 cells (71.9%) have expected count less than 5. The minimum expected count is .10.

Table 4.33 : Financial Risk knowledge between Length of Service Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.226 ^a	14	.032
Likelihood Ratio	22.419	14	.070
Linear-by-Linear Association	2.184	1	.139
N of Valid Cases	167		

a. 16 cells (66.7%) have expected count less than 5. The minimum expected count is .14.

Table 4.34 : Risk Diversification knowledge between Length of Service Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.522 ^a	14	.645
Likelihood Ratio	13.846	14	.461
Linear-by-Linear Association	.642	1	.423
N of Valid Cases	166		

a. 16 cells (66.7%) have expected count less than 5. The minimum expected count is .29.

From the results based on the above tables, only two elements in financial knowledge which are mathematical ability and financial risk which indicates the differences with the public servants' length of service. The other three factors which are inflation, interest rate, compounding interest and risk diversification have P value more than .05 that means that there are no differences in the duration in service with the financial knowledge.

4.7.3 Service Grade

The civil servants who are higher in ranking in the service grade can be said have higher in education level and also more in experience in service. It may also indicates

that they may knowledgeable in financial matters. Chi-square test were conducted to know the relationships between the government servants' service grade and the financial knowledge.

Table 4.35 : Mathematical Ability between different Service Grade

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.932 ^a	38	.949
Likelihood Ratio	15.387	38	1.000
Linear-by-Linear Association	.776	1	.378
N of Valid Cases	167		

a. 51 cells (85.0%) have expected count less than 5. The minimum expected count is .01.

Table 4.36 : Inflation knowledge between different Service Grade

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	40.489 ^a	38	.361
Likelihood Ratio	46.831	38	.154
Linear-by-Linear Association	5.858	1	.016
N of Valid Cases	167		

a. 51 cells (85.0%) have expected count less than 5. The minimum expected count is .23.

Table 4.37 : Interest rate knowledge between different Service Grade

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	85.955 ^a	57	.008
Likelihood Ratio	23.980	57	1.000
Linear-by-Linear Association	5.630	1	.018
N of Valid Cases	165		

a. 72 cells (90.0%) have expected count less than 5. The minimum expected count is .01.

Table 4.38 : Compounding interest knowledge between different Service Grade

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	59.589 ^a	57	.382
Likelihood Ratio	65.401	57	.208
Linear-by-Linear Association	3.190	1	.074
N of Valid Cases	167		

a. 71 cells (88.8%) have expected count less than 5. The minimum expected count is .05.

Table 4.39 : Financial Risk knowledge between different Service Grade

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	51.906 ^a	38	.066
Likelihood Ratio	44.593	38	.214
Linear-by-Linear Association	.857	1	.355
N of Valid Cases	167		

a. 52 cells (86.7%) have expected count less than 5. The minimum expected count is .07.

Table 4.40 : Risk Diversification knowledge between different Service Grade

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.155 ^a	38	.693
Likelihood Ratio	35.359	38	.592
Linear-by-Linear Association	.208	1	.648
N of Valid Cases	166		

a. 52 cells (86.7%) have expected count less than 5. The minimum expected count is .14.

According to the tables above, only interest rate elements shows the difference toward the service grade ($p < .008$). While the other factors shows no relationship with any level of the service grade.

4.8 Summary

Chapter 4 reveals the results of the tests conducted. It discovers on the demographic factors of 167 respondents and the result of correlation analyses done in the variables. Chi-square test also been conducted to show the relationships between five demographic factors and six financial literacy determinants. ANOVA and T-test were used to measure the significant between differences of financial attributes and demographic factors. In order to know the level of financial literacy among public servants, the descriptive analysis were tested.

The results indicates that there are significant relationship between the level of financial literacy and financial behavior and the level of financial literacy among Malaysian public servants are moderate-high.. The ANOVA and T test also show that most of the demographic factors have no differences in the level of financial literacy among the civil servants. The chi-square results reveal that there are mix result in relationship between the elements in financial knowledge and demographic factors. The discussion of the results is revealed in Chapter 5.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Introduction

In this Chapter, the findings from Chapter 4 are discussed. The discussion based on the literatures discussed in Chapter 2 and therefore answered the objectives of this study which have been discussed in Chapter 1. This chapter ends with suggestions of the implications, the study limitations and suggestions for future research.

5.2 Financial Literacy Level

The mean of financial literacy in Chapter 4 showed that the level of financial literacy among Malaysia public service is in moderate-high level. With compared to past research from another country, the financial literacy level of Malaysian Public Service, even not high, are quite impressive.

