



ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES

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EFFECT OF PRIZE LINKED SAVING (PLS) ON  
DEPOSIT GROWTH: A CASE OF COMMERCIAL  
BANK OF ETHIOPIA

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**BY**

**Fikrte Moltote**

*January, 2022*  
**ADDIS ABABA, ETHIOPIA**

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**A THESIS SUBMITTED TO ST. MARY'S UNIVERISTY SCHOOL  
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**January, 2022**

**Addis Ababa, Ethiopia**

**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES  
MBA PROGRAM**

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**APPROVED BY BOARD OF EXAMINERS**

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## **Declaration**

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Mohammed Seid (Assistant Professor). All sources of materials used for the thesis have been duly acknowledged, the researcher further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

**Fikrte Moltot**

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**St. Mary's University, Addis Ababa**

**January, 2022**

# ENDORSEMENT

This thesis has been submitted to St. Mary's university, school of Graduate Studies for examination with my approval as a university advisor.

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Advisor

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**St. Mary's University, Addis Ababa**

**January, 2022**

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## Abstract

*Commercial Bank of Ethiopia has launched PLS to improve saving practice and increase deposit of the banking by including different prizes. But customers are providing low attention for the promotion strategy. This study was conducted to identify effect of PLS on customer deposit. Based on this objective, the study has identified factors affecting intention to consider PLS for saving decision and its impact on deposit growth. It has targeted eligible customers for the qualifications of PLS; customers that has deposited minimum of 500 additional deposit from June 2021 at their saving accounts. For the study 400 customers were sampled and data was collected from 393 customers. Although they are eligible, 68 respondents were not included in the study because they do not know about the PLS, thus, 325 customers were used for the study. The study has followed quantitative approach and explanatory design and data for the study was collected by using questionnaire and it was analyzed by using descriptive and econometric methods. Probit model was adopted to analyze factors affecting intention to use PLS for saving decision and multivariate linear regression was used to identify effect of PLS on deposit growth. Two stages of regression were conducted; at the first stage factors affecting the intention was examined and probabilities were predicted for the second stage regression. the study has identified that demographic and socio-economic factors and the product features affect intention to use PLS and the PLS has significant and positive effect on deposit growth. Therefore, for the objective of increasing saving practice and deposit, it is important to effectively manage PLS of the bank.*

**Key Words:** PLS, Deposit Growth, Commercial Bank of Ethiopia, intention to PLS

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

To strengthen economic opportunity, it is necessary to promote the habit of saving. The low level of saving in low income and even middle-income communities is a major obstacle to achieve the goal of economic development in developing countries where a significant segment of their population lives in a low-income bracket. Tufano and Schneider (2008) revealed that many households have insufficient savings to handle moderate and routine consumption shocks. In developing countries, 55% of adults do not have a bank account.

According to Demirgüç-Kunt et al. (2015), traditional vehicles for increasing saving are not generally successful at raising saving by individuals at the lower end of the wealth distribution. Economic incentives are considered as important method to improve saving habits. As a result, Prize-Linked Savings (PLS) that combine principal-security with lottery-type jackpots, is expected to increase savings among these at-risk households. PLS is a considered as strong strategy to improve savings that encourages everyday consumers to save more money through prizes and incentives. In addition, it is effective in attracting customers to save more as it functions both as a lottery and as savings. The promotion of PLS products takes seriously the idea that potential savers place a high value on the chance to 'win big'. PLS accounts offer a stochastic return in that depositors periodically receive a chance to win a specified (and potentially large) amount that is a function of deposit amounts. The random component of the return on saving can take the form of in-kind prizes or as a cash prize awarded to account holders as a part of a regular drawing (Paul, 2020).

The attractiveness of a PLS mechanism to potential buyers of such products has already been proved by several examples from around the world; Premium launched by the British government in 1956 to increase the overall savings rate among British households; and Million a Month Account (MaMA) launched by the First National Bank

of South Africa. Guillen and Tschoegl (2002) the PLS products appealed to people outside the banking system. The Spanish banks believe that Lottery-linked deposit accounts enabled them to grow in those Latin American countries where they introduced the accounts by attracting new customers as well as stealing customers from other banks.

