Impact of Intuition Heuristic on Customer's Selection Of Financial Institute: Moderated By the Cognitive Load

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- Decision making
- Information process theory
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A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Philosophy/Science in Management with specialization in Finance at
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In the name of Allah, the most merciful and beneficent

DEDICATION

I dedicate this thesis to my parents, sister and my supervisor whose support has enabled me to complete this research study successfully.

(Acceptance by the Viva Voice Committee)

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DECLARATION

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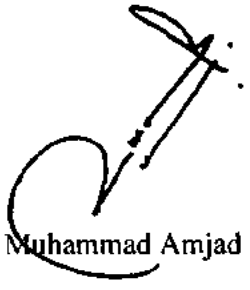

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APPRECIATION AND GRATITUDE

No words of gratitude will ever be sufficient for the Allah Almighty who made me capable of learning, blessed me with the knowledge & intellect and facilitated me with the finest of the mentors all through my academic years.

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Mr. Muhammad Amjad

FORWARDING SHEET

The thesis entitled "Impact of Intuition Heuristic on Customer's Selection of Financial Institute: Moderated by Cognitive Load" submitted by Mr. Muhammad Amjad as partial fulfillment of MS degree in Management Sciences with specialization in Finance, has completed under my guidance and supervision. After receiving two reports from foreign evaluators, requried chagnes have been incorporated. The changes advised by the external and the internal examiners hava also been incorporated. I am satisfied with the quality of student's research work and allow her to submit this thesis for further process as per IIU rules & regulations.

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Abstract

The modern researches favored the role of intuition in the real-world environments, whereas the classic work about human judgment and decision making has focused on intuition as deviation from rationality. Borrowing from these approaches, this study grounded on the theory of experiential information processing system. The research is an attempt to explore the impact of intuition heuristic on customers' selection of financial institute moderated by the cognitive load. Descriptive stats and moderation analysis was done on the survey data collected from 407 bank customers. The results revealed that intuition is a widely prevalent heuristic that shapes customers' decision making for financial institutes. The findings also confirmed that the customers' cognitive load causes deviation from rationality and stimulates the role of intuition in financial institute selection. All the results and its discussions were based on the theoretical framework of heuristic and biases. Limitations and implications for future research has been suggested with some recommendations.

Keywords: Intuition heuristic, Selection of financial institute, Moderation by cognitive load, Customer's behavior, Experiential information processing theory, Economics of decision making, Behavioral finance.

JEL Code: G02, G14, G21

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Chapter: 1 Introduction

1.1 Background of the Study

Synergies in providing financial products and services have important implications in today's competitive banking industry. Customers are believed to prefer one-stop shopping (Pulley, Berger, & Humphrey, 1993). In other words, they want all the financial products and services from the same institution. Such relationship banking or one-stop shopping for financial products and services is believed to lower the customer consumption expenses and bank production cost too (Pulley, Berger, & Humphrey, 1993). Modern financial system offer an extensive range of financial products and services from a diversified set of financial intermediaries. Customers at one side, have much concerns about the value of money, while at parallel, there are variety of interchanging options for them to choose financial products and services from a wide range of providers. Thus, the customers in well-functioning financial system are open to diversified choices for establishing relationship banking. On the other side, financial institutions are offering a choice of packages to its customers too (Stavins, 1999). Each type of institution frequently comes up with a unique set of financial offerings to win the trust of the customers and thereby enhancing the customer base. The competition and transformation in the banking industry, within the time period of few years, made the selection of financial institution a complex process (Lee & Marlowe, 2003). Where at on side the range of financial products and services is extensive while at parallel, other so many dynamic factors such as convenient location, e-banking, minimum balance, service quality, safety, personal relationships, bill payment, word of mouth, service charges, product range, bank reputation, occupation of customer, ease of opening an account, phone banking, financial stability of bank, payment of interest or profit, sharia compliance in case of Islamic banking etc. are also significant features of the decision making criteria (Lee & Marlowe, 2003;

Robinson & Moore, 2013; Saini, Bick, & Abdulla, 2011; Dabone, Osei, & Petershie, 2013; Chigamba & Fatoki, 2011). Scanning this competitive environment with taking all the important decision making factors for each type of bank, in the context of rational finance is never an easy task for everyone. Much of the anecdotal evidences in the previous research highlighted the customers' confusion and unhappiness about their selection process (Lee & Marlowe, 2003). Since the time is short, competition is extensive, information is asymmetry[1], and capacity to process all the information is bounded. In such situations the customers in the selection of financial institution cannot be the epitome of rationality, driven by hard data captured in multifaceted computational models. Hence, the concept of bounded rationality[2] makes the deliberative system of traditional version of rational choice model out of question here, but the use of intuition in such a complex and high-pressure scenario is not (Hensman & Sadler-Smith, 2011; Lank & Lank, 1995). An important series of literature supports the direct relationship between intuition and financial decisions, mentioned in the section of literature review.

Moreover, the cognitive load which refers to the amount of energy imposed on working memory at an instance in time (Tracy & Albers, 2006), has important implications for financial decision makings too. In practice, at one side cognitively demanding situations abound in daily life whereas at parallel customers' preferences under load may not be as prevalent as hinted by the rational finance literature. A sizable body of literature signals intuitive responses in the presence of cognitive load in decision making (Rose, Roberts, & Rose, 2004). This study believes that the current high pressure situation—as explained above—for financial institute selection creates

[1] Asymmetry of information refers to the decision situation where some people know more or better than others, that is people have not same level of knowledge (Bandt, 1995). In other words it is the absence of symmetry.

[2] Herbert Simon (1957) introduced the term bounded rationality as opposed to conventional rational behavior; bounded rationality refers to the rationality of individuals is limited by the information that they have, their cognitive abilities and time to take a decision.

cognitive load on the working memory of customers in decision making. Therefore the study attempts to find the impact of intuition on customers' selection of financial institution with moderating effect of cognitive load.

Furthermore, State Bank of Pakistan (SBP) reports that in the banking industry of Pakistan where local, foreign, specialized and other banks respectively get their 96.2%, 95.9%, 96.4% and 97.7% portion of their deposits from account holding customers (SBP, 2010). The same report also suggest that liquidity constraints are putting a serious embargo on Pakistani banks, for which they are advised to cluster more deposits, especially of longer terms (SBP, 2005). Knowing the customers' behavior is therefore useful for banks too to increase their customer base, as also recommended by the world wealth report 2010 & 2011. Hence, the importance of this study is also enhanced due to the current states of SBP. This study uses the term bank and financial institution interchangeably.

1.2 Gap Analysis

Intuition in the realms of modern psychology is considered a visible construct of human behavior. Recent psychologist emphasized its importance in the various cognitive processes from the use of affective, holistic, and heuristic[3] decision making. The concept is exhaustively searched within and beyond the psychological sciences including economics and finance. But even though, the literature on intuition is either silent or under develop across a verity of disciplines (Hodgkinson, Langan-Fox, & Sadler-Smith, 2008). Among such silent features is the use of intuition in the selection of financial institute by the customers. Which seems to be logical according to both theory and practice of behavioral finance. Many researchers attempted to define the customers'

[3] Heuristic is a decision making strategy that asses the target attribute by other similar attribute that comes to mind more readily in order to make quick decisions (Gigerenzer & Gaissmaier, 2011).

decision making criteria for selection of financial institution, see for example (Robinson & Moore, 2013; Saini, Bick, & Abdulla, 2011; Dabone, Osei, & Petershie, 2013; Chigamba & Fatoki, 2011; Awan, Bukhari, & Iqbal, 2011)). But all these researches considered to find the traditional decision making factors and the behavioral approach yet remained fuzzy. Going a step further, Lee & Marlowe (2003) came upon the heuristics approach and identified various decision making heuristics while studying the customers' selection of financial institutes. But this research is also vacant to find the intuition. All this discussion shows that the selection of financial institution in the lime light of customers' behavior is an under explore area. Moreover, this study also introduces the moderating role of cognitive load in the mentioned relationship that is believed to have important implications in decision making by prior researchers. Cognitive load in the context of intuition heuristic and financial institute selection is entirely a new phenomenon and the literature is all around silent. Hence, to date no study attempt to examines the cause and impact relationship between intuition heuristic[4] and financial institute selection with moderating effect of cognitive load. Specifically studying such variables in the context of Pakistan is entirely a new phenomenon.

In short the literature is vacant to identify the following gaps.

- No empirical evidence has been established between intuition heuristic and customers' selection of financial institution.
- No empirical evidence has been established between cognitive load and customers' selection of financial institution.
- Literature has not studied the effect of cognitive load on relationship between intuition heuristic and selection of financial institution.

[4] The intuitive judgments are viewed by way of intuitive heuristics as intuition is an unconscious, automatic, and biased process that is influenced by a cognitive conclusion based on a decision maker's previous experiences and emotional inputs (Betsch, 2004).

1.3 Theoretical Foundation of the Study

The theories of traditional finance are mainly based on strict rational thinking, while behavioral finance, on contrary, highlights the significance of sometimes not-so-rational human behavior as opposed to conventional theories. After all, the market is run by people, and people cannot forever be regarded as rational in their all investment decisions, especially not in times of financial distress (Shefrin, 2007). The seminal work of Amos Tversky and Daniel Kahneman during late 1960s and early 1970s on heuristics and biases laid basis of modern research on human judgment. The idea of heuristics and biases was, judgment under uncertainty often rests on heuristics rather than wide-ranging algorithmic processing. Therefore decision maker should be viewed as bounded rational. Since this influential work, behavioral approach soon spread beyond academic psychology, impacting theory and research across a variety of disciplines including economics and finance (Gilovich & Griffin, 2002). Similarly, the contemporary growth of behavioral science has emphasized the financial decision makers to use the findings of behavioral finance too in parallel, as the latest 2010 & 2011 World Wealth Reports state that "Wealth-management firms are adapting to behavior-driven investment by clients, and are re-evaluating their advisory processes, risk models and service offerings" (Capgemini & Bank of America, 2010, p. 3). Among the lime lighted topics of behavioral science is the use of intuitions in customers' decision making criteria in selection of financial institution. Kahneman describes Intuitive and rational thinking as two separate and unlike characteristic of thinking and defined Intuition as "thoughts and preferences that come to mind quickly and without much reflection" (Kahneman, 2003, p. 697).

The scholarly research in decision making highlighted the significant contribution of intuition within behavioral finance theories (Hodgkinson, Sadler-Smith, Burke, Claxton, & Sparrow, 2009). An important thread of literature in behavioral theories has been focused to analyze the intuitive

decision making in different aspects (Morewedge & Kahneman, 2010; Lamond & Thompson, 2000; Foroozandeh & Foroozandeh, 2011; Hilbig, Scholl, & Pohl, 2010; Pretz & Totz, 2007; Sadler-Smith & Shefy, The intuitive executive: Understanding and applying 'gut feel' in decision-making, 2004). Some of the studies also discuss the intuitive heuristics and cognitive load[5] in financial decision making (Hensman & Sadler-Smith, 2011; Rydval, 2007; Sadler-Smith, Intuition-analysis cognitive style and learning preferences of business and management students: A UK exploratory study, 1999; Lipshitz & Shulimovitz, 2007). The heuristic and biases literature acquainted intuition as unconscious, automatic, biased, effortless, affective, and heuristic cognitive process. Yet, the top managers recognize intuition as crucial for decision making and strategic thinking (Henden, 2004). Since the life has become more dynamic, usage of intuition in decision making with intuitive financial instincts gained significant acknowledgment (Lipshitz & Shulimovitz, 2007). Yet knowing the process of decision making turns to be a critical step (Mosier & Fischer, 2010). Similarly, even the professional financial decision making is not always based on the "best evidence" but instead on an individual's subjective intuitive opinion (Lipshitz & Shulimovitz, 2007) regarding the proper measures to take for a given challenge. All such decisions made under judgment uncertainty are often mediated by the intuitive heuristics (Tversky & Kahneman, 1983). So as to say about intuition, it nearly deals with all type of human decisions including financial decisions. A number of studies mentioned above have strengthen this logic by the support of their empirical findings.

[5] Cognitive load is the total amount of mental effort imposed on working memory at an instance of time (Tracy & Albers, 2006).

Since this study deals with intuition and intuition is placed in the experiential system of mind by Cognitive Experiential Self Theory (CEST)[6]. Therefore the study is grounded on the theory of experiential information processing system and makes its theoretical framework on the heuristic and biases program of behavioral finance.