Lusardi & Mitchell in their study in 2014, investigating the financial literacy level among American had indicate that the population are quite financially illiterate as they put as 'poor in financial savvy'. In the other research, it was revealed that levels of financial knowledge among the population are strikingly low and, moreover, there is a sharp disconnect between how much people think they know and what they actually know (Lusardi, 2010). In The 2007 National Adult Financial Literacy Survey, the same result revealing about the lack of financial knowledge among the American citizen. It

was found that 65% of the respondents did not receive and seek any financial information in the last 12 months (Godsted & McCormick, 2007).

However, similarly with the study by Zaimah, Masud, Haron, & Othman (2014) which found the same results, the research results showed that 40 per cent of the respondents were in the high category of financial literacy, 49 per cent in the moderate category and 11 per cent in the low category. Thus overall, it may be concluded that financial literacy of workers in the public sectors were at the moderate level.

5.3 Financial Literacy and Financial Behavior

Results in Chapter 4 revealed that there are relationship exists between level of financial literacy among Malaysian public servant and their financial behavior. Same results also been found in several studies such as in J. Fox et al. (2012); Lusardi & Mitchell (2005); Mahdzan & Tabiani (2013); and Mandell & Klein (2009).

Lusardi & Mitchell (2005) in their studies discussed about the impact on financial literacy had on the retirement wellbeing. The scholar mentioned about the American retirement saving adequacy, and revealed that most of adults in their 50s have failed to develop any kind of retirement savings.

The positive relationship also was found between financial literacy and financial behaviors of young adults in study by J. Fox et al. (2012). The finding showed that for every increment in financial literacy level, increased the level of young adults financial behavior as indicated in their illiquid assets.

In Malaysian context, study by Mahdzan & Tabiani (2013) also revealed that the level of financial literacy had a significant, positive impact on individual saving, as the

financial behavior. The study suggested for the policy maker that the level of financial literacy of households to be increased by implementing various financial education programmes, to further influence financial behavior such as saving rate at the national level.

However, there are studies have an opposite result such as the findings by Mckenzie (2009). In his study, Mckenzie (2009) found that there were no relation between the level of university seniors' financial literacy and their student loan debt. He also recommends more courses need to be implemented to enhance the student's level of financial literacy in higher education institutions implying that the level of literacy in university seniors was not sufficient, nevertheless financial literacy is a solution.

The finding explained the financial situations reported from Public Service Department and Credit Counselling and Debt Management Agency about the alarming debt situation among public servants which showed in Chapter 1. However, even the financial literacy might be one of the factor mirrored in their financial behavior, the possibility of the implication of other factor cannot be ignored.

5.4 Financial Literacy and Demographic Factors

Research from (Mahdzan & Tabiani, 2013) also revealed that the demographic factors such as gender, income and educational level influenced the financial decision such as saving positively. Even though this study had not investigate about the influence of the demographic factor to the financial literacy, the relationship and significant differences of financial literacy level and demographic factors were tested and the results were discussed in this chapter.

5.4.1 Gender

In chapter 4, the ANOVA result revealed that there are no significant differences between male and female public servants. It means the level of financial literacy shown in the financial attributes are the same between male and female. In financial knowledge, both gender have significant differences in two financial aspects which are interest rate and financial risk. Overall, it can be said that there no huge differences in financial attributes and financial knowledge between man and women who work in government sector.

Past research, however had shown that there are differences in financial literacy between men and women as been indicated by Lusardi (2013) which stated that women are poorer in the level of financial literacy compared to men. The difference in result might be because of the exposure of the financial matters might be different among the countries. Furthermore, since the female population of this study came among those who were employed, the result might be different from the research that have employed and unemployed population.

5.4.2 Academic Qualification

Past studies had shown that the education factor have a positive relationship with the financial behavior as indicated by Lusardi and Mitchell (2004) in their study which revealed that financial illiteracy may stunt peoples' ability to save and invest for retirement, under- mining their well-being in old age.

Chapter 4 this study tested the basic knowledge of financial concept among civil servants to know how much they understand the concept. In academic qualification

factor, result in Chapter 4 .shows that there were no significant differences between respondents from different academic qualification in most of the financial determinants. Also revealed in the ANOVA test result that no significant differences exist between the different education levels, which means that no matter high or low the education level of public servants, it doesn't contribute to their financial literacy level.

5.5.2 Age

In a research which study about the saving behavior among United States citizen, the result showed that the respondents who shows the highest saving behavior came from the people age more than 60 years old. It showed that there were differences in saving behavior between different ages (Attanasio, 1993).

The result in Chapter 4 in this study indicated that there were three factors showed significant differences between the factors and the age of the public servants. The factors which are mathematical ability, interest rate and financial risk. And the other three factors which were inflation, compounding interest and risk diversification showed the opposite result.