Tufano (2008) finds that the size of the maximum prize for UK Premium Bonds has a strong positive impact on per capita net sales. Rayner (1969) similarly finds a positive effect of a rise in the size of the largest prize in the 1960s on sales (cited in Kowalski 2015). Finally, Hölzl and Lobe (2007) in a time series analysis using monthly net sales of premium bonds between 1969-2006 shows that prize skewness is a key driver of net sales.

In Ethiopia, CBE launched the PLS program in April 2012 to foster households and individual saving habits, and boost the deposit base of the bank (CBE 2012) through increased customer deposit. The overall objective of CBE's Save-to-Win promotion is to enhance the saving culture of the society the awareness creation on the importance of saving (CBE 2012). The minimum deposit amount needed to participate in PLS is 500 Birr. In order to qualify for prize drawing, amount deposited for the purpose of being eligible for prize coupon of PLS scheme should not be withdrawn until the period elapses.

PLS scheme introduced by CBE, as "Save-to-Win" promotion, usually offers item-based consumer goods like Cars, apartments, Laptops, Televisions, smart phones, water pumps, three-wheel vehicles (Bajaj), and other products for prize. The program runs once a year for six months period. National Lottery Administration takes the responsibility of managing the prize drawing procedures of the scheme. Prizes are evenly offered across districts. The prize draw takes place once a year only at the end of the period. The program is improving both in prizes offered and couponing system. Since the fifth round the bank introduced system generated coupon system which enables lottery coupon identification numbers reach participant through SMS. This study intends to examine the effect PLS scheme adopted by CBE on deposit mobilization. In addition, it examines factors affecting interest for the scheme.

## **1.2 Statement of the Problem**

PLS allow banks to offer their customers chances to win prizes if the customers maintain a savings, time or money market account at the bank. According to Tufano, (2018) PLS attract low-to-moderate income customers, unbanked and customers to banks with PLSs. Thus, PLS lead to an increase in deposits with the added benefit of positively influencing low-to moderate-income customers to save, increasing banked society and new customers from banks without PLS. Guillen and Tschoegl (2002) revealed that in Latin America, PLS products appealed to low income and unbanked individuals. In South Africa, the Million-a-Month Account offered by South Africa's First National Bank (Cole et al., 2007) generated 750,000 accounts and raised over 1.2 billion Rand in two years-time (Mabuza, 2007). Thus, one particular element of the product, the skewness in the prize structure and its empirically observed effect on uptake rates, however, has persistently been emphasized, providing indicative evidence for the biases explored previously. Support for the argument that lottery elements may encourage lower-income households to save has further been derived from empirical observations related to UK premium bonds (Tufano, 2008; Guryan et al., 2010).

On overall, studies indicated that PLS is effective mechanism but underestimated tool for encouraging people to save more. In addition, it is indicated that it the most cost-effective financial incentive (Kearney et al. 2010), but it needs further study to reach on strong generalization. Furthermore, there is no systematic empirical evidence on the effect of prize-linked saving on total savings of individuals, which is crucial in determining the validity and effectiveness of introducing PLS products as a policy tool. Indirect evidences were presented with the main focus on potential demand for prize-linked accounts (Guryan et al., 2010).

Although Kearney et al. (2011); Lobe and Hlzl, (2007); and Tufano, (2008) exhibit demand for PLS accounts, they have a number of important shortcomings. First, these analyses are conducted at a high level of aggregation and as a consequence they are unable to examine distribution of responses across the income range or across different demographic groups. In addition, because of the high level of aggregation, their results at best reflect average households. And in fact, since the average is calculated by income



weights, their results are most informative about the behavior of high-income households (i.e. the households least targeted by saving policies). On the other hand, micro econometric studies on PLS have been limited to descriptive evidence.

PLS may appeal to people with little savings and little interest in traditional savings products. While international evidence suggests a nearly universal appeal for PLS, one might wonder whether PLS would appeal consumers, and if so, which ones. A more fundamental question is whether PLS would increase overall household savings, and if so, would it draw funds away from consumption or some other measures. The research on PLS accounts, focusing on demand, have thus far been unable to directly examine the most important policy question; does the introduction of a PLS account increase total savings or instead cause a reallocation of demand away from other forms of savings, thus not addressing the financial illiquidity problem and not creating new savers.