1.4 Significance of the Study

This study is significant as

- The study draw its significance from the experiential information processing system and cognitive load theories. Where it is established that human judgments are influenced by heuristics and biases. The current study extends the use of these theories in studying the heuristic approach in reading the customer behaviour towards financial institute selection.
- SBP reports that in Pakistan local, foreign, specialized and other banks respectively get their 96.2%, 95.9%, 96.4% and 97.7% portion of their deposits from individual account holding customers (SBP, 2010). The current stats of banking industry enhanced the significance of studying the customers' behaviour towards the selection of a financial institute. Hence this research is a significant contribution, since it aims to explore this behaviour in the context of banking which is an essentially important sector of the economy.
- It has been established that several cognitive biases that impair judgment, contribute to bubble and related bust (Rumelt, 2011). Especially after the recent credit crunch crisis, it

[6] Cognitive Experiential Self Theory (CEST) is a dual process model given by Seymour Epstein. According to the theory humans are equipped with two fundamental information processioning systems. The Experiential system consists of neural representations of previous experiences and their positive and negative consequences. In dual process experiential system is part of automatic, heuristic, and affective system. The rational system on contrary is logical reasoning system (Epstein, 2003), which is rule based, slow, and non-affective.

is mainly recommended for the policy makers to include the psychological factors in their training and development programs. So studying human element in the context of pure finance is enhanced by these recommendations too. For example World Wealth Report manifest "Wealth-management firms are adapting to behaviour-driven investing by clients, and are re-evaluating their advisory processes, risk models and service offerings" (Capgemini & Bank of America, 2010, p. 3).

- Robinson & Moore (2013) illustrates that given the importance of financial industry, it is pertain to asses and observe the new developments. The current study is significant in above context since it observes the customer behaviour in today's changing financial environment.
- *Henry Mintzberg* exemplify that intuitive decisions are not inferior and plays an essential role in the strategic decisions and decision makers world widely use their intuitive judgment (Weil, 2008). The findings if in accordance with the hypothesis can also serve as the basis for developing the same message.

1.4. I Theoretical Contributions

- The litrature is evident to the fact that decision making is best under the conditions that are allied with human cognitive architecture. Once the burden on working memory increases it increase the dependence of decision makers on soft factors—emotions and feelings—in financial decisions. Precisely speaking about financial institute selection, so it can be argued that intuition impacts the financial decision makings of the customers. The econometric relation of this cause and impact is absent in the existing literature. Secondly, the past literature does not take cognitive load as a relevant variable, which is expected to

moderate the intuition heuristic and financial institute selection. This variable is perfectly relevant to financial decisions, but no econometric relation exist in literature.

In summary, the study is contributive by adding a new perspective in the litrature by establishing the empirical relationship of the research model to build the logical conclusions.

- The theories of behavioural finance assumes the bounded rationality of humans. The study if in accordance to the hypothesis will be contributive in stating the not-so rational behaviour of humans and there by strengthening the logic of bounded rationality.

1.4. II Practical Contributions

- On the practical side, the results of the study will be relevant for banks and so for other financial institutes to understand their customers in a more lucid way. As the World Wealth Reports also highlight this phenomenon and are of the view that recent crisis has made it more crucial for financial institutes to study the customers and their behaviour (Capgemini & Bank of America, 2010; Merrill Lynch Global Wealth Management & Capgemini, 2011). Moreover, the subjects are not always behaving in analytical and calculated way. Therefore studying such factors enable financial institutes to come to a better understanding of their customers.

  If financial institutes tailor the behaviour of the customers in their products and then focus their target market with good marketing strategies. This may bring about significant opportunities for them to lubricate their customer base.

- The study is important in the sense that it is first in revealing the use of intuition in customers' selection of financial institute with reference to the role of customers' cognitive load. Since many people don't accept the use of right brain skills in their decisions. Once

the customers are aware of the impact of the intuitive and their gut feelings, they would be better ready to use intuition and manage their cognitive load and title their selection criteria by taking informed decision.

- This study deals with the customer's selection behaviour towards banking institutes. But the competition and transformation is in the entire financial industry (Lank & Lank, 1995; Lee & Marlowe, 2003). Thus the selection of other financial institutes by their customer is akin to banking institutes. Hence the findings of this study may also be attractive for the other financial institutes like Insurance Institutes, Investment Institutes, Securities Finance Companies, and Islamic financial institutes of Takaful Companies, Mudarba Companies etc. Since the customer of these institutes are in dawn to dusk search for the right choices too.
- Knowing the reasons why customers want one-stop shopping and prefer to do business with certain banks would save customer consumption expenses and bank production cost too (Pulley, Berger, & Humphrey, 1993). Banks after knowing this behaviour would be able to target their communication at the right factors with right market segment (Saini, Bick, & Abdulla, 2011).

1.5 Problem Statement

It has become a truism in today's world that the financial settings has evolved so much and have never faced such an intensified, complex or changing environment competition in social, political, economic, technological or ecological terms (Lee & Marlowe, 2003; Lank & Lank, 1995). IMF reports that transformation in the banking regulatory system in Pakistan where at one aspect has increased the efficiency, while at the parallel it has brought about some other repercussion (International Monetary Fund, 2004). Players in the banking industry of Pakistan are faced with a

rapidly amassed competition (Akhtar, Ali, & Sadaqat, 2011; Ahmad & Burki, 2010; Burki & Niazi, 2006). Increase in the number of local and international players with their own set of financial offerings put them at the verge of a severe rivalry to win the trust of customers (Awan, Bukhari, & Iqbal, 2011), since the customer base is one of the essential ingredients of success. The extant of these changes in financial settings where at one side increase the range of financial products and services while at parallel it made the selection of financial institution a complex process for the customers (Lee & Marlowe, 2003). The increased number of financial players and their extensive range of financial offerings increased the breadth of the market and so the decision factors (Lee & Marlowe, 2003). Previous research in the context of such high pressure scenario highlighted the evidences about the customers' unhappiness in the selection of financial institutes (Lee & Marlowe, 2003). So to make an optimal choice about financial institute selection one has to continuously scan this competitive environment. In modern business settings time is short and one has to make decision in hurry instead of going into slow and long calculations. On the other side, taking all market factors in to account and processing the huge information is not possible at least for everyone (Hensman & Sadler-Smith, 2011). In such a complex setup the idea of rationality is inadequate and the concept of bounded rationality is believed to increase the intuitive responses (Lank & Lank, 1995; Hensman & Sadler-Smith, 2011). Hence, this study is to check whether the customers employee intuition in the financial institute selection too?

Furthermore the load on customers' memory is also increased in the context of above scenario where financial market is saturated due to competition and transformation. The recent experimental evidence by cognitive load researchers suggests that cognitive load can partially explain departures from rational behavior (Rydval, 2007) and encourage intuition (Rose, Roberts,

& Rose, 2004). This study takes the cognitive load as a moderating variable to check whether it stimulates the role of intuition in financial institute selection?

These are some of the problems and questions farming the framework of this thesis. By understanding and applying these behavioral and psychological aspects in financial institute selection, standard finance model may be improved and shed more light in explaining the reality of today's markets.

1.6 Research Questions

Based on the above problem discussion the three research questions then are:

- Whether the customers employ intuition heuristic in selection of financial institute?
- Whether the customers' cognitive load impact financial institute selection?
- Whether the cognitive load modrate the effect of intuition heuristic on financial institute selection?

1.7 Objectives of the Study

Intitution heuristic and cognative load in the selection of financial institute is a grey area in the judgement and decision making literature. Hence, this research aims

- To analyze the impact of intuition on selection of financial Institutes by customer.
- To analyze the impact of customers' cognitive load on selection of financial Institution.
- To analyze the moderiting effect of cognitive load on intuition heuristic and financial institute selection.

1.8 Organization of the study

The arrangement of the study is as follow. After introducing the topic with respect to problem statement, objectives and its significance in first chapter, the study goes next to build the relations of variables in the context of literature. Chapter 2 reviews the relevant literature with principal theories and the central concepts related to the topic. Chapter 3 presents the method applied in this study to test the hypothesis as well as the proposed model of the study. It also describes the data collection and the working mechanism. Chapter 4 illustrates the results obtained from the empirical research and the subsequent analysis of the statistical results. Chapter 5, finally the last chapter summarizes the study with brief conclusion. It also highlights the limitations of the study and some implications for future research.

Chapter: 2 Literature Review

2.1 Rationality vs Intuition: The Economics of Decision Making

The rational economics operate on the premise that people- managers, employees, and customers always make logical decisions. The ever more dependence of economics on formal modeling and mathematics kept intuition aside. However, the global economic crisis shattered our unblinking faith in the power of standard economic theory and we are blinkingly awake from the falsity of ultimate rationality of humans. We usually do not have generous information, time and formal model for figuring the probabilities of events. Hence, the summery is, despite the best effort of humans, cognitive biases usually prevent people from making ultimate rational decisions.

Dan Ariely writes:

> "IN 2008, a massive earthquake reduced the financial world to rubble. Standing in the smoke and ash, Alan Greenspan, the former chairman of the U.S. Federal Reserve once hailed as "the greatest banker who ever lived," confessed to Congress that he was "shocked" that the markets did not operate according to his lifelong expectations. He had "made a mistake in presuming that the self-interest of organizations, specifically banks and others, was such that they were best capable of protecting their own shareholders" (Ariely, 2009, p. 78).

In real world, rationality doesn't prevail apart from human gut (Gilovich & Griffin, 2002). So it is time to abandon these and other assumptions of standard economics and need to replace them with a new approach that irrationality is the factual invisible hand that operate human decisions (Ariely, 2009).

In modern cognitive science many minds are busy in proving the core idea that reasoning is no more only conscious or deliberative process. Because life is not all governed by seemingly rational practices. Instead, many decisions that we take, are heavily influenced by a cognitive conclusion based on a decision maker's emotional inputs and prior experiences that are not under the control of conscious judgment. All such decisions made under ambiguous situations or restricted information, and due to lack of time are satisfying the criteria of intuitive judgments (Tat, Hooi, Rasli, Chin, & Yusoff, 2010). Intuition is a rapid and unexpected way out of a situation, a recipe that assists ''great science'' instead of mere ''formula''. Jung (1926) in the theory of Psychological types argues that intuition is a primary mode of perception which operates subconsciously and is an "irrational function". Since, intuitions are immediate insights and are often categorized as mental shortcuts. Therefore, research at one side documented the use of intuition in judgment as intuitive heuristics (Hodgkinson, Sadler-Smith, Burke, Claxton, & Sparrow, 2009; Pretz & Totz, 2007; King & Hicks, 2009), whereas at parallel other researchers found that quick and gut feel judgment are remarkably accurate (Henden, 2004; Pretz & Totz, 2007).

The affect nature of intuition, on contrast, is the aspect of human thinking whereby the emotional response, feelings, or "affect" in psychological terms, serve as cues to guide judgments and decisions and plays a lead role in a problem situation (Slovic, Finucane, Peters, & MacGregor, 2002). Thus, emotions and feelings are often expressed as intuition too (Pretz & Totz, 2007; Fortune Knowledge Group; Gyro, 2014). The construct of emotions and affect can also be found in the experiential system of CEST framework (Pretz & Totz, 2007). Moreover, Bastick (1982) while focusing the emotional aspect of intuitive judgments described intuition as a judgment reached by a strong feeling of certainty (Pretz & Totz, 2007). The contribution of rational economics can not be negated here, however the human factor in decision making as such its

capability, feelings, emotions and cognitions are bound in producing efficiency, effectiveness and competitive advantage (Lank & Lank, 1995).

In short there is no machine acting logically and processing huge information automatically to make decision for us. Rather, there are head and heart influenced by emotions and feelings than by flow of information and data. Hence, we are painfully blinking awake that humans are irrational and incapable of making good (rational) decisions (Ariely, 2009).

2.2 Intuitive Finance: Real Life Decisions

It has been with the reaction to heuristic and biases program that gut feelings are proved to be a dominant instrument in making decisions. In the process of investment, intuition is believed to be very common and basic element to create heuristic process, witnessed by cross cultural studies (Gigerenzer & Gaissmaier, 2011). Henry Mintzberg exemplify that intuitive decisions are not inferior and plays an essential role in the strategic decision of executives (Weil, 2008). Executive managerial decision makers world widely use their intuitive judgments in risk taking and entrepreneurial activities (Weil, 2008; Hensman & Sadler-Smith, 2011). A very recent study ratify the statement of Henry Mintzberg: Fortune Knowledge Group in collaboration with Gyro surveyed more than 720 business executives across nine industries, discovers that human factors are deciding factors, not big data. Their findings reveals that 62% of U.S. executives believed to rely on "gut feelings and soft factors" when it comes to decision making (Fortune Knowledge Group; Gyro, 2014). The effective use of intuition has even been seen in decisions of top executives, managers and board members across number of industries (Agor, 1986; Barnard, 1938). The CEO Arthur Levinson of Genentech, the world's leading biotechnology company, said that ''as a manager it often comes down to intuition. Is it going to work or not?'' (Hodgkinson, Sadler-Smith, Burke, Claxton, & Sparrow, 2009). Sadler-Smith & Shefy, (2004) qouted in their study that a CEO

of a major energy corporation said that "ignoring them [intuitions] has led to some bad decisions . . . you have to learn to trust your intuition. Otherwise, at the point when you've gathered enough data to be 99.99 per cent certain that the decision you're about to make is the correct one, that decision has become obsolete" (Sadler-Smith & Shefy, The intuitive executive: Understanding and applying 'gut feel' in decision-making, 2004). Sony Walkman, the co-founder of Sony, Akio Moriata, and one of the leading personalities for entertainment innovations of the 20th century stated that "creativity requires something more than the processing of information. It requires human thought, spontaneous intuition and a lot of courage" (Hodgkinson, Sadler-Smith, Burke, Claxton, & Sparrow, 2009). Ralph Larsen, ex-chairman and CEO of Johnson & Johnson, said: "Very often, people will do a brilliant job through the middle management levels, where it's very heavily quantitative in terms of the decision making. But then they reach senior management, where the problems get more complex and ambiguous, and we discover that their judgment or intuition is not what it should be. And when that happens, it's a problem; it's a big problem" (Dane & Pratt, 2007, p. 33). Confessing all these and many other examples of the power of intuition in decision making reveals its undisputed importance from every day decisions to high-ranking decisions.