The dissimilarity of results from the study might be because of some factors. The three financial knowledge elements were the elements that were regularly used in daily basis. The other three factor otherwise were more complicated concept and the usage might be uncommon among non-finance people.

5.4.3 Length of Service

Results in Chapter 4 showed that there is a significant differences between groups towards the financial attributes. In other word, the duration of service in government sector do have the impact on the financial attributes among the public servants.

The differences also shown in question tested about financial knowledge. Mathematical ability and financial risk concept had shown the differences between the different groups of service duration. Both of the results indicated the longer the respondents in the service, the more they understand about financial concept and the risk involved. This might be because of the exposure they get in life in dealing with financial decision situation may help them answered the question correctly.

5.5.3 Service Grade

A study of financial wellbeing among government workers by Zaimah, Masud, Haron, & Othman (2014) found that there were significant differences in public servants' financial decision from different service grades. In contrast to the finding, this study found no difference in financial literacy between service grades. The dissimilarity in the findings might because the population in research by Zaimah, Masud, Haron, & Othman (2014) was focused on the married individual in government sector and this study have no interest in the marital status of the individual.

In financial knowledge elements, only the interest rate factors showed the significant differences between groups and the other five elements showed no different between groups.

5.6 Implications

This study revealed about the level of financial literacy among Malaysia public servant. From the result, this study have contributed new information to the body of knowledge on the level of public servant financial knowledge. Whenever we know the level, then the further action and strategy can be well planned in order to overcome the problem. First, this study revealed that the level of financial literacy among public servants are in moderate-high level. Secondly, the result also indicated that there are relationship between the level of financial literacy and financial behaviour among public servants. Thus, more effort need to be done in order to increase the level of the financial knowledge of public servants. It is hoped that efforts to increase the level of financial literacy will reduce the serious problem of indebtedness, bankruptcy and financial problems among civil servants as stated in Chapter 2.

Based on results found from this study, implications are drawn for the use of educators, financial planners, policy makers and consumers. From the findings, the policy makers such as who are in Ministry of Finance and Central Bank of Malaysia can develop a new approach to educate the public servants to be more literate and more aware of their money matters. The approaches to financial literacy are suggested as a means to encourage better financial behaviors of consumers. Therefore, the impact of the increment in level of financial literacy can be seen in more manageable act on households' finance.

These alternatives include a number of policy-based approaches including information disclosure, educational programs, planned choice architecture, product/service design, and product/service regulation.

5.6 Study Limitations

There are limitations exist in this study. Firstly, the sample of the population of this study is quite small in comparing to the overall population of the public servants who serve in Putrajaya. This is also due to time constraint in order to collect more data in order to represent more of the population.

Other than that, the words and financial jargon in the questionnaire might not be usual for many of the respondents and might lead to false interpretation and not being full filled the purpose of the questions. For example, the question asked about pension account in the survey is referring to Employees Provident Fund. Since most of the public servants in Malaysia choose the pension fund, they might confuse with the terms used in the survey.

5.7 Future Research

Since this study is considered fundamental for the research about financial literacy and financial behavior among the Malaysian public servants, the sample size used is small comparing to the total of public servants overall in Malaysia. Therefore, there are few suggestions to be considered for the future research:

- i. Replicate the study with larger group and more diverse group including the public servants in rural area;
- ii. Include other variables such as current economic situation and government campaign in financial literacy may also have an implication in the result of the study;

- iii. Green (2013) in his research had found that financial literacy was not the only variable that impacted one's financial behavior. Thus, future study with different variable need to be conducted; and
- iv. Since this study only used questionnaire approach in the measurement, the more depth and different approach (e.g interview) need to be done in order to investigate more in the problem.
- v. While most of the studies were conducted using quantitative methods, there is the urge to use qualitative method such as case study to deeply understand the underlying reasons why these people reported that they were lacking the important aspects in financial literacy such as budgeting and cash flow.

5.8 Conclusion

This Chapter discussed about the result from the previous chapter, the implication it has, the study limitations and the suggestions of future research. As the objectives of this study is to investigate the relationship between financial literacy and financial behavior, and the significant differences in financial literacy between the demographic factors.

The findings in the study shows that the level of financial literacy among Malaysian Public Servants is in moderate-high level. The second findings also revealed that the relationship exists between the level of financial literacy and financial behavior of Malaysian public servants. The ANOVA and T-test technique used also indicated that there are some differences in financial knowledge among different demographic factors. However, the findings of this study need to be taken in cautions as it cannot be generalized to all public servants in Malaysia as the study only reflects the

population in Putrajaya. It is hope that this study will somehow giving the initial picture about the level of financial literacy among the public servants in Putrajaya and how they behave financially.

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