PLS scheme adopted by CBE has some unique features from other countries' PLS accounts. First, PLS of CBE applies to existing saving products without the necessity of designing unique PLS product. Moreover, unlike most other countries experience, CBE's PLS program pays interest to participants. It runs for limited period in a year. This feature makes it to be seen as a short-term sales promotion strategy complementing the overall deposit mobilization strategy than an identified deposit product.

Despite their long and successful history, PLS are relatively unstudied by scholars with a few exceptions. In addition, limited studies were conducted to examine role of PLS on improvement of saving practices in particular and increasing financial performance of banks in general.

Therefore, this study intends to strengthen findings on impact of PLS on customer deposit by using PLS in CBE. In addition to this, it is important to assess interest of customers of the bank to PLS. Furthermore, this study believes that before examining effect of PLS on customer deposit, it is important to identify demographic, socio-economic and product related factors affecting intention to use PLS to reach on detailed finding and to provide generalizable conclusion.

### **1.3 Research Questions**

This study was conducted to answer following research questions;

1. What are personal characteristics of CBE customers that have intention to PLS?
2. What banking practice factors that affect intention to PLS?
3. What are attributes of PLS promotion of CBE that affect intention to PLS?
4. What is an effect of intention to PLS on saving in CBE?

### **1.4 Objectives of the Study**

#### **1.4.1 General Objective**

General objective of this study is to identify role of PLS on customer deposit growth at CBE.

#### **1.4.2 Specific objectives**

Based on the above general objective, this study was conducted with following specific objectives.

1. To assess personal characteristics of customers that affect intention to PLS of CBE;
2. To identify the effect of banking practices on intention to PLS by customers of CBE;
3. To explore effect of features of PLS promotion of CBE on intention to the PLS;
4. To identify the effect of interest of PLS on deposit growth of customers of CBE.

### **1.5 Significance of the Study**

This study will have different importance to different stakeholders in PLS. First, the study will be important for management of CBE by providing information on role of PLS for deposit mobilization. In addition, the study will be important for the bank by examining effectiveness of the product for attracting its customers. Further, the study provides further information about factors related to adoption of the sales promotion strategy. Therefore, finding of the study will help to customize the product for its effectiveness.

Second, the study will be source of lesson for other banks in Ethiopia that provide the same product for its customers. the study will provide information about how to create new customers and retain its customers through PLS strategy.

Finally, the study will be source of literature for further studies in the area of PLS and its effect on deposit mobilization.

## **1.6 Scope of the study**

This study is scoped geographically, conceptually and methodologically. Although PLS is provided branches of the bank through the country, geographically, this study is scoped to Addis Ababa due to proximity to the researcher. This study believes that customers of the bank in Addis Ababa includes concepts in the study; such as demographic, socio-economic, and perception on the product feature. In addition, the number of customers meet sampling conditions.

The second scope of the study is concepts to be included in the study. These concepts are personal factors, product features and deposit variation during the period of PLS. The personal factors include demographic and socio-economic concepts. The product feature include affordability, social compliance and emotional affect.

Third, the study is methodologically scoped to implementing only questionnaire to collect study data. It is intended to reach large number of customers of the bank. The study intends to analyze based on customer specific factors. Therefore, the study has not used secondary data from the bank and interview was not conducted.

## **1.7 Definition of Terms**

**Affordability:** easy to meet requirement of eligibility of PLS

**Emotional affect:** Prizes included in PLS are relevant to interest

**Social Compliance:** PLS of the bank complies beliefs of customers

## **1.8 Organization of the Study**

This study is organized under five chapters including the introductory chapter. The first chapter presents introduction for the study that includes background of the study, statement of the problem, research questions, study objectives, significance of the study, scope of the study and limitations of the study. Second chapter is about review of related literatures that include both theoretical and empirical concepts. In the third chapter, research methodology was presented. It presents about research design and approach, study population and sampling, type and source of data, method of collection and method of data analysis. The fourth chapter presents result and discussion. Finally, chapter five presents conclusion and recommendation.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURES**

#### **2.1 Review of Theoretical Literature**

##### **2.1.1 Sales Promotion and Prize Linked Saving**

###### **2.1.1.1 Sales Promotion**

Sales promotion is one of the four aspects of promotional mix along with advertising, personal selling and public relations. Sales promotions which, are also known as below the line promotions, are methods that used by marketers to attract consumers. Sales promotions have been in use in trading for a long time. Shopkeepers and stallholders had been employing on the spot offers to convince people to purchase a product (Mullin & Cummins, 2008).