2.3 Consumer Behavior and Heuristics

American Marketing Association define consumer behavior as "the dynamic interaction of affect and cognition, behavior, and the environment by which human beings conduct the exchange aspects of their lives" (Peter & Olson, 2009). It means consumer behavior is the combination of thought (cognition), feelings (affect), actions (behavior) and the influential environment. In other words, consumer behavior in decision making process is influenced by personal (individual) factors like attitudes, personality, beliefs, motivations and life style and environment (external)

factors like culture, family, advertisements, price information, packaging, product appearance and social class etc. (Saini, Bick, & Abdulla, 2011). The well-known consumer decision making as problem solving model postulate that consumer moves through stages from need recognition, information search, evaluation of alternatives, purchase and post purchase evaluation. As consumer moves through these phases several factors ranging from individual to environmental influence their behavior (Saini, Bick, & Abdulla, 2011).

Consumer behavior in decision making is searched exhaustively. Researches all around the world with different methodologies and approaches identified significant variables influencing consumer behavior. The fact that consumer behavior is dynamic, meaning constantly changing makes difficulty in developing strategies for marketing and consumer decision making. And hence is the main reason behind the ongoing research and analysis on consumer behavior to keep abreast of important trends (Peter & Olson, 2009). The majority of published research on consumer behavior in banking sector is done to identify the consumer's bank selection factors as mentioned in the intro sections, like convenience location, service quality, ATM services, minimum balance, fee charges, and personal relations so on and so forth. However the recent development in the literature by behavioral economist and psychologist identified various decision making heuristics insightful to explain consumer behavior too (Fortune Knowledge Group; Gyro, 2014; Lee & Marlowe, 2003; Peter & Olson, 2009; Pretz & Totz, 2007). Heuristics are influenced in decision making by several factors such as decision making complexity, time pressure, product knowledge and experience, involvement, socioeconomic status, and demographic (Lee & Marlowe, 2003). In response to immediate situations heuristics my either be constructed on the spot or they may be stored in the memory that are retained and applied automatically to information faced. A number of heuristics have been identified such as linear compensatory, simple additive, conjunctive, disconjunctive,

lexicographic, and elimination by aspect (Peter & Olson, 2009; Lee & Marlowe, 2003) and search heuristic, evaluation heuristic, and choice heuristic in case of problem solving situations (Peter & Olson, 2009).

One such famous heuristic in decision making is intuition, emotion or feeling (Slovic, Finucane, Peters, & MacGregor, 2002; Pretz & Totz, 2007). As they are subconscious process that shortens the decision making practice without any articulated reasons or justifications. Essentially ''knowing'' but without knowing why. John Conlisk states that "heuristics are rational in the sense that they appeal to intuition and avoid deliberation cost, but boundedly rational in the sense that they often lead to biased choices" (Conlisk, 1996, p. 676). At the same time, intuition may be the best we have because decision maker generally do not have sufficient cognitive capacity to simultaneously integrate the beliefs and then compute the probabilities of events.

An extensive body of research has clarified the traditional factors influencing the consumer behavior in search of bank selection but the heuristic approach is yet fuzzy. Hence the study takes intuitive heuristic approach to consider customer choice behavior in bank selection.

2.4 Theory of Attribute Substitution: A Perspective of Intuition Heuristic

According to attribute substation theory, when people confront a difficult question and to arrive out at answer, the respondents here may substitute the difficult question and tend to answer an easier one, which comes more easily into mind. In other words the attributes of a difficult scenario that is target attributes are substituted with an alternative handier that is heuristic attributes, usually without being the knowledge of this substitution (Kahneman & Frederick, 2002). Tversky and Kahneman, (1974) introduced two widely prevalent heuristics—availability and

representativeness[7]—as universal biases cause attribute substation (Tversky & Kahneman, 1974). Decisions based on availability and representativeness—attribute substation—widely serve as respondents answer to many different questions since these two attributes are easy to recall and prompt to find the similarities of events.

Kahneman & Frederick, (2002) states;

> "Judgment is said to be mediated by a heuristic when the individual assesses a specified *target attribute* of a judgment object by substituting another property of that object—the *heuristic attribute*—which comes more readily to mind" (Kahneman & Frederick, 2002, p. 53).

Many decisions are made by attribute substation process, since it provides a speedy platform for hasty decisions. Strack, Martin, & Schwarz, (1988) established the role of attribute substution in the context of life satisfaction. College students answered the following two survey questions asked similtaniously: "How happy are you with your life in general?" and "How many dates did you have last month?". Initially the correlation among the questions was negligible i.e. 0.12 when asked in the above shown order, but as they appeared in the inverse order by asking dating question first, the correlation jumped to 0.66. The psychological interpretation of the results suggest that the target attributes to answer the difficult question about overall life satisfaction was substituted to the heuristic attributes of successful dating, that came more readily to mind. Such attribute

[7] Tversky & Kahneman, (1974) proposed that judgment under uncertanity is guided by stratigies called heuristics. Representativness and availability are two such heuritics.
Availability is a cognitive heuristic or mental shortcut in which the decision is based on readily available information rather than complete objective information (Kahneman & Tversky, Subjective probability: A judgment of representativeness, 1972). It works under the notion that if one can think of something it must be important or at least must be relevant than the alternatives which are not easily recalled.
Representativeness is a cognitive heuristic in which the probability of an event is judge by the degree to which an event is alike in its essential features to its parent event. In other words, probability to which an event A resonate event B (Kahneman & Tversky, Subjective probability: A judgment of representativeness, 1972).

substation based heuristics have extensive use in financial choices too. For example, suchlike heuristics moderate the candidates' financial decisions (Barrett, Mesquita, Ochsner, & Gross, 1997), managers' stock investments behavior (Srivastava, 2010), accounting practices (Kadous, Koonce, & Thayer, 2011), and importantly even customers' choice of financial institution for attaining financial services (Lee & Marlowe, 2003).

Dr. Herbert Simon tells that in everyday life, our brain accumulate knowledge on continual basis and engrossing our existed experiences. Our memory continuously, unconsciously organize patterns of these experiences and knowledge, and eventually it begins to house cluster of information, stored in the long term memory. So when we see a tiny aspect of something familiar, we start to identify similarities and immediately recognize it. He calls this process intuition. Similarly, the process of attribute substation is also believed to take place in the same intuitive system of mind, rather than the more self-aware reflective system (Kahneman, Maps of bounded rationality: A perspective on intuitive judgment and choice, 2002). Decisions once based on intuition under the process of attribute substitution are fast and frugal. Studies have found the role of affect intuition in the process of attribute substation. Slovic, P., Finucane, M., Peters, E., & MacGregor, D. G. (2002) discussed the use of affective response as a heuristic attribute under attribute substation in different complex situations, like safe concentration of chemicals, the cost and benefit ratio of technologies, and predicted economic performance of industries (Kahneman, Maps of bounded rationality: A perspective on intuitive judgment and choice, 2002). Upon the basis of above discussion the study hypothesize that customers in the selection of financial institutes tend to substitute the difficult attributes with the relevant financial information by using their gut.

2.5 Cognitive Load and Decision Making

Traditional economic models believe on the scarcity of information and tend to assume the notion that "more information is better". However, information processing research at on side awake to believe that in today's world information is abundant, not much scarce, immediately available, and essentially costless (Sanjurjo, 2009). While at parallel, research also established the ever time reality about human limits to consciously process information. Herbert Simon, the late Nobel laureate in Economic Sciences, considered attention as the scarcest of economic resources, as humans' ability to process information consciously is limited (Hogarth, 2003). Research showed that working memory[8] that makes an individuals' knowledge base, serves limits with respect to the amount of information it can contain simultaneously (Miller, 1955). The cues of information to be analyzed and working memory usage are directly related. The higher level of information consumes the higher level of working memory and vice versa. Working memory limits are therefore believe to explain systematic deviations from rationality (Sanjurjo, 2009).

Cognitive load refers to the extent of mental energy imposed on working memory, required to process a given amount of information (Cooper, 1990). The high level of working memory is consumed as the amount of information to be processed increases, and so does the related cognitive load. The impact of cognitive load on consumer behavior is well established. Past research in social psychology and consumer judgment has shown that cognitive load is directly related with information level and complexity e.g. (Rose, Roberts, & Rose, 2004; Wu, He, & Wong, 2010; Sanjurjo, 2009), determine limits in information processing (Rydval, 2007; Sanjurjo, 2009; Gilbert, Pelham, & Krull, 1988), influence the way consumers make judgment (Dewitte,

[8] Working memory also called short term memory is the part of human brain that consciously processes the information. Working memory stores the more recent information for a short period of time (Jameson, Hinson, & Whitney, 2004).

Pandelaere, Briers, & Warlop, 2005; Tracy & Albers, 2006; Rose, Roberts, & Rose, 2004; Wu, He, & Wong, 2010; Block, Hancock, & Zakay, 2010), and more importantly deviate decisions to intuition (Schulz, Fischbacher, Thöni, & Utikal, 2011; Neys, Novitskiy, Geeraerts, Ramautar, & Wagemans, 2011; Kida, Smith, & Maletta, 1998; Wu, He, & Wong, 2010; Sanjurjo, 2009). Studies on consumer psychology have observed the central role of cognitive load on consumer information processing behavior. For instance, Gilbert, Pelham, & Krull, (1988); Rose, Roberts, & Rose, (2004) Underscored that high cognitive load reduced individual's ability to process information consciously relative to low cognitive load. Sanjurjo, (2009) while conducting experiemnt to evaluate security prices under information overload demonstrated that as information load increases decision error increases. Drolet and Simonson (2001) revealed that during choice making and preference formation high cognitive load causes less evaluation of product attribute information (Wu, He, & Wong, 2010). Ward & Mann, (2000) have showed that individual's ability to elobrate information is prevented by cognitive load in dietary consequences of eating behavior.

Researchers underscored the concept of cognitive load as highly important and relevant in affective decision making[9] (Rose, Roberts, & Rose, 2004; Schulz, Fischbacher, Thöni, & Utikal, 2011). Rose, Roberts, & Rose (2004) conducted a study to investigate the effects of information and cognitive loads on the influence of affective responses on memory and decision making. Their findings suggest that the recall of financial data decreases considerably when cognitive load is reduced. Moreover, the study found that the financial decision makers recall affective responses more precisely regardless of without any changes in information or cognitive loads. A study goes to check the economic decisions of rational predictions of standard economic models under the

[9] Affective decision is fast, automatic, effortless and emotionally driven decisions (Rose, Roberts, & Rose, 2004). The concept of affective decision overlaps the intuition in nature.

cognitive control. The key finding was that people who were higher in cognitive control, inclined to behave more in line with the standard models. Hence, such decision-makers were more likely to maximize their monetary payoffs (Neys, Novitskiy, Geeraerts, Ramautar, & Wagemans, 2011). Kida, Smith, & Maletta (1998) argued that decision makers perfectly recall the affective responses from working memory rather than actual numerical data, and that affective responses significantly impact the future data recall and the decision making process. Prior researches also demonstrate that affective or intuitive responses are preset and durable in memory structures and require less working memory to retrieve. Such intuitive reactions are stored in separate memory structures and are more persistent than memory structures of financial data (Rose, Roberts, & Rose, 2004). Similarly with the effects of cognitive load, the increased cognitive load is expected to govern to a greater extent by the intuitive system and therefore diminish the financial data. While decisions taken under low load are expected to improve the ability to store and retrieve financial responses to data (Schulz, Fischbacher, Thöni, & Utikal, 2011). To sum it all, in judgment and decision making high cognitive load consumes more cognitive resources and tend to impair the ability to elaborate more incoming information relative to low cognitive load. Thereby deviating decision makers from rationality and stimulating intuitive responses.

