

# Money Savvy

Spend Smart,  
Save Right and Enjoy Life

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**Kanyin<sup>®</sup>**  
PUBLICATIONS



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# Chapter 1

## Neurofinance: Brain and Credit Card Spending

For most purposes in daily life, your brain steers you away from danger. It knows your basic needs; like food, shelter and love. It reliably guides you towards satisfying your needs and wants, and achieving rewards.

But that same intuitively brilliant ‘machine’ can lead you astray when you face challenging situations in everyday life. In all its miraculous and complex multi-tasking functions, your brain is at its best and worst — and its most profoundly human — when you make decisions about money.

That is why it’s hard to control your credit card spending until you truly understand the root causes. Financial textbooks will tell you the problems associated with credit card spending and give you ideas on how to manage debt. But over the years, many credit card users have told me what their biggest frustration is: they know the facts and yet are unable to learn from their mistakes, and repeatedly fail to take the right actions. Like smokers and drinkers, they know it is not advisable to drink or smoke too much but they still crave it and can’t get rid of the habit or addiction.

People know they should use a credit card only when necessary and only within financial means. However, most times, they are overwhelmed by their

behaviours, external influences and 'noise'. Although they regularly use a credit card, they know very little about their own credit card spending behaviour. They have a body and brain that works for them, and yet they don't quite understand the workings of that body and brain. They let it dictate emotions, behaviours, actions and expectations. Are you one of them?

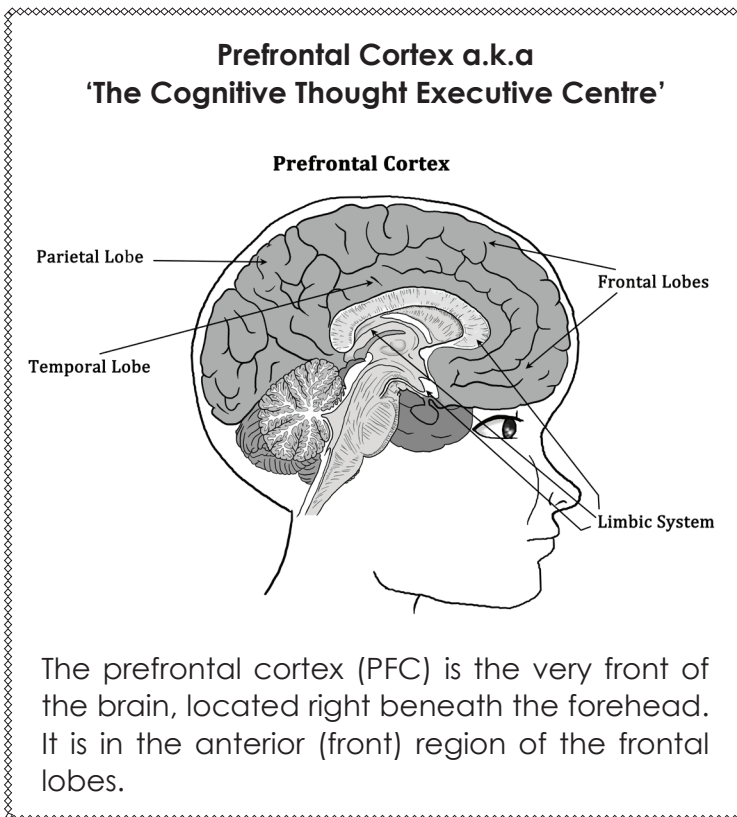
To get to the root of the problem, we need to go beyond financial facts and theories. We start by understanding the brain. I have mentioned how our brain greatly affects our financial outcomes in my books: *Money Rules*, *Smart Money-User* and *Money Work Life*. I will focus on it in this book, this time at a much deeper level.