Sales promotions are, traditionally, defined in the most textbooks as activities such as deals, discounts, coupons, loyalty programs, refunds, contest, sampling and special displays that are encouraging the target audience to act in a particular way by reducing the perceived value of the product being promoted usually to achieve short term goals (Fill, 2006; Pickton & Broderick, 2001). According to Institute of Sales Promotion (2004; cited in Yeshin, 2006), sales promotion is defined as „ a planned and implemented marketing activity that both enhances product and service appeal and changes customer behaviour positively in return for an additional benefit for purchase or participation.

Sales promotion is a part of promotion mix in marketing activities as well as the marketing tactic of a business entering the market or retaining customers (Berjani and Strufe 2011). The major function of Sales Promotion is to communicate with consumers and touch their hearts. Chang & Tsai (2011) proposed the communication tools for marketing including advertising, public relations, personal selling, sales promotions, and direct marketing to enhance consumer purchase intention for purchase behaviors.

Sales Promotion is critical factor in consumer purchase behaviors (Dehkordi et al. 2012). Huang & Gartner (2012) regarded sales Promotion as a direct stimulus to extra value of a

product or an incentive to final consumers, salespeople, or distributors. Khajvand & Tarokh (2011) mentioned that sales Promotion was composed of various temporary incentives, mainly to induce consumers or dealers purchasing certain products in advance or purchasing more quantity. Li et al. (2011) indicated that sales promotion was essentially a complimentary marketing effort, being practiced in limited time and tending to stimulate consumer purchase. According to Fill, (2006) sales promotions are used for various reasons such as reaching new customers, reducing distributor risk, rewarding behaviour, retention, adding value and assisting segmentation.

The consumer market would change with changeable life styles and constantly present distinct promotion tactics, such as gift for a pair of sports shoes, cash refund, discount and coupon, prize, and cash or gift for returned certificate. It is what a marketer desires to know about which kind of promotion being able to enhance consumer evaluation on the brand of sports shoes and to appear preference and Purchase Intention on specific promotions (Mesforoush and Tarokh, 2013).

In business-to-consumer marketing, sales promotion is mostly called consumer promotion. Consumers are introduced to several brands to select from or reject for personal or family consumptions. Consumers often need to be introduced to buy now rather than later, to buy a particular product rather than a competitor's and to buy more than less (Priem, 2007). At this level of sales promotion, the focus is on the final consumer with the aim of encouraging product trial through the introduction of a new product. Price reduction, sampling and a rebate offer helps to encourage consumers to try a new product and this reduces the risk on trial purchase. Consumer promotion is used to increase product usage through stimulation of repeat purchase.

The consumer market would change with changeable life styles and constantly present distinct promotion tactics, such as gift for a pair of sports shoes, cash refund, discount and coupon, prize, and cash or gift for returned certificate. It is what a marketer desires to know about which kind of promotion being able to enhance consumer evaluation on the brand of sports shoes and to appear preference and Purchase Intention on specific promotions (Mesforoush and Tarokh, 2013). Consumer sales promotion tends to create awareness of the existence of the product under promotion. It reinforces advertisement

efforts as a contribution to integrated marketing communication strategies (Chandon et al., 2000). Consumer sales promotions add yet another message to the overall marketing communication mix effort.

Among various promotions, Pinheiro et al. (2010) divided promotion incentives into price orientation and nonprice orientation, including (1) monetary or non-monetary promotions, (2) instantaneous or delayed promotions, (3) acquiring product-related or price-related incentives, and (4) purely economic or psychological promotions. According to Chandon et al., (2000) some of the consumer sales promotion includes: coupons, price discounts, extra pack (buy-one-get-one-free), free sample and contests and sweepstakes. Sun (2010) regarded price orientation as inducing consumer purchase through discount, such as coupons and preferential. Zhou et al. (2012) pointed out Non-Price Promotion as the sales promotion irrelevant to product prices, such as gifts, prizes, competition, and lotteries being the incentives to consumers purchasing specific products.