2.6 Research Model and its Theoretical Justification

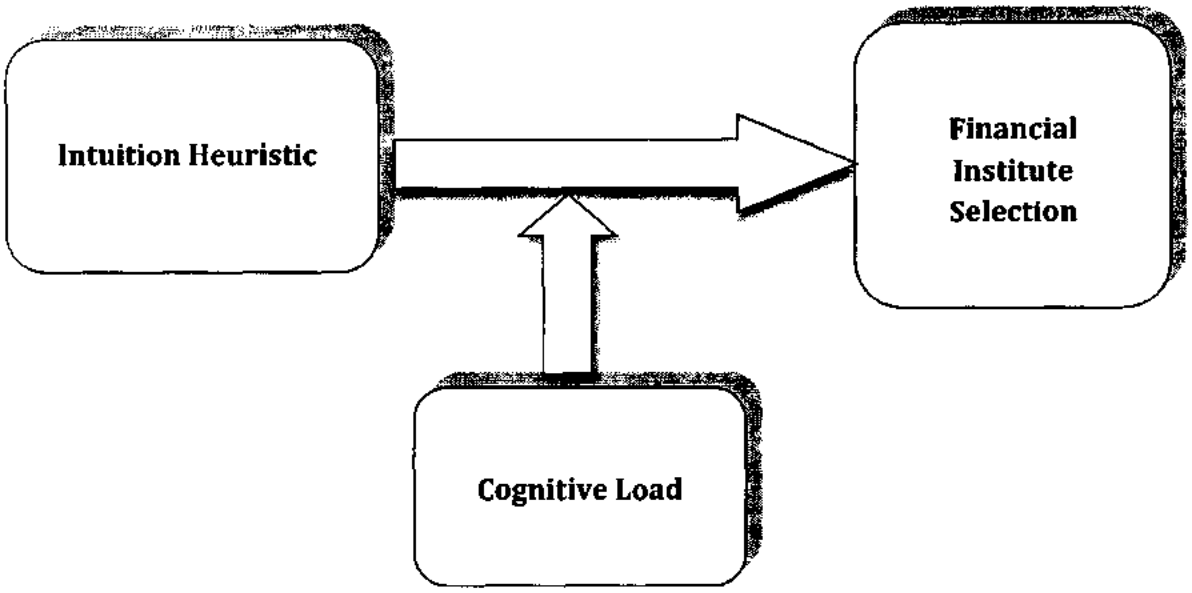

Figure.1: Research Model: Impact of Intuition Heuristic on Customer's selection of Financial Institute: Moderated by the Cognitive Load

2.6. I First Path: Impact of Intuition Heuristic on Customer's Selection of Financial Institution

Modern research shattered standard economic rationality and verified that irrationality is the real hand that drive human judgment.

Stephen Colbert said;

> "I don't trust books. They're all fact, no heart. And that's exactly what's pulling our country apart today. Because face it, folks, we are a divided nation. Not between Democrats or Republicans, or conservatives and liberals, or tops and bottoms. No, we are divided by those who think with their head, and those who know with their heart" (Colbert, 2005).

Financial facts in decision making are not the be all and end all, in fact many decisions including business require a balance of heed and heart. Hard numbers are not the driving factors. Human

beings are not calculating machines, instead they have heart and brain influenced by emotions and feelings. Research at many paces verified the irrationality of humans (Ariely, The End of Rational Economics, 2009; Fortune Knowledge Group; Gyro, 2014) and even human's predictable irrationality (Ariely, Predictably Irrational: The Hidden Forces that Shape our Decisions, 2008).

The ample discussion in the preceding pages of the section is an inference to opine that intuition makes the people's mind-set that in turn leads them to take decisions in the relevant parameters of attribute substation. This kind of decision making is diverse and range to the economic decisions too. An important thread of literature supports the direct relationship between intuition and financial decisions, mentioned in the previous parts of literature. Some of the papers directly measured intuition in the banking industry with different perspectives. For example, Intuition and emotion are believed to influence the lending decisions of loan officers' assessment of borrowers' creditworthiness in the banking and small business (Bellucci, Borisov, & Zazzaro, 2011). Lipshitz & Shulimovitz (2007) showed by interviewing fourteen loan officers at large israeli bank that credit decisions are deeply influenced by gut feelings and intuitions. Moreover they found, gut feelings as a more valid indicator of the worthiness of the application, comparative to the relevant financial data (Lipshitz & Shulimovitz, 2007). Hensman & Sadler-Smith, (2011) reports reliance of executives on intuition in banking and finance . Henden, (2004) reports that some of the US high ranked professionals use intuition in financial issues like assessing prices, formulating budgets, and choosing investment. Slovic, Finucane, Peters, & MacGregor, Rational actors or rational fools (2002) highlited the implications of affect heuristic in behavioral economics and state that affect heuristic enable people in numerous important situations to be rational actors. Shiler, (1987) found in a survey of market crash in 1987 that both individual and institutional investors used intuition in predicting the after crash direction of the market. Lank & Lank, (1995)

argued in explaining the role of intuition in business that intuition became the legitimate feature of organizational success. A more recent study daunted the rationality by revealing that 65% US executives believed that decision making on the basis of purely funcational factors like cost, quality and efficency is difficult in current complex business enviorment. Their findings further showed that 62% of U.S. executives believed to rely on "gut feelings and soft factors" (Fortune Knowledge Group; Gyro, 2014). In relation to consumer behavior, research showed that consumers actively use affect heuristic in decision making (Peter & Olson, 2009). Burke, (1990) proposed that consumers use heuristic choice strategy—alternative based—if infrences about attribute values related to missing information requires effort, regarding the effect of missing information on decision strategy. Marketrs of consumer products are well aware of the influence of affect on consuemer behavior and they exploit counsumers' affective sensitives (Slovic, Finucane, Peters, & MacGregor, The Affect Heuristic, 2002). Lee & Marlowe, (2003) came upon the qualitative and quantitative analysis for quantifying consumers' decision making criteria in the selection of financial institute. The study lists down the several factors used as heuristics and reveals that consumers frequently use decision making heuristics in the selection process. Likewise, most of the participants of focus group indicated that when facing a new financial need, they involved in limeted extent of search by looking in the same financial institution where they have account and tend to ignore the market variations of financial services and products (Lee & Marlowe, 2003). All these and several other studies have showen that intuition became the legitimate feature for choice formulation for individula and organizational success.

Similarly, in the background of this research—see intro—where evidences have found the customer's confusion about their selection of financial institution. Decision making is challenging due to extensive competition, informational complexity, time constrain, and last but not least the

limitations of working memory. Processing big data of whole financial market in such high pressure scenario and satisfying the rationality of economics is off-course questionable. Hence, likewise behavioral literature, this study assumes intuition to take part here. That is essentially an important factor, specifically in such situations according to the theory. Against this background, the first path of the model creates reasonable hypothesis that the intuition heuristic impact customers' selection of financial institution.

H1 The customers employ intuition heuristic in the selection of financial institution.

2.6. II Second Path: Cognitive Load Moderate the Effect of Intuition Heuristic on Financial Institute selection

The theory suggests that decision making is best under the conditions that are allied with human cognitive architecture. The cognitive resources are too limited to hold the information and so to process it. Since the amount of information exceeds, one may take longer to understand the information, miss the essential details, and creates load on working memory in decision making (Rose, Roberts, & Rose, 2004). The cognitive load during task completion systematically causes deviation from the rational choice model and therefore increases the intuitive responses (Schulz, Fischbacher, Thöni, & Utikal, 2011; Sanjurjo, 2009). Researchers are of the view that intuition, out of its multi-dimensions, has its impacts on decision making via number of ways. Its impact is reported both directly and indirectly. One such indirect way of stimulating intuition in decision making is cognitive load (Rose, Roberts, & Rose, 2004; Sanjurjo, 2009). So this argument is reasonably justifiable that the degree of the influence of intuition upon the choice of decision maker would be dependent upon the level of decision maker's cognitive load. Hence the study to investigate the influence of intuition must take the variable of cognitive load into its analysis.

Cognitive load, as discussed in the preceding part of the chapter, is diverse in nature and its impact on decisions making across variety of discipline including economics is well known. Researchers used cognitive load at different stages. Cognitive load was some time taken as dependent variable, see e.g. (Gerven, Paas, Merrienboer, & Schmidt, 2002; Yoon & Choi, 2011) while some of the studies has taken it as an independent variable e.g. (Rose, Roberts, & Rose, 2004; Dewitte, Pandelaere, Briers, & Warlop, 2005; Mendel, 2012; Rydval, 2007; Sanjurjo, 2009). Yet another study takes the effect of cognitive load as mediating variable in economic decision making (Neys, Novitskiy, Geeraerts, Ramautar, & Wagemans, 2011).

The current study in the background, where selection of financial institution is a complex process, proposes that cognitive load influence intuition heuristics in decision makers. Just like the theory says. Additionally, this proposition is verified statistically by some studies along with recommendations of other. Researchers at many paces used cognitive load as moderating variable in decision making. For example, Prior research in social psychology and consumer judgment states that cognitive load moderate the mood effect on consumers' choices. Mood influences the way consumers process the information, as a result they may miss attribute and use mood as biases for the decision making (Wu, He, & Wong, 2010). These findings are supported by the study where relation between mood effect and consumer choices under the modertating effect of cogniive load is established. The results indicate that consuemers into a postive mood under high cognitive load tend to process the information at moderat level. As a result they engag in non-analytic, creative proceessing style and thereafter tend to prefer hedonic option by affect response, and vice versa (Wu, He, & Wong, 2010). Rydval, (2007) reported that cognitive ability (cognitive load of a particular task) can moderate the effectiveness of strong financial incentives—stimulator of economic performance—in casual fashion. In a study of oppositional communition, the

effectiveness of incorporating opposition marketing-dominated message is moderated by cognitive load, viewing that in high cognitive load recall of oppositional appeals are significantly highr than non-oppositional (Krishen & Homer, 2012). Mendel, (2012) showed that interface consistency would be moderated by total cognitive load. Hayes, (2013) Find the moderating effect of cognitive load on affect heauristic and indicated support for cognitive load moderating the affect-risk-taking relationship. Moreover, Roch, Lane, Samuelson, Allison, & Dent (2000) while proposing the two stage model—cognitive load and equility heuristics—for individuals' over consumption behaviour of scare resources suggest that cognitive load shoud be use as a moderating variable in future research. Hayes, (2013) also suggested the use of cognitive load as a moderating variable in accounting-based decision making study including heuristics and biases.

Based on above discussion and recomendations, research strongly suggests cognitive load as moderation variable between the dependent and independent variable. Hence, the current study extends the use of cognitive load as moderating varable for intuition heuristic and financial institution selection. The basic premise is that high cognitive load—cognitive resources are constrained and information is more effortful to process—influence the intuitive heuristics in customers' selection of financial institution.

Based on the above discussion, the following hypothesis can be proposed

H2 Customers' conitive load impacts selection of financial institution.

H3 The relation between intuition heuristic and financial institute selection is modrated by the cognitive load.

2.7 Summary

The literature collected in this review is not gleaned from any single source, but is itself a research process. Finding from the review that less has been written concerning heuristic and biases in customers' selection of financial institute, and little has been published about cognitive load (specifically its moderating impact on the mentioned relationships) in customers' choice of financial services, has shown an ominous gap in the existing literature. The existing literature is witness to the point that human beings are sensitive, myopic, easily confused and distracted. People are inspired by unconscious biases and despite the best effort, are unable to make rational decisions. Several factors like more information, working memory limits etc. causes them to trust their own intuition and emotions to make even business decisions. Literature also predicts that the impact of cognitive load is varying among the individuals' judgment. This cognitive load in an indirect way causes intuition in the various walks of daily life including economic decisions. The relation was hypothesized that high cognitive load impair information processing capacity and therefore encourages intuitive judgment.

Borrowing from the same theoretical framework, this research make the following relations. Customer's behavior in selection of financial institution can be explained by the intuition heuristic and the relevant cognitive load. The relation of intuition heuristic to financial institute selection is supposed to be positive while the cognitive load is believed to moderate the effect of intuition heuristic in financial institute selection. These relations can be opine to create the research model for this thesis, as mentioned in figure 1 with theoretical justification.

Chapter: 3 Research Methodology

This chapter discusses the research method opted in an attempt to arrive at the findings.

3.1 Data

The variables of this study are created in the emotions and cognitions of people and therefore are not directly observable. Such variables are subjective in nature and varying from person to person, time to time, culture to culture, and due to numerous other reasons. Thus, secondary data could not be taken for such variables due to their subjectivity. Original data collection was therefore the only solution for the research problem at hand. Such data can be collected via questionnaires, interviews, experiments, etc. (Kothari, 2004). The data consisted of this research was basically collected in the form of questionnaire, but it was converted to interview for those respondents who were either not familiar with English, outside of home station, or unable to understand the questionnaire. This was done so ensure the diversity of sampling, since financial institute selection is of every ones' concern. In this way, the study used mixed-mode survey methodology[10] for collection of data. The logical building process behind the adoption of a questionnaire and interviews is due to the nature of investigation and objective of the inquiry. Since, this research aims to find the intuition heuristic in customer selection of financial institution with moderating effect of cognitive load, which are all self-reported concept and typically been measured as a self-reported personality construct. Therefore mixed-mode survey in the form of questionnaire and

[10] Mixed-mode survey is offering more than one mode for collection of information from survey respondents. Researches have shown growing interest in mixed-mode surveys, because of the limitations posed by single mode. Factors for the increase in mixed-mode survey include declining response rate of single mode, increased coverage of population, increased of computer technology, cost, and time. Survey researcher have now a variety of modes or multi-modes available to fit in according to the needs of each particular study (Christian & Foster, 2008). Mixed-mode method has increased the attractiveness of surveys to the respondents too, because people have different preferences for survey data collection. Yet, the researchers have mentioned the mode effect in multi-mode surveys too.

interview, if necessary, best fits according to the needs of study. The questionnaires method in survey is most extensively used in several economic and business studies (Kothari, 2004). Researchers have shown the significance of survey questionnaire in collection of experiences, characteristics, and opinions from sample (Burkes, 2007). Previous literature like Gorrell, Ford, Madden, Holdridge, & Eaglestone, (2011) consider questionnaire as a low cost method to attain generalizable and multi-oriented data with easy and reachable administration. Mixed-mode survey is collection of information about a specific variable from survey respondents via two or more modes, and then combining them to arrive at results. Mixed-mode surveys have become very popular due to number of reasons and researchers often use them in surveys (Christian & Foster, 2008).