Your brain is the most important function organ in your body and is made up of almost 100 billion neuron cells. It navigates through the thousands of synapses and neurotransmitters (chemical) in the neuron cells to create a response to your actions and decisions. Neurotransmitters in your brain are made up of about a dozen different chemicals that are made by neurons and used for communication between neurons during the performance of mental or physical activities like eating, sleeping, talking, thinking, dreaming and many more.

Our brain has different parts — when each part is stimulated, this results in thought patterns, emotions and eventually the outcome of decisions, in the form of actions, behaviours, habits and attitude. It's logical to assume that the emotion generated by

our brain is the enemy to good spending decisions and that logical thinking is the ally of a good spending outcome. But that isn't necessarily true as pure emotionless rationality can be as bad as sheer emotion unchecked by logical thinking. Read on and I will prove it to you in Chapter 3 and 4.

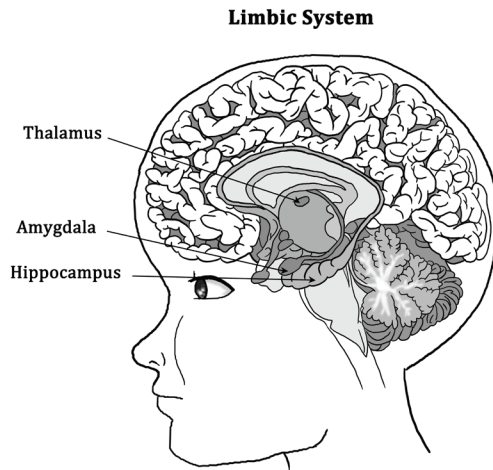
We need first to get to know our brain better. Here's a simple introduction of brain functions of Prefrontal Cortex and Limbic System.



It is physically in the front of the brain and also responsible for the executive functions, which include mediating conflicting thoughts, making choices between right and wrong or good and bad, planning, processing information and making decisions including financial decision and predicting future events, and governing social control — such as suppressing emotional or sexual urges.

The prefrontal cortex is the brain center most strongly implicated in the areas of sentience, human general intelligence, and personality.

### **Limbic System a.k.a 'The Centre of Emotions'**



The limbic system is a set of evolutionarily primitive brain structures located on top of the brainstem and buried under the cortex. The center of emotions in the brain can be found in the limbic system where the different types of emotions are regulated through the release of neurotransmitters.

The limbic system structures are involved in many of our motivations, particularly those that are related to survival. Such emotions include fear, anger, fright, passion, love, hate, joy and sadness, and emotions related to sexual behaviour. The limbic system is also involved in feelings of pleasure.

Certain structures of the limbic system are involved in memory as well. Two large limbic system structures, the amygdala and hippocampus play important roles in memory.

The hippocampus sends memories out to the appropriate part of the cerebral hemisphere for long-term storage and retrieves them when necessary.

The amygdala is located deep within the temporal lobe of the brain and involved in the processing of emotions such as fear, anger and pleasure. The amygdala is also responsible for determining what memories are stored and where the memories are stored in the brain. It is the thought that this determination is based on how huge an emotional response an event invokes.

## **Prefrontal Cortex System Dysfunction**

Although I don't focus on the biological make-up of the brain, it is important to mention briefly an important part of our brain i.e. prefrontal cortex system.

There is mounting evidence that prefrontal cortex systems play a role in the processing of financial information and in guiding financial behaviour.

According to Samuel Tekin and JL Cummings, different regions of prefrontal cortex, the dorsolateral, orbitofrontal, and anterior cingulate and associated regions of the striatum and thalamus, are known to play different roles in aspects of executive function. In a study by DL Masterman and JL Cummings, they found the dorsolateral part of prefrontal cortex mediates conceptual reasoning (both verbal and nonverbal), mental flexibility, planning and working memory.

In response to monetary reward and punishment, functional neuroimaging in healthy individuals has repeatedly shown prefrontal-cortex systems activating. In response to monetary rewards, the orbitofrontal cortex activates. Monetary decision-making created predominantly right-sided activation across multiple prefrontal areas: dorsolateral, orbitofrontal and anterior cingulate.