Coupons are the legal certificates by manufacturers that offer customers discount when buying a specified product (Schultz et al., 1998). They can be mailed or emailed (direct mail), given with newspapers, magazines or with another product. According to Kotler et al., (1996), coupons are very popular in restaurant and bar industry. Srinivasan & Anderson, (1998) suggest that the value of the discount should be decided very carefully. If the face value is low, consumers are reluctantly to redeem the coupons. However, if the face value is raised, more people redeem it on a price lower than they would have redeemed. Moreover, excessive uses of the coupons can make customers feel they are getting poor value, if they purchase the product or service without coupons.

Fill (2000) indicated that price discount is the easiest method of reducing the price of the product that the percentage of the price discounted appears on the package of the product, offering a good price to persuading sales. Lessen the price on the given product or add more number of items to that product and use the same price to enhance value of the product and create an encouragement for the customer to purchase (Raghubir & Corfman, 1999). Some studies have proven that price discount method plays a significant role in stimulating consumers to try the product offered (Fill, 2002; Shimp, 2003).

According to Sinha & Smith, (2000) buy one get one free is one of the most commonly used consumer sales promotion to induce a purchase in the sense that if the consumer purchases a product, the consumer has a free product; by utilizing this procedure, the consumer is easily pulled into purchasing a product with the fact that there is no extra cost. Since extra cost is not involved, the consumer often cannot ignore such great deal. According to Li et al., (2007) this sales promotion method also benefits the sellers in speeding up the inventory clearance.

Shimp, (2003) defined sampling as any activity which includes any method used to deliver an actual-or trial sized products to consumers. A free sample offers the consumer a chance to use a product by providing a free small portion of the product to test (Blattberg & Neslin, 1990). However, Gilbert & Jackaria, (2002) argue that a free sample as a promotion tool had little or no significance on consumer,,s buying behavior, however, other studies have shown a significant impact of free samples on consumer,,s purchase decision (Fill, 2002) and (Shimp, 2003). Fill, (2002) presumes that sampling has the most impact on consumers. It could be provided as presentation in front of customers with small amounts designed to trial or use free of charge as he notes as well.

Different forms of competitions such as contests, sweepstakes, prize draws, where they can win a prize without having to spend extra money, are used in order to attract customers (Boone & Kurtz, 2001). This kind of competitions creates an excitement amongst consumers. A sweepstake is a sales promotion technique where customers are required to submit their names and e-mails in a drawing in which they have the chance to win cash, trips or a product or service. The winners are determined purely on the basis of their luck (Egan, 2007). Because of its low cost comparing with other methods, simplicity and ability to accomplish a variety of marketing objectives, the usage of sweepstakes has increased recently (Shimp, 2000) Contests are also another technique for sales promotion. Unlike the sweepstakes, in order to win a prize, contestants compete with others on the basis of skills or ability (Fill, 2006). They are usually asked a contest problem or proof of purchase. The winners are selected by judges.



### **2.1.1.2 Prize Linked Saving**

Low level of saving continues to be a policy concern as they can have severe effects on households that, in the face of unexpected income shocks, need to draw on their savings to maintain consumption. This is especially true for low-income households with limited possibilities of drawing on existing wealth or credit. Similarly, a large majority of individuals report to be saving too little, and standard life cycle theories of savings cannot account for an empirically observed decrease in consumption after retirement, suggesting that consumption largely tracks income (Gruber 2007). Lottery linked accounts like Prize-Linked Savings (PLS) accounts attracted considerable attention in recent years.

Prize-linked savings programs have existed since at least the 1694 ‘Million Adventure’ in the United Kingdom (Murphy 2005). Initially proposed to cope with debt from the Nine Years’ War (1689-97), the Million Adventure offered 100,000 tickets at £10 each (Kearney et al 2010). A small number, i.e., 2,500 of the tickets (2.5 percent), would win prizes from £10 per year to £1,000 per year for 16 years. The Million Adventure was also a saving program, in that it paid ticket holders a £1 per year until 1710, or a 6.15 percent annual return. While a single ticket in the Million Adventure was out of reach of most citizens, tickets were also made available through syndicates to those with small incomes.