In the first stage of data collection, after completing the demographic information relating the sample, the respondents were given a self-reported intuition measurement questionnaire. The respondents assigned a numerical indication about their intuition on 5 point Likert scale. Afterward, cognitive load was measured by customers' rating the amount of mental effort after reading a moderate level of text on selection financial institute. Finally, the customers rated applied intuition part of the questionnaire by indicating their use of intuition in financial institute selection. All the instruments used to measure the variables, sample size determination, and sampling procedure with detailed characteristics of population, and the required statistical techniques to arrive at results are discussed next.

3.2 Variables

This study considers three main variables i.e. Intuition heuristic as an Independent, Financial Institute Selection as dependent, and Cognitive Load as moderating variables. Each variable and its role in the model is discussed in detailed in the previous sections.

3.2. I Measurement of Intuition

Intuition was measured by the "Faith in Intuition", a subscale of well-known Rational Experiential Inventory (REI), based on CEST introduced by Pacini & Epstein, (1999). The subscale of "Faith in Intuition" of REI is further divided in two subscales, i.e. experiential ability and experiential favorability. Ability is one's self-belief in own ability to successfully use intuitive/experiential mode: for example a sample item is "I believe in trusting my hunches". Favorability scale estimates the preference for the use of that mode: for example "I like to rely on my intuitive impressions". Intuition is some time viewed as judgment reached by strong feelings of certainty, or in other words, affect or emotions are linked to intuition too. REI experiantial scale also covers affective judgments, such as "I tend to use my heart as guide for my actions". These factors shows the diversity of REI experiantial scale. REI is a self-report questionnaire with 5 point Likert scale from 1=completely false to 5=completely true. Pacini & Epstein, (1999) reported the internal consistency of REI experiantial scale 0.87 (Cronbach α). However this study attempted to find it again.

The rational behind measuring intuition with REI experiantial scale is that it is not unidimensional, but in-fact it reflects intuitive, affective, and heuristic components[11]. Thus, REI experiential scale is considered unique to measure self-reported intuitive ability, as past studies on the measure has not revealed any such distinction between these aspects of intuition (Pretz & Totz, 2007). Since this research also includes the same aspects of intuition, and primarily focuses to measure its heuristic nature, thus using REI experiential scale is best fit to grasp the aim of this study. The REI

[11] Intuition is an abstract and subjective phenomenon, which is considered a heuristic process of decision making in judgment and biases literature. Although, some of the researchers have also highlighted the holistic aspect of intuition, but the heuristic view is dominant one (Pretz & Totz, 2007). Westcott (1968) is of the first few researchers to measure intuition empirically, adopted heuristic nature of intuition too.

has been exhaustively researched and validated in several studies from theoretical constructs to forecasting behavioral outcomes (Leybourne & Sadler-Smith, 2006).

3.2. II Measurement of Financial Institute Selection

To assess customers' use of intuition in financial institute selection, the study used applied intuition part of the questionnaire. The scale measures the practical use of intuition in financial institute selection with self-report questions. A sample item is "Do you trust your intuition in financial decisions making." Each item is scored on 5 point Likert scale from 1=Never to 5=Always. The scale was adapted from the thesis of Goodin (2010), where the questionnaire was used to determine the practice of intuition heuristics in the field of therapy and counseling (Goodin, 2010). Hence it was modified for its use in the specific context of this study. The internal consistency of this part of the questionnaire was measured with Cronbach α.

3.2. III Measurement of Cognitive Load

Rating scale based on the work of Pass, (1992) is used to measure the cognitive load in terms of mental effort. Paas & Merrienboer, (1994) verify that cognitive load cane be estimated by measuring perceived mental effort required by a task. The respondents had to assign their invested mental effort regarding the difficulty they felt they had to work, mentally, to understand the information of the financial choices, on 5 point likert scale. The customer had to read a text on the decision making for financial institute selection, structured into 2 paragraphs. The text contained a moderate level of information regarding the use of intuition in deciasion making with its heuristic nature, the use of rationality, and customers decision making criteria in financial institute selection[12]. The questionnaire was rated by assigning a numerical valeu ranging from 1= very low

[12] The text was structured into two paragraphs. First para consisted of the importance of appropriate selection of financial institution along with customers' decision making criteria to choose a financial institute—mentioned in the

mental effort to 5=very high mental effort. Pass, (1992) reported the internal consistency of the original mental effort scale 0.90 Cronbach α. Though, the present study yet again measured the scale's reliability with Cronbach alpha cofficent. The scale's reliability, sensitivity, and its ease of use have made this scale, the most prevalent measure of working memory burden in cognitive load research (Paas, Tuovinen, Tabbers, & Gerven, 2003).

Self-rating scale of cognitive load was used in this study because it is believed that people are just capable of assigning a numerical indication of their perceived mental burden (Paas, Tuovinen, Tabbers, & Gerven, 2003), and because such subjective scale allowed a mapping of customers' mental effort differences (Yeigh, 2012). Overall usage and validity of self-report scale to measure cognitive load is widely established in literature[13]. Tipper and Bayliss (1987); Ayres, (2006) reported that cognitive load measures of self-report format deliver valid and reliable data, specifically if used in combination with dual-task assessment of working memory (Yeigh, 2012). So the methodology relating this part of research seems on solid ground when it comes to measurement of cognitive load.

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section of intro and literature review—taken from previous studies. The information regarding the competition and transformation in the banking industry and the diverse range of financial products and services with unique set of characteristics offered by each type of financial institute to the customers, was included too. The next para was about information processing strategy i.e. intuition and rationality and some piece of the material regarding how the customers can analyze the information both intuitively and rationally in decision making for financial institute selection. The text was prepared in the manner so that the customers became well aware of the factors of financial institute selection with both logical and intuitive systems. After reading the text, customers rated cognitive load questionnaire showing the effort they made in actual decision making for financial institute selection. After rating cognitive load they were immediately presented the applied intuition questionnaire to check again the customers' preferences (that after understanding the factors and becoming aware of bank selection process which mode applied) in actual financial institute selection.

[13] Although, researchers are continually trying to develop physiological and secondary measurement of cognitive load, but even though, subjective rating in the measurement of cognitive load have received a lot of attention. Several factors like "easy to use; do not interfere with primary task; are inexpensive; can detect small variations in workload (i.e., sensitivity); are reliable; and provide decent convergent, construct, and discriminate validity" have made such scales the most well-known measure of cognitive load (Paas, Tuovinen, Tabbers, & Gerven, 2003, p. 68).

3.2. IV Demographic Variables

The importance of demographic analysis in the field of social sciences and business studies is widely established (Lucarelli, 2010; Pol & Thomas, 1997). Such analysis can be helpful in knowing the basic information relating the sample, and in explaining the direction and dynamics of the respondents. Researchers like Waldfogel, (2010) suggested to evaluate the control variables: age, education, employment, and ethnicity in the demographic analysis. Such variable analysis are particularly important in tailoring the customer oriented products (Pol & Thomas, 1997). Hence, this research within the ambit of its analysis elects to measure a number of demographic variables like, education, age, profession, income range, gender, and type of financial institution. All these variables were analyzed via frequency analysis with chart mapping.

3.3 Population

Banking is essentially an important sector of the global economy, and its importance in world financial service industry cannot be negated (Katircioglu, Tumer, & Kılınç, 2011). The term Bank and financial institution are used interchangeably (Stavins, 1999). The research subjects of this study are customers of banks, and the study takes bank as proxy of financial institution. Banking remained at the heart of financial sector throughout the history of world. Though, the world have now a wide range of other financial institutions too, yet the share of banking still dominant financial service industry. Likewise in Pakistan, other financial institutions have a very negligible share in terms of both asset and GDP as compare to banks[14]. Asset composition of Pakistan's financial sector 2013 illustrates that banks have 73.4% asset of the total financial industry (SBP, 2013). The report further revealed that as percent of GDP, banks have 44% assets of the total GDP of the economy. These statistics of State Bank of Pakistan shows that bank leads the financial

[14] See, State Bank of Pakistan, Financial Stability Review 2006 to 2013.

sector by having highest share than any other financial institution in terms of assets as well as GDP. Similarly SBP, (2010) also reports that in Pakistan local, foreign, specialized and other banks get their 96.2%, 95.9%, 96.4% and 97.7% portion of their deposits from individual account holding customers (SBP, 2010). Thus, for one to get a true view of customers' financial institute selection, it is useful to focus on the backbone i.e., banking—a leading financial sector with major share—, and then generalizing the results to other financial institutions will off course be meaningful.

3.4 Sampling: Size and Technique

Researchers generally do not study the entire population to conduct a research, neither it is required to cover the all the possible cases to study the under consideration phenomenon (Chuan, 2006). The normal practice is to select a sample from target population that appropriately represents the population. Only representative sample allow researchers to generalize the results from sample to population. Sample size estimation is therefore a critical step for any study.

Three criteria usually works well to the estimate the appropriate sample size: the level of risk or confidence, the level of margin of error, and the degree of variation in the attributes of interest (Bartlett, Kotrlik, & Higgins, 2001). Relying on these factors, this study used Cochran's (1977) based sample size estimation formula to determine the appropriate sample size.

$$n_{\circ} = {Z^2 * \sigma * (1 - \sigma)}/{e^2}$$

Where:

$n_{\circ}$ Is required sample size.

Z reflects confidence level. Here it is set at 95% confidence level that is equal to 1.96 Z-score[15].

(σ) is the estimate of the standard deviation in the population. It is assumed to be 0.5[16].

(e) is the desired level of precision, set at ±5%[17].

This procedure gives sample size equal to 385 respondents. However, the data was obtained from 407 responses out of 500.

A non-probability convenience sampling technique was used to gather the data. Convenience sampling is a kind of survey sampling in which convenient members of the population are chosen. Convenient sampling is a very popular method due to its ease of use and other advantages, specifically in the banking sector. Researchers at many paces frequently used convenience sampling for determining the customers' bank selection criteria, See e.g., (Mokhlis, Salleh, & Mat, 2011; Katircioglu, Tumer, & Kılınç, 2011; Sayani & Miniaoui, 2013; Chigamba & Fatoki, 2011; Dabone, Osei, & Petershie, 2013; Larsen, 2007; Saini, Bick, & Abdulla, 2011). Hence, the use of convenience sampling in this research of customer's selection of financial institution is consistent with previous similar studies.

To collect sample, the participants were initially scrutinized by selecting bank account holders only. Primarily banks were classified into five different types i.e., conventional bank, Islamic bank, investment bank, specialized/industrial bank, and micro finance bank. The customers were reached

[15] Alpha/confidence level is the probability that the actual mean value falls within the specified range of confidence interval. The most desirable alpha value used in educational research is 95% (Bartlett, Kotrlik, & Higgins, 2001). In the formula of Cochran (1977) the confidence level corresponds to Z-score. Based on the past research, this study also set alpha level at 95% equaling 1.96 Z-score.

[16] Standard deviation is the expected variation in the responses. Since, it is to be assumed before administering the survey, so we do not know the variability in advance; therefore the safe decision is to use .5—which covers the maximum variability— (Smith, 2013).

[17] Margin of error is the confidence interval—a range of values between +/- —that shows how much error to allow. The general rule for acceptable margin of error in social and educational research is ±5% (Bartlett, Kotrlik, & Higgins, 2001).

in the banks' premises with random selection of either bank branch. The data was then gathered from the bank customers at different universities, government and private organizations, and even from bank employees. The responses of bank customers outside the home station were collected via e-mail, and phone interviews. This was done so to ensure the diversity and randomness in the data.

3.5 Data Analysis

The study used SPSS 18 to statistically establish the results needed here. Data analysis on the responses from survey was done via the following techniques.

The reliability test for all questionnaires were run prior to measure the validity of data. Reliability was measured by the coefficient of Cronbach's alpha. Cronbach reports the reliability of survey in terms of internal consistency ranging from 0 to 1. As per analysis section, demographic analysis was done first to discern the basic information relating the sample. Afterword, descriptive statistics were find for all variables to ascertain the eminent features in the data. Since, the research model of this study confirms the cause and impact relation of independent to dependent variable with an effect of moderation, i.e. Intuition impacts the selection of financial institution in direct link and on the other, cognitive load causes to impact the relation of intuition heuristic and customers' selection of financial institution. Hence the moderation effect is an essential mode of analysis in this study. The moderation effect was tested with hierarchical multiple regression analysis as an interaction effect between the variables. The test was carried out as par suggestion of Aiken & West, (1991). The stats of all these statistical test with the relevant discussion are given in next chapter.