Given the logical role of prefrontal cortex systems in management of finances, one can anticipate financial mismanagement (including credit card misuse) in neurological illnesses affecting these



areas of the brain. This means certain people who have a mental disability or illness will have difficulty managing their finances. We should empathise with them and find the necessary solutions to ensure they don't get into financial problems.

Now with new insight on prefrontal cortex functions, do you feel you have better knowledge of how decisions are made in your brain?

You should be able to make sound financial decisions unless there are other parts of the brain that influence you to do otherwise. You will soon find out the mysterious workings of these other parts; they lead you to making decisions that are not financially wise.

### **Genetics Linked To Spending Behaviour**

When trying to understand why some people have trouble living within their means, there is a tendency to blame factors such as high costs of living and irresponsible spending.

Researchers have found another possible culprit to add to the list — a gene linked to credit card debt. This study was mentioned in the article “Born into Debt” by Valerie Ross, published in *Scientific American Mind*.

Researchers at the University of California, San Diego and the London School of Economics studied how the monoamine oxidase A (MAOA) gene plays a role in accumulation of credit card debt. Earlier

research work had shown that genetics play a role in how people handle money, but this study was the first to show that a particular gene affects financial behaviour outside the lab.

The researchers looked at genetic data and questionnaires already collected from more than 2,000 young adults aged between 18 to 26 as part of the National Longitudinal Study of Adolescent Health. In particular, they looked at whether these young adults said they had any credit card debts and what version of the MAOA gene they had. MAOA is an enzyme that breaks down neurotransmitters (signalling chemicals) in the brain.

Previous studies have linked the low-efficiency versions of the MAOA gene — the variants that cause less MAOA to be produced by brain cells — to impulsiveness. In the study, people with one “low-efficiency” MAOA gene and one “high-efficiency” MAOA gene were reported having credit card debt 7.8% more often than did people with two “high” versions. The researchers found that results were consistent even when they controlled for factors such as education and socioeconomic status. For people with two “low” versions of the gene, that credit card debt correlation jumped to 15.9%.

The researchers were surprised by the magnitude of the difference. “The effect is almost as big as financial literacy” (meaning people’s ability to digest complicated financial information) said Jan-Emmanuel de Neve, an author of the study. But, de Neve cautioned, an individual’s version of the MAOA gene does not predict whether he or she is carrying

debt. A gene may affect credit card debt the way other genes have been found to play a role in breast cancer, where a particular version of the gene increases risk. However, it must be remembered that many other genetic and environmental factors are important too.

The findings about genes being linked to credit card debt could explain why some people cannot change their credit card spending behaviour, despite being given education and advice. They probably need medical help and other methods to manage their spending behaviours.

What it comes down to is that we cannot really blame people or the environment if we end up with credit card debts. A large part of the problem lies in us. Although we have to live with what we are born with, we can make changes and improvements if we understand the “workings” of our internal thoughts and emotions. Numerous research studies show that you will get the best results when you regulate your emotions (manage by way of check and balance), not when you struggle with them.

Therefore, the subsequent chapters will share more insights and research findings on how your spending behaviours can be influenced, and ways you can break bad credit card spending habits.

I urge you to continue reading this book even if, in subsequent chapters, you find difficulties in confronting the topics which I will be sharing. It may help you uncover the unresolved hidden emotions and unconscious thoughts buried in you due to

'unfinished businesses' from the past that have subsequently impacted your finances and money situation.

### **Write Your Personal Reflections**

You may want to ponder for a while each time you finish a chapter of this book. Take your time to reflect on what you have read. Take out a pen and paper or notebook, electronic tablet or notebook, write down your personal reflections and the experiences you have had with your credit card. I believe you will go on a personal journey by writing those notes. You may want to write your "ah-hah" moments so you can recollect your discoveries.

The notes will help you uncover your relationship with credit cards, and help you discover how your credit cards have impacted your life and financial situation. They will also help you to find out the root causes of your spending behaviour.

As you continue to read this book, the notes will serve as reminders to look for solutions in rectifying the problem. There is no one answer or solution but it could be a 'bag of strategies and methods' to help you get out of your credit card spending.

Be mindful of your issues. Some of the techniques and methods I share in this book will help you overcome them when you continue to read the chapters. Write the techniques and ideas down and practice them to give you a head start in changing your spending behaviours.

# Chapter 2

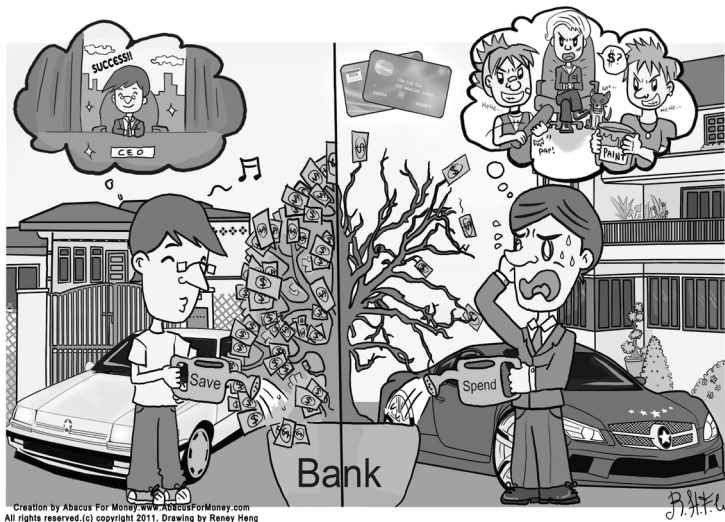
## Credit Card Lifestyle

Credit cards are a ubiquitous feature of life for many of us. Try booking hotel rooms, flight tickets or online purchases without a credit card — it can be a miserable process.

People often tell me that they feel insecure without their credit cards in the wallet or purse and they can't leave home without it. Credit cards seem even more essential than cash. Isn't this an amazing syndrome?

Credit cards serve two functions. First, they provide a mode of payment in lieu of cash, and have largely replaced cheques for that purpose in most face-to-face transactions. The second purpose of a credit card is to provide a ready source of liquidity if you want to spend more than you have in cash.

By the way, debit cards, which look just like credit cards, serve the first function, because they are linked to your savings accounts. But if you are not disciplined or lack good control over your spending, you could deplete the cash in the account and be left without savings for rainy days or future retirement.



Credit cards aren't just a method of payment and a source of credit. Credit cards can become a symbol of status and recognition. Credit cards of different colours — gold, black, platinum or silver — indicate the level of income status.

It is human for us to want to feel good and proud of ourselves for what we have. The things we have and services we use somewhat symbolise our financial status. At the very least, like credit card of different colours, these things are visible to others.

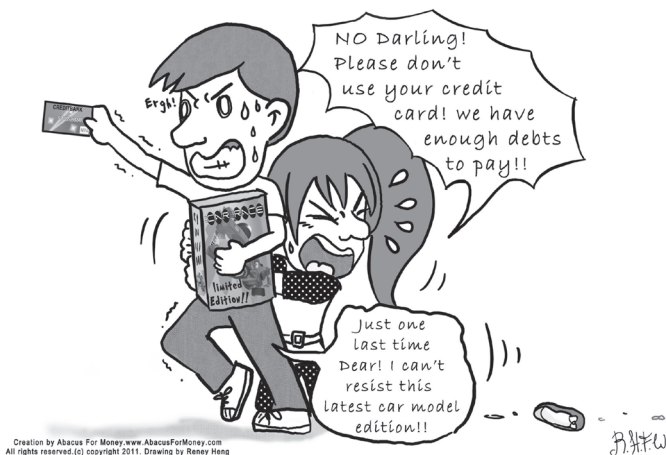
When a bank issues a coloured credit card according to income level (salary, deposits, investment, wealth and savings with the bank), it signifies an appreciation of us as their valued customers. We are given the privilege to spend more because we have the potential spending power. When we are given

the recognition, easy access and convenience, it renders the feeling that we are important and is a statement of our financial status. The banker gives special privileges like VIP seats for concerts or invitations to a pre-launch preview of branded goods or high fashion luxury items to privileged platinum credit card customers.