Chapter: 4 Results and Discussion

4.1 Reliability Analysis

The reliability analysis for scale was run to determine the validity of data. The reliability was estimated using the coefficient of Cronbach alpha. The value of alpha ranges 0 to 1. Though, there is no lower limit to the value of alpha and the difference of opinion lies about the acceptable value of the coefficient. Neither too low nor too high alpha value is desirable (Tavakol & Dennick, 2011)[18]. A commonly used rule of thumb developed by George & Mallery, (2003) indicates that all the values more than 0.6 signals a reasonable level of reliability.

The values under Cronbach alpha are mentioned in Table 4.1 for independent, moderating, and dependent variables. The highest alpha value was obtained for the construct of intuition (0.806) followed by financial institute selection (0.72), and cognitive load (0.71) respectively. All the coefficient values of alpha are quite satisfactory and falls under the acceptable range of rule of thumb provided by George & Mallery, (2003). Hence, it was concluded that the reliability statistics of the scale were acceptable to be included in the further analysis.

Variable Name		
Intuition	0.806	20
Cognitive Load	0.71	3
Financial Institute Selection	0.72	5

[8] High internal consistency shows a high level of item redundancy that the scale items are measuring the same portion of the construct repeatedly (Tavakol & Dennick, 2011).

4.2 Demographic Analysis

Demographic analysis are helpful to discern the basic information relating the sample respondents. Such analysis have its own significance in the field of social sciences and business studies (Lucarelli, 2010; Pol & Thomas, 1997), and are particularly important in tailoring the customer oriented products (Pol & Thomas, 1997). The study analyzed following demographic variables via frequency analysis.

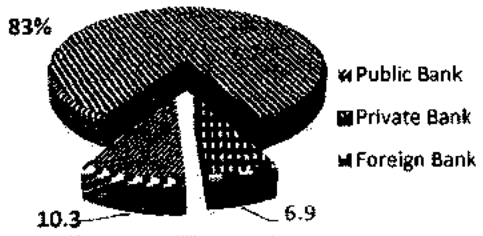
4.2. I Type of Financial Institution

The first variable elected information relating the type of financial institution. Financial institutes were divided into three broad categories to determine the customers' preferences for each type.

Table 4.2. 1: Financial Institution Type

	Frequency	Percent
Public Bank	42	10.3
Private Bank	337	82.8
Foreign Bank	28	6.9

Figure. 4.2. 1: Financial Institution Type



Inquiring for the financial institution yielded that private bank (82.8%) were mostly found type of financial institution. This finding is very similar with the stats of state bank of Pakistan SBP, (2013) and Consulate General of Switzerland, (2011) where it is reported that about 80 percent of Pakistan's banking assets are held by private sector banks. A very small portion of peoples reported other category of banks. In short, the customers have very high tendency to use private banks for obtaining financial services.

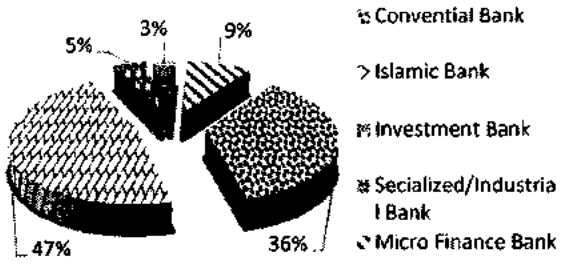
To further explore the customers' background information, it was revealed that most of the customers' were having account in Islamic bank (i.e., 46.7%), followed by conventional bank (36.1%). These findings shows that even though Islamic banking is very new to its conventional

counterpart, yet it made a swift growth and captured a significant portion of the market share as also reported by (SBP, 2013; Rehman, Ahmed, & Amjad, 2013). Micro finance banking is not very old trend in Pakistan. However, the figures showed that a considerable number of customer were utilizing it too. The numbers of investment and specialized/Industrial banks showed that the customers have least tendency to use the services of these type of banks.

Table 4.2. II: Financial Institution

	Frequency	Percent
Conventional Bank	147	36.1
Islamic Bank	190	46.7
Investment Bank	19	4.7
Specialized/ Industrial Bank	13	3.2
Micro Finance Bank	38	9.3

Figure. 4.2. II: Financial Institution



In summary, according to the sample of this study a vast majority of the customers' utilizing the services from private sector financial institution by holding account in Islamic and conventional banks. These trends in sample are fairly consistent with the reports of SBP, (2013); Consulate General of Switzerland, (2011) and adds strength to the logic that the sample results are not spurious, instead they are factual and can be taken for generalizing the results to the focus population.

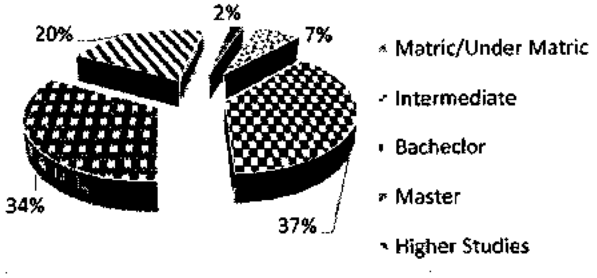
4.2. III Level of Education

The variable was included to know the education level of the respondents. The data yielded that a large category of the customers were bachelor and master degree holders. It is also notable that a considerable number of respondents were from higher studies (i.e., M.Phil and PhD) as well. While the smallest portion here was from matric or under matric. This shows that a vast majority of the respondents in sample of this study were highly educated.

Table 4.2.III: Education Level

	Frequency	Percent
Matric/Under-matric	8	2
Intermediate	27	6.7
Bachelors	151	37.4
Masters	136	33.7
Higher Studies	82	20.3

Figure 4.2.III: Education Level



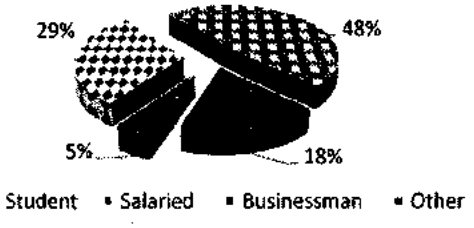
4.2. IV Profession

The profession of the sample shows that the largest category of the respondents were employed (48%). This included both government and private sector employees because the questionnaire was distributed in government as well as private sector institutions. One related reason for the highest percentage of the employed profession be the compulsion of the employers—government and private institution including banks—upon its employee for having bank account. 4.7% of the total sample size reported some other profession that included housewives, unemployed etc.

Table 4.2. IV: Profession

	Frequency	Percent
Student	120	29.6
Salaried	195	48
Businessman	72	17.7
Other	19	4.7

Figure 4.2. IV: Profession



4.2. V Age

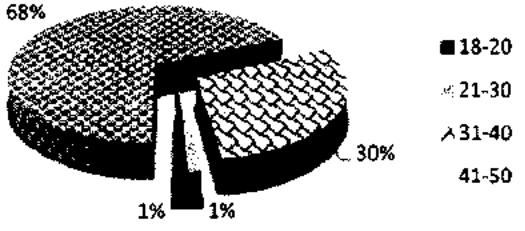
The profile of the respondents shows that the majority of the respondents here were in the age range between 21 to 30 years old (68.3%) followed by the age group between 31-40 years

(29.5%). While the lowest category of the respondents were below 20 years and above 41 years old. Hence, this is to say that about 98% of the sample comprised upon the young bank customers.

Table 4.2. V: Age

	Frequency	Percent
18—20	4	1.0
21—30	276	68.3
31—40	119	29.5
41—50	5	1.2

Figure 4.2. V: Age



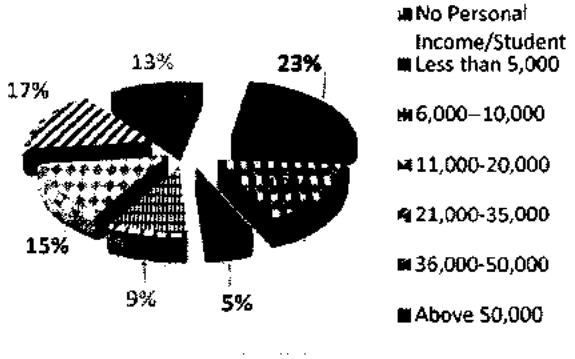
4.2. VI Income Range

Income range of the respondents showed that about 23.1% of the sample size had income above 50,000 then in the range of 21,000 to 35,000. The least income groups were 5,000 and less and 6,000 to 10,000. While 17.4% of the respondents reported no personal income these included students, housewives, unemployed etc. Hence, this is to infer that most of the bank customers—the focused population—within the specified sample of this study were financially stable.

Table 4.2. VI: Income Range

	Frequency	Percent
No Personal Income/ Student	71	17.4
Less than 5,000	22	5.4
6,000--10,000	38	9.3
11,000-20,000	60	14.7
21,000-35,000	69	17.0
36,000-50,000	53	13.0
Above 50,000	94	23.1

Figure 4.2. VI: Income Range



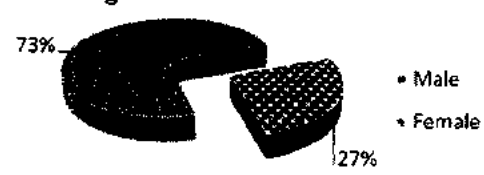
4.2. VII Gender

This demographic variable showed that the customers sample was fairly skewed toward male participants. Since female respondents (26.5%) were much less than the male respondents (73.5%) so it could be predicted from the sample of this study that most of the banking customers are male, which seems quite natural in the context of Pakistan.

Table 4.2. VII: Gender

	Frequency	Percent
Male	229	73.5
Female	108	26.5

Figure 4.2. VII: Gender



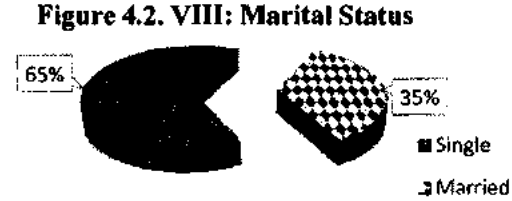
4.2. VII Marital Status

The large category of the respondents under this variable were single bank customers that made 64.4% of the total sample size.

Table 4.2. VIII: Marital Status

	Frequency	Percent
Single	262	64.4
Married	142	34.9

Figure 4.2. VIII: Marital Status



All these demographic variables were helpful to provide an overview of the sample characteristics. After highlighting the eminent features of sample respondents, the study went next to summarize and describe the trends in the data via descriptive statistics.

4.3 Descriptive Stats Analysis

To highlight the eminent features of the information collected from survey respondents, descriptive statistics are presented in this section of the analysis. Important descriptive stats of all variables are mentioned in Table 4.3. I.

Variable Name	Mean	Std. Deviation	Minimum	Maximum	Median
Intuition	3.2117	0.42243	2	4.20	3.35
Cognitive Load	3.2715	0.60246	1	5	3.33
Financial Institute Selection	3.2510	0.61757	1.40	5	3.60

4.3. I Descriptive Stats for Intuition

Descriptive statistics in Table 4.3. I for the intuition yielded the mean value 3.2127. That is to infer that all of responses are at the value 3.25 approximately[19]. Which shows that the response of the variable lies between the neutral and agree region of the questionnaire. To put it differently, all the individuals are showing inclination towards intuition. Moreover, 2 was the minimum average score that represents lower category of intuition (it actually shows inclination towards rationality that is opposite of intuition), while 4.20 was the maximum score representing higher support for intuition.

[19] All the variables were measured on 5 point Likert scale. 1 here is completely opposite of intuition—in other words it actually represents rationality—while 5 shows extreme degree of intuition. 3 corresponds to the neutral entry of the respondents. So, the score above neutral point represents intuition while below neutral is dis-favorability towards intuition. Same applied for cognitive load and financial institute selection.

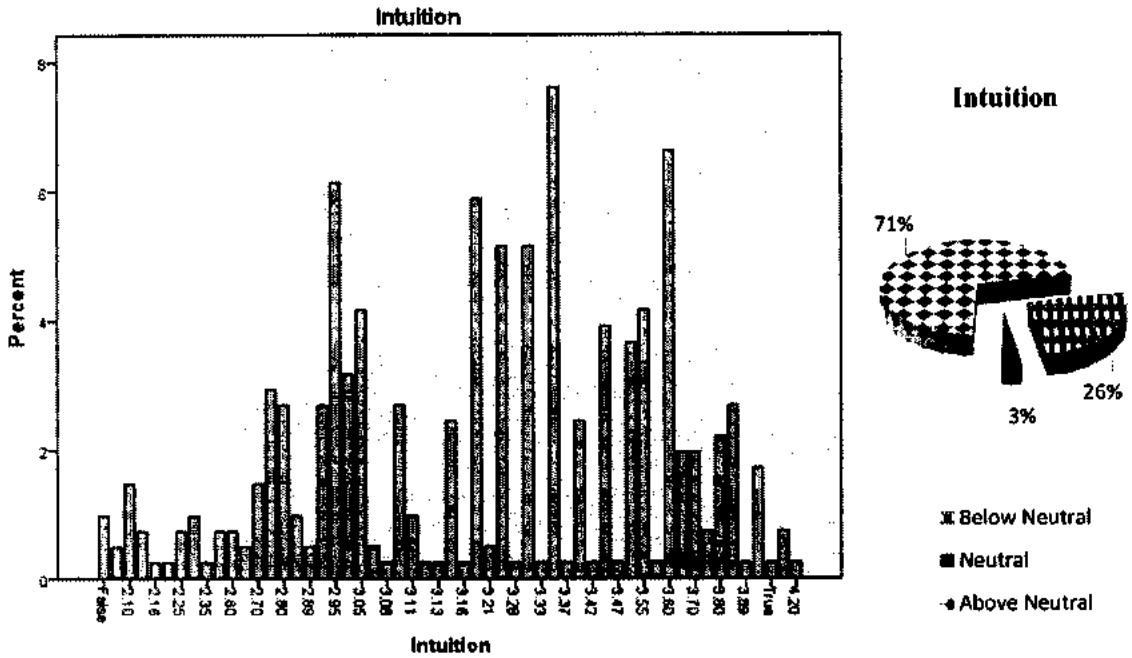


Figure 4.3. I: Frequency Analysis for Intuition

As the chart of frequency analysis in Figure 4.3. I shows that 71.2% of the customers were showing higher trend towards intuition, while only 25.6% were in the lower category. 3.2% customers showed not much favorable or dis-favorable inclination concerning intuition. The most often value for the score of intuition was 3.35. Hence, the conclusion can be inferred here that the customers seems to be ready to use right brain skills—intuition—in decision making.