All these boost the ego and create 'feel-good' moments. The allure of 'special treatments and privileges' motivates us to use the credit card.

### **Credit Card Weakens Self-Control**

In the pre-credit card era, households were pretty much using cash and cheque. Now if you don't have the cash to fill your car up with petrol, there is always your credit card. When you run out of cash at the end of the month, you can still survive using your credit card. If we are not careful, we could land ourselves in serious problems through the use of credit cards. After all, we are just human, and self-control is always a challenge.



We have weaknesses and can easily be tempted to buy things we like or be tempted because of attractive offers like 'limited edition', 'special deal', 'lowest price' and the list goes on.

For example, purchasing low fare air tickets can be at a whim: "It is so cheap to fly to Phuket at RM88 now!", so the tickets are bought and paid for. But sometimes people end up not using the ticket because of other commitments or because they can't get time off work. Money is wasted by casually swiping the credit card!

Businesses allow us to prepay for services and products using credit cards, for instance, pre-booking holidays. Some may accept credit cards for the deposit on the purchase of a car or house. It is a good way for businesses to collect cash advance from purchasers, but if we don't have enough cash to settle the purchase, or we don't consume or collect the product on the due date, we are on the losing end and money is wasted unnecessarily. If we don't control our spending urges under the influence of easy payment schemes using the credit card, we will run up the credit card transactions and end up in debt.

Credit cards actually inhibit self-control in many ways. Clever marketing tempts us to use our credit card to make a purchase. One study by two researchers from MIT Sloan Management, Drazen Prelec and Duncan Simister, found that participants who were instructed to pay via credit card in an actual action placed higher bids than those who were instructed



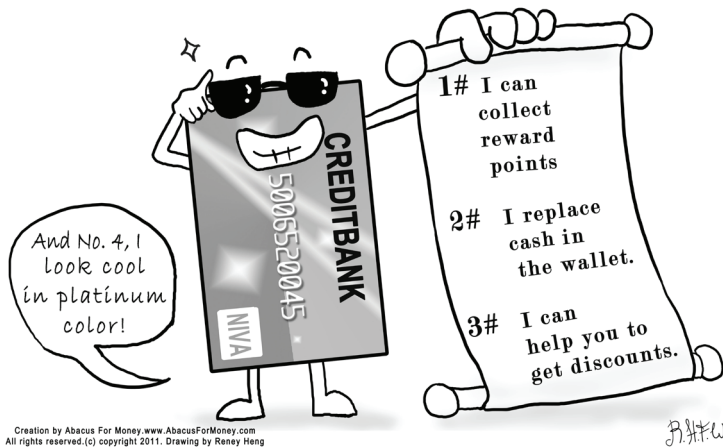
to pay by cash. This research has demonstrated that credit card can actually weakens a person's willingness to pay, and the people ended up paying more than if cash was used.

Credit card is extra cash in hand (so to speak). The more cards you have in hand, the more money you can spend — that's how your brain thinks. When your brain thinks, it translates those thoughts into actions and behaviours. The series of actions and behaviours will soon become your habits and attitudes. Credit card limits that are several times our monthly salary or more than our savings in the bank, allows us to spend more than we have. The little voice in our head tells us that we can pay off the credit card debt later.



## Credit Card as 'Spending-Facilitating Stimuli'

Did you know credit cards can encourage you to spend, and spend more? A limited body of research exists that suggests credit cards and credit card symbols act as 'spending-facilitating stimuli,' (i.e. item that stimulates a spending response) and, as such, can affect the purchasing behaviour of consumers.



Richard A. Feinberg, a professor of Retail Management at Purdue University, in his research titled 'Credit cards as spending facilitating stimuli: A conditioning interpretation', systematically studied the effects of credit card presence versus absence on the perceived value of consumer items. In Feinberg's first experiment, undergraduate students were presented with a booklet containing seven consumer items and were asked how much they were willing to spend on each item. For half the students, the Credit Card symbol was presented on

the table with the booklet (credit card present, or CC P, condition), while no symbol was presented for the other half (credit card absent, or CC A, condition).

Feinberg found that those that had the credit card present condition placed consistently higher value on items compared to those in the credit card absent condition. Feinberg replicated this effect in his second experiment and also demonstrated that participants' decision times were faster in the presence of the credit card symbol. These participants spent more and deliberated less about the spending.

Feinberg also investigated how much people were willing to donate to charity in the presence or absence of a credit card symbol. He found that participants estimated greater donation values and donated more money when a credit card symbol was present. Thus, Feinberg concluded that credit cards were spending-facilitating stimuli. This phenomenon of increased expenditure (or likelihood to spend) in the presence of credit card symbols has become known as the 'credit card effect.'

Subsequently, Feinberg demonstrated this effect using a series of laboratory experiments. He found that people were more likely to spend, spent more, and spent it faster, in situations ranging from tipping to purchasing, when a credit card was present versus absent.

Other experimenters have replicated Feinberg's credit card effect. Michael McCall, professor and

chair of marketing and law at Ithaca College found that diners in two different restaurants gave higher tips on tip trays containing credit card symbols when compared to diners who received blank tip trays. It seemed that people who pay with credit cards can be more generous.

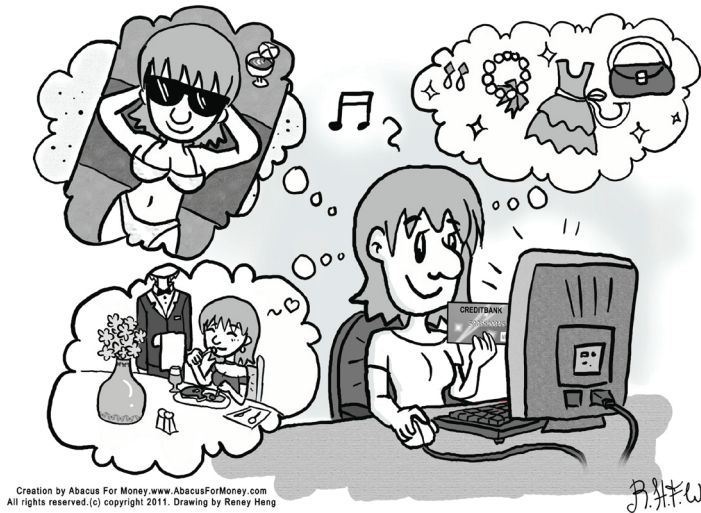
Does this apply to you? When you are paying with credit cards, do you spend less time weighing whether you should make the purchase and are you willing to spend more?

What's your experience with credit cards compared to these research studies? Have you experienced similar situations and reacted similarly? You know best.

If the behaviours in the research studies apply to you, do get rid of the mental state of mind that it is okay to pay more or spend more in an environment where credit card usage is easily accepted.

### **Credit Card Convenience**

The research studies seem to support two credit card effects: weakening the card users' self-control and stimulating spending. The convenience a credit card provides could also stimulate spending.



Paying with a credit card is easy – you don't need to dig into your purse or pocket to find the correct change and there is no need to carry large amounts of cash around. You can accumulate reward points as you swipe the credit card. The convenience of credit card payment for Internet shopping, groceries shopping, payment for monthly issue of magazines, insurance premium, hire purchase for electrical goods and services like mobile phone bills makes spending hassle-free. However, the convenience can be addictive.