4.3. II Descriptive Stats for Cognitive Load

The average response of cognitive load was 3.2715. It depicts that most of the respondents stated normal cognitive load in decision making for financial institute selection. It is notable that both the minimum and maximum values were reported at the extreme values of 1 and 5 respectively. It

shows that some of the customers felt no cognitive load at all while others reported extreme cognitive load situations in choosing financial institute.

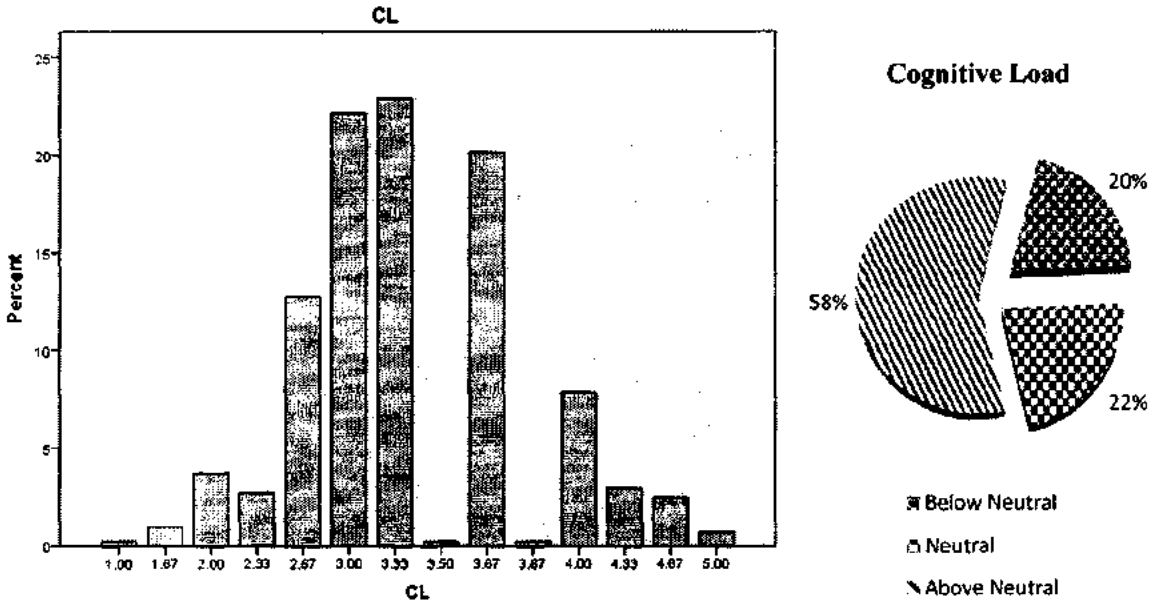


Figure 4.3. II: Frequency Analysis for Cognitive Load

It is evident from Figure 4.3. II that most of the customers (58%) reported cognitive load in the range of above neutral (i.e., 3) to very high cognitive load (i.e., 5). While the smallest portion here was the customers (20%) who were in the below average cognitive load situations. 22% customers of the total sample size showed not much favourable or dis-favourable tendency towards either cognitive load situations. It is also clear from the chart of above analysis that cognitive load was varying among the individual's judgment. Which is to say that the influence of intuition heuristic upon the choice of customers' decision making would depend upon the level of cognitive load. To sum it up, it can be inferred that upon the aggregate of all responses, a vast majority of the customers feel burden on their working memory at the time of selection of financial institution.

4.3. III Descriptive Stats for Financial Institute Selection

The results in Table 4.3. I shows that most of the people's response for financial institute selection was in the range of neutral to agree region of the scale as its mean value is 3.2510. The minimum average score was 1.40 representing lower favorability of intuition in financial institute selection. The maximum average score was 5 stating extreme favorability of intuition in the choice of financial institution. 3.60 is the most often score appeared in the data series.

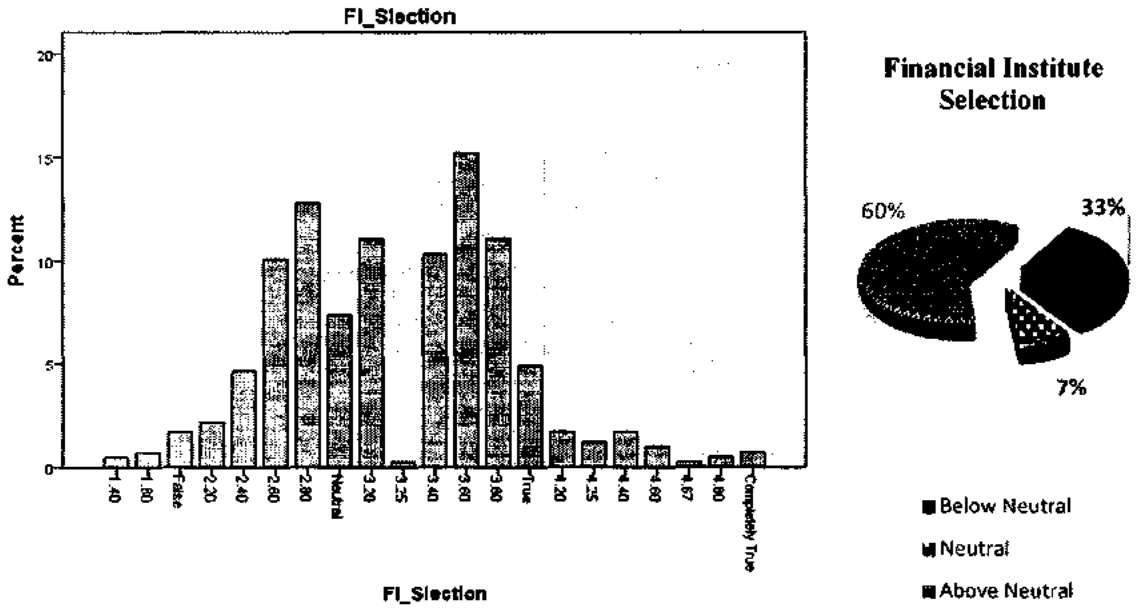


Figure 4.3. III: Frequency Analysis for Financial Institute Selection

Frequency analysis for financial institute selection revealed that 60% of the customers laid from above neutral to completely true range of the scale. 33% of the customers did not prefer experiential favourability while very low category that is 7% remained on the neutral position in decision making for financial institution. To sum it, a vast majority of the customers process the information relating the choices of financial institute in the intuitive system of mind rather than self-aware logical system.

Descriptive analysis can be concluded in the following lines. Firstly, intuition is a common and dominant mode of decision making. A large majority of the customers used it in decision making for financial institute selection as it provide a speedy platform for rapid decisions. So knowing such like heuristics are helpful to explain consumer choice making behaviour (Fortune Knowledge Group; Gyro, 2014; Lee & Marlowe, 2003; Peter & Olson, 2009; Pretz & Totz, 2007). Secondly, cognitive load is the mental effort required to process the information in the search of appropriate financial institute. It is evident from the descriptive stats that cognitive load imposed burden on working memory of customers at an instance of choice formulation for financial institute, consistent with the background of this study (see intro). Moreover the varying nature of cognitive load implies that the effect of intuition upon selection of financial institute would depend upon the level of customers' cognitive load. However, this relation was empirically established in the moderation analysis of this study. Thirdly, once cognitively demanding situations abound in decision making, the customers' preferences under load may not be as prevalent as hinted by the rational finance literature, evident from the stats of financial institute selection. Which revealed that customers' financial decision making is not always based on the "best evidence" but instead on an individual's subjective intuitive opinion.

4.4 Moderation Analysis

Hierarchical multiple regression analysis was used to examine the moderating effect of cognitive load on the relationship between intuition heuristic and financial institute selection. All the prerequisites relating moderation was performed and the analysis was run as per directions of Aiken & West, (1991). The predictor and moderator variables were standardized prior to model estimation[20]. In the first step of regression analysis, the independent variable (i.e., intuition) and a moderating variable (i.e., cognitive load) were entered with a dependent variable (financial institute selection), to find the main effects of the model. In the second step, the moderation effect was estimated by entering the interaction term between intuition x cognitive load (see Figure. 2). The results of the analysis was summarized in model 1 for the main effects and model 2 for the moderation effects respectively.

Table. 4.4. I: Model Summary

	R Square						
Model 1	0.380	0.377	123.625	0.000	0.380	123.625	0.000
Model 2	0.392	0.387	86.481	0.000	0.012	7.944	0.005

Note: P < 0.05

4.4. I Results: Main Effects

The results in Table 4.4. I showed that about 38% of the variation in the dependent variable (financial institute selection) could be accounted by the main effects. The overall model was significant, R^2 = .380, F (2, 406) = 123.625, p = 0.000. The stats in Table. 4.4. II are evident to infer that all the variables in the main effects were highly significant. Thus, the cause and impact

[20] See for explanation Aiken & West, (1991); Baron & Kenny, (1986).

relationship was confirmed between the dependent and independent variables of this analysis. The following conclusions could be drawn from the main effects. Firstly, the significance of intuition (β_1=0.532, p=0.000) showed that the customers significantly used their intuition in decision making for financial institute selection, supporting *H1*. The relationship of cognitive load to dependent variable is significant at (β_2=0.370, p=0.000). Which implies that customers' cognitive load impacted their actual choice formulation for financial institution, consistent with *H2*. In summary, the findings of main effects uncover that the independent and moderator variables significantly predicted the outcome variable. To put it differently, intuition and cognitive load significantly positively contributed to the customers' decision making for financial institute selection.

Table 4.4 II: Predictors of financial institution selection

Model 1	Constant	0.335	0.08
	Intuition	0.532	0.000
	Cognitive Load	0.370	0.000
Model 2	Constant	0.021	0.929
	Intuition	0.617	0.000
	Cognitive Load	0.386	0.000
	Intuition x Cognitive Load	0.058	0.005

Note: P < 0.05

4.4. II Results: Moderator Effects

In the final step of hierarchical multiple regression analysis, the moderator variable between intuition and cognitive load were added to test the hypothesis that cognitive load moderate the relationship between financial institute selection and intuition heuristic. The analysis indicated a significant portion of variance in dependent variable (i.e., financial institute selection) is explained by the main effects and the moderation effects together, $R^2 = 0.392$, $F(1, 403) = 86.481$, $p = 0.000$. The change in the model after adding a moderator variable is $\Delta R^2 = 0.012$, $\Delta F(1, 403) = 7.944$, $p = 0.005$. "R Square Change" showed additional 1.2% increase in variation was accounted by the addition of the moderators. Which means that moderator variable explained additional variance in the model and this increase is statistically significant ($p < 0.05$). That is to inference that moderation existed here between the dependent and independent variables, consistent with *H3*. The ANOVA significance of both models also indicated that moderation results were factual and can be taken for the decision making.