Researcher Stephanie Azzarone documented some of the early reasons why supermarkets in the United States started accepting credit cards as a form of payment. Her research found that the most commonly cited reason was customer convenience. Soon, supermarkets realised that credit card usage

led to increased sales. The customer convenience itself translated into supermarket sales, as the acceptance of credit cards allowed consumers to impulse shop. With credit card sales about three times the average cash sale, although credit card sales accounted for less than 5% of total sales.

In 1980, L. L. Bean, a well-known direct marketer, found that credit card orders had a 30% higher average value than cash orders. It was possible because those with credit cards were in a higher income bracket than those without, and therefore were able to spend more. However, it was also possible that people bought more when using a credit card.

So, are you like the participants in those research studies, who spent more because of the credit card convenience?

### **Credit Card Usage Due To External Influences**

Other than the spending influence due to the features of credit cards, some would argue that credit card debt, loan defaults and other financial problems are created by behaviours and attitudes towards credit spending.

In this case, some researchers have focused on understanding the factors that explain people's behavioural and attitudinal differences toward credit cards and compulsive purchases. An underutilized construct that may explain such

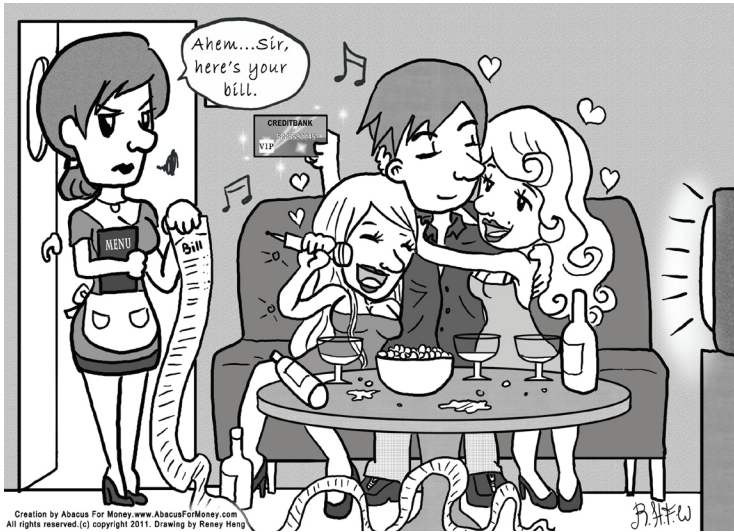
differences is locus of control (LOC), a concept first developed by Julian Rotter in 1954. It refers to the extent to which individuals believe that they control their outcomes. People with an internal locus of control personality perceive that they control what happens to them, while those with an external locus of control personality perceives that factors outside of their control influence what happens to them.

Although LOC research in marketing has focused on predicting behavioural differences between internals and externals in buying situations, there are a few studies that examine the attitudinal and behavioural differences between internals and externals on credit card misuse, money attitudes and compulsive buying.

A study by Stevie Watson, a professor of Rutgers Business School in New Brunswick was specifically focused on examining the attitudinal and behavioural differences between internal and external LOC consumers on credit card misuse, the importance of money, and compulsive purchasing. Internal LOC consumers were found to have lower scores on credit card misuse i.e. they managed their spending better than external LOC consumers. External LOC consumers were found to have scores closer to compulsive buying behaviours.

Based on this, are you an internal or external LOC? When you go shopping, are you easily influenced or "controlled" by factors in your external environment, for example visual window dressing of retail shops, advertisements, discounts and cheap sales signs and

promotions or offerings by sales people? On the other hand, do you control your emotions and thoughts of spending well and are not easily influenced by the external temptations?



Do you sense that you have some traits of a compulsive spender just like those with external LOCs? These are symptoms that you need to be aware of because your spending behaviour is affected without you realising it.

My hope is that as you read this book, you will uncover the inner thoughts and emotions that lead to a compulsive or impulsive spending nature. You may also discover the thoughts and emotions that suggest to you — erroneously — to manage your life by spending money and swiping the credit card.