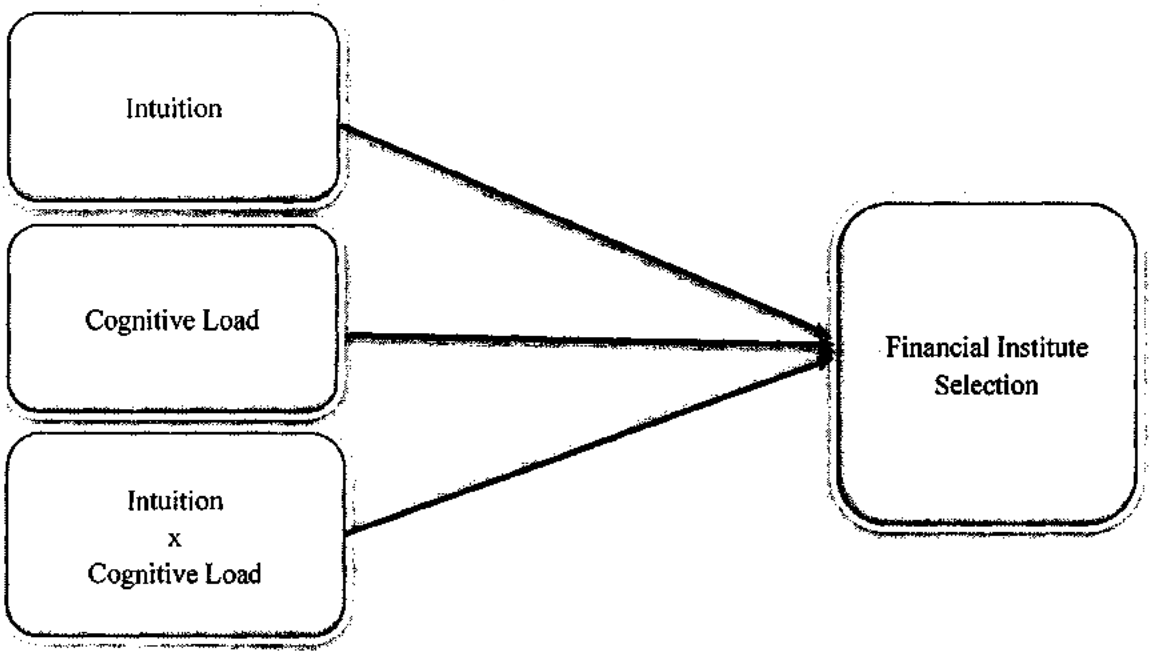


Figure.2: Moderation Model: Significant Main Effects and Moderation Effects on Financial Institute Selection

Furthermore, the results in Table. 4.4. II showing that the moderator effect was statistically significant. The regression coefficient for the moderator provided significant estimates of the moderation effect. This was the interaction between intuition and cognitive load (β_3=0.058, p=0.005). Thus, the interaction term and their significant result concluded that the moderator variable was additional significant predictor of financial institute selection.

4.4. III Discussion

The findings of the main effects indicated that intuition has a positive relationship with financial institute selection, consistent with the prediction. The significance of intuition means that the customers trust their feelings and believe in their instincts in decision making for financial institute selection. In other words, when the customers confront upon the selection of financial institution, and to arrive out at the final decision, they tend to process the choices intuitively and made selection heuristically. These results confirmed *H1* hypothesis that customers employ intuition heuristic in financial institute selection. The finding is consistent to the past literature as the existing literature also supports the presence of such intuitive heuristics in financial decision making (Lee & Marlowe, 2003; Lank & Lank, 1995; Chater, Huck, & Inderst, 2010; Fortune Knowledge Group; Gyro, 2014).

The results of cognitive load also showed significant relationship to financial institute selection. The significance of this relation confirmed that cognitive load alter the customers' selection of financial institution, consistent with *H2* hypothesis. This finding is also parallel to the past literature where cognitive load is believed to influence customers' financial decision making (Dewitte, Pandelaere, Briers, & Warlop, 2005; Rose, Roberts, & Rose, 2004; Wu, He, & Wong, 2010).

The interaction term between intuition and cognitive load predicted significant moderation effect on the selection of financial institution, such that higher the customers' cognitive load, the greater—more positive—the effect of intuition on financial institute selection was. To put it differently, the customers experiencing high level of cognitive load reported higher level of applied intuition in financial institute selection than those who experience lower level of cognitive load. It also imply that cognitive load has negative after effects on customers' rational choice making. In summary, the moderation analysis uncover that the effect intuition on selection of financial institution vary between cognitive loads. Hence, the results of the study lend credence to the proposition that the cognitive load moderate the relationship between intuition heuristic and financial institute selection, supporting *H3* hypothesis. These results confirmed the earlier findings underline that cognitive load influence intuition heuristic in financial decisions (Dewitte, Pandelaere, Briers, & Warlop, 2005; Neys, Novitskiy, Geeraerts, Ramautar, & Wagemans, 2011; Rose, Roberts, & Rose, 2004; Rydval, 2007), or cognitive load decrease decision makers' rationality even in financial decisions (Sanjurjo, 2009; Rose, Roberts, & Rose, 2004).

Thus, the analysis of the hierarchical multiple regression analysis revealed that the customers processed the information in the intuitive system of mind, rather than the more self-aware reflective system. One related explanation for these results may be that the customers' usually do not have symmetry of information, time, and enough cognitive capacities to figure the probabilities of entire financial market for each and every financial institution and their respective financial products and services. Therefore, the idea of rationality in the customers' decision making process in selection of financial institution was scarce. Furthermore, choosing financial institution was considered a highly cognitive task by the customers, similar to the findings of previous literature that reported customers' unhappiness about the selection of financial institution (Lee & Marlowe,

2003). Such high cognitive situations deviate the customers' preferences from rational finance and shaped their decisions into the heuristic—intuitive—system of mind (shown from moderation analysis).

Hence, the summery could be drawn from these analysis that despite the best effort of humans, cognitive biases usually prevent people from making ultimate rational decisions and encourages intuition heuristic in judgment and decision making.

Chapter: 5 Conclusion

This chapter summarizes the study with brief conclusion. It also highlights the practical recommendations with limitations of the study and some implications for future research.

5.1 Summary of Research

This study was an attempt to establish the relation between intuition heuristic and financial institute selection with moderating impact of cognitive load. The recent psychologist emphasized the importance of intuition in the various cognitive processes from the use of heuristic to the remarkably accurate human decision making power. An extensive body of research has clarified the traditional factors influencing the consumer behavior in search of bank selection. But at the parallel, the heuristic approach in selection of financial institution is yet fuzzy. Hence, this study exhausted the limits of present literature by studying the underline concept in the light of relevant variables with a comprehensive set of econometric techniques for establishing the cause and impact relationship.

The literature reviewed in this study was not gleaned from any single source, rather it was a research process in itself. The literature of behavioral finance is evident to the fact that rationality does not prevail in the real life apart from human gut. Intuition is therefore considered a legitimate feature for choice formulation and basic element to create heuristic process in decision makings. Furthermore, the literature also predicts that the competition and transformation in the banking industry, within the time period of few years, made the selection of financial institution a complex process. Where at on side the range of financial products and services is extensive while at parallel, other so many dynamic factors are also significant features of the customers' selection of financial institution. Thus the extensive competition, informational complexity, time constrain, and last but

not least human's bounded rationality is believed to create the cognitive load in customers selection criteria. Scanning the financial information in such situations and satisfying the assumptions of standard finance is not an easy task. Hence, it was hypothesized here that intuition is the basic element that create heuristic process in customers' selection of financial institution. And the impact of cognitive load is varying among the customers' judgment. This cognitive load is an indirect way that causes intuition in processing the information relating the choices of financial institute. To put it simply, the relation of the intuition to financial institute selection was predicted positive while this relation was hypothesized to be different at the different levels of cognitive load.

To check the above relation, primary data analysis was used. The data was collected relating all variables from the survey respondents by the mean of questionnaire. The reliability of each instrument was measured by the coefficient of Cronbach alpha. All the values of alpha appeared under the acceptable range of rule of thumb provided by George & Mallery, (2003). After establishing reliability, the scale was included in the further analysis.

Demographic analysis was done via frequency analysis to discern the basic information of research subjects. It revealed that a large category of respondents were young male customers, most of whom were unmarried. The respondents were from higher qualification background and even a good percentage of them were holding higher studies (i.e., MS and PhD). A majority of the customers were having good rank jobs in the government and private sector institutions and therefore were financially stable. A large majority of the customers had the tendency to utilize the services from private sector financial institutions by holding account in Islamic and conventional banks.

In the next section of analysis the eminent features of the data was highlighted via descriptive statistics. Results for intuition pondered that a higher majority of the customers were showing favor towards the use of intuition in decision making. Frequency analysis for this variable showed that most of the responses of customers laid in the neutral to above neutral region of the scale. Which shows the customers inclination towards the higher use of intuition. Cognitive load also showed the similar trend, where majority of the customers reported high cognitive load situations. Which means that the customers feel burden on their working memory at the time of processing the information in selection of financial institution. Moreover, the stats of financial institute selection were mostly showing a strong tendency towards intuition. Which inferred that the customers believed to rely on "gut feelings and soft factors" when it comes to decision making for financial institute. These findings show that human factors are the deciding factors, not the big data. All these findings are natural and align to the concepts of behavioral finance.

Hierarchical multiple regression analysis was run to examine the moderation effect of cognitive load on intuition heuristic and financial institute selection. The findings of regression were considered into main effects and moderation effects separately. The results of the main effects for both independent variables—i.e, intuition and cognitive load—were significant, representing that both intuition and cognitive load are significant predictors of financial institute selection. Sings of coefficients for both variables were positive indicating that intuition and cognitive load positively impact the customers' decision making for financial institute selection. These results are in line with the previous literature and also confirmed the findings of descriptive stats. Furthermore, the results of moderation confirmed the prediction of this study too. Results of moderation uncover the significant interaction effects between intuition and cognitive load. A positive value for the effect of interaction term imply that higher the customers' cognitive load,

the greater the effect of intuition on financial institute selection was as compare to lower cognitive load.

In a nutshell the findings of both main effects and moderation effects can be boiled down to following discussion. Financial data in decision making are not the be all and end all, in fact many decisions including business and finance require a balance of heed and heart. Human decisions are influenced by emotions and feelings than by flow of information and data. Intuition is therefore considered a very common mode of decision making to create heuristic process, as witnessed by the results of this study. Moreover human cognitive resources are limited to process the information. Since the amount of information exceeds, one may take longer to understand the information, miss the essential details, and creates load on working memory in decision making, that in turn causes deviation from the rational choices and increases the intuitive responses. Decisions once based on intuition are fast and frugal. All this discussion is consistent to the previous literature (Ariely, 2009).

5.2 Recommendations

In the light of these findings the practical recommendations are threefold.

Firstly, it has been revealed in the past literature that once the behaviour of customers are tailored in the products, the customers can be attracted at a better level (Alserhan, 2011). Based on the above literature it is recommended for the financial institutes to incorporate the behavioral approach in evaluating their advisory processes, service offerings, and risk models in order to accept behavior driven clients. Once the customers' products are tailored by studying their behavior instead of mere focus on standard finance, the institutes will be no doubt better ready to not only attract the new customers but also to retain the existing ones.

Secondly, it is suggested for the customers that the several factors like asymmetry of information, time constrains, and humans' bounded rationality etc. prevent them to make good rational decisions. So the smart customers will develop their gut and educate their intuition to make good wise decisions.

Thirdly, business and economics schools will need to redefine their approach to decision making by comprehending and respecting the humanity. Since intuition and logic do not against each other, and neither is self-sufficient but the purpose is to simply balance and harmonize.

5.3 Implications for future Research

This research was aimed to find out the impact of intuition heuristic upon customers' bank selection behavior. The study found significant relationship between the variables. Thus, the next research can be carried out to find the same relationship upon the customers of some other financial institutes like insurance companies, investment companies, securities finance companies, and Islamic financial institutes, takaful companies, mudarba companies etc. Since the customer of these institutes are in search of the right choices too.

The future research could establish even more meaningful results by the studying the same relationship in pure financial choices, where the risk and return stakes of investors are involved such as the investment decision of entrepreneurs, stock investment behavior, studying the investors behavior of mutual funds etc. Exploring heuristics in such financial decisions will off-course be interesting as the investors in such situations should be perfectly rational and selfish in the context of standard finance.

Intuition out of its abstract nature is difficult to measure with quite few variables. "R square" of this study also signals the presence of some other variables in the mentioned relationships. So the

next studies can take some other proxies for intuition measurement. Moreover, measuring intuition with different measurement scale like "Are you intuitive" Goldberg, (1983), "Myers-Briggs type indicator" Myers, McCaulley, Quenk, & Hammer, (1998), "Problem solving" Westcott, (1968) "The Aim survey" Agor, (1989), "I-Opt survey" Salton, (1994) etc. could also reveal significant contributions.

This research was confined to focus on the intuition decision making, the other studies may include analytical decision making too. The results will even be more interesting by the comparison of both analytical and intuitive decision making systems, specifically in the presence of cognitive load.

This research was confined to the heuristic approach of intuition. But some of the researchers have highlighted the holistic aspect of intuition too (Pretz & Totz, 2007). So the future studies can take its holistic nature in the same relationship.

The study was a baseline effort to explore the intuition heuristic with moderating role of cognitive load. Upcoming researchers can take some other moderating variables like personality type. Earlier literature has proved the significant role of personality type in several relationships. Viewing the relevance of personality type here can produce further insights in this field.

As per methodology part, the thesis went on survey fashion. Future study to work on different methodology, such as experimental. Especially experimental design for cognitive load that is measuring impact of intuition on financial decision making by creating high and low cognitive load situations, can be another nice lead to work in this line.

Finally, Kahneman & Frederick, (2002) proposed the theory of attribute subsitution. The theory illustrates that in decision making the attributes of a difficult scenario that is target attributes are

substituted with an alternative heuristic attributes. A qualitative nature research can be carried out by conducting in-depth discussion with the decision makers, about their financial decisions to highlight the substitution of heuristic attributes with target attributes. Furthermore, Tversky and Kahneman, (1974) introduced availability and representativeness heuristics that causes attribute substation. So a parallel research to above can be carried to establish the similar cause and impact relationship of availability and representativeness heuristics on financial decision makings. Hence, a qualitative cum quantitative methodology would be another direction for further research.

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