Since 1694, many similar programs that combine gambling and savings have sprung up in many different countries all over the world. Levy-Ullmann, writing in 1896, surveyed PLS activity at that time. He found that PLS, in the form of lottery bonds ‘may be found in most of the financial markets of Europe, and of nationalities, German, Austrian, Spanish, Greek, Italian, Swedish and Swiss’ (Levy-Ullman 1896, cited in Kearney et al 2010). Lottery bonds are still used in some countries, for example Sweden.

Prize-linked savings (PLS) products offer savers a return in the form of the chance to earn large prizes, rather than in more traditional forms of interest or dividend income or capital appreciation. The probability of winning is typically determined by account balances, and the aggregate prize pool can be set to deliver market returns to all savers. Prize-linked assets are offered in over twenty countries around the world— including the U.K., Sweden, South Africa and many Latin American and Middle Eastern countries— but are not available in the United States, where state laws and federal regulations make

the offering of prize-linked programs problematic. Prize-linked savings products could help raise aggregate savings among low- to-moderate income families.

PLS are deposit accounts that, instead of (or in addition to) paying out a fixed amount of regular interest, allow deposit holders to enter a prize draw by depositing savings, giving them the chance to win a large sum of money (Guillen and Tschoegl 2002; Guryan et al. 2010; D2D 2013). Prize-linked savings accounts introduce a lottery element to savings, as they distribute the pooled interest of all account holders through a raffle, offering a probabilistic return on the money deposited in the account (Kowalski 2015). Prize money is awarded from a prize fund, which may either be determined by the issuer ex-ante or be determined as a function of the amount and volume of deposits made in the period prior to each draw. As such, holding money in a prize-linked account can be thought of as buying a lottery ticket (Guryan et al., 2010).

### **2.1.2 Consumer Purchasing Behavior and Interest to Use PLS**

Consumer behavior is defined as a field of study that focuses on consumer activities including consumption analysis on why and how people use products, besides why and how they buy products (Kotler & Armstrong, 2009). Consumer buying behavior is influenced by cultural, social, personal and psychological factors. Recent research discovered that consumers are just likely to make purchase and to be influenced not only by relatives and peers, by endorsers but also by attitudes, situations and emotion (Olsen et al., 2007). The process of consumer decision making can be viewed as three well defined stages namely the Input, the Process and the Output (Schiffman, 2005).

The Input Stage influences the individual's recognition of a product need and consists of two main sources of information which is the firms marketing efforts in term of its price, promotion, location of the retail outlets and the second source is the external sociological influences on the consumer which includes family, friends, neighbors, social class amongst others.

The Process Stage emphasizes on the way consumers make their decisions. The psychological factors built-in each individual like motivation, perception, learning, personality and attitudes which affect the way external elements from input stage affects

the consumers recognition of a need, pre-purchase search for information and evaluation of alternatives.

The Output Stage comprises of two related post-decision activities namely the purchase behavior and post purchase evaluation. A low-cost and non-durable product may be influenced by the manufacturer's coupon and may actually be a trial purchase. The consumer evaluates the product through direct use (Schiffman, 2005).

Consumer sales promotion which is one of the marketing mix variables has become a key ingredient in marketing campaign to influence a purchase decision (Kotler & Keller, 2012). There is a high influence of consumer sales promotion on consumers' purchasing behavior such as unplanned (impulse) purchase which results in increase of sales volume (Nagadeepa, et al., 2015). Consumer sales promotion has been shown to have a significant influence on consumers' purchasing behavior (Zoellner & Schaefers 2015). Literature asseverates that sales promotion strategies such as price discount, extra pack (buy-one-get-one-free) and coupons, are commonly used techniques to appeal to consumers' purchasing behaviours (Shimp, 2003; Fill, 2002, Nagdeepa, et al., 2015; Weerathunga & Pathmini, 2015).

However, some researchers are of the view that consumer sales promotion has little influence on consumers' purchasing behavior. According to these researchers, even if the product or service is of good quality and the competitor presents a better product or service and better support services for the product among others, consumer sales promotion will lead to little result (Buabeng & Sam, 2011). Again, they argue that, if the product or service is generic, consumer sales promotion is not likely to have much influence on consumers' purchasing behavior.

Recent work examines the U.K. Premium Bond program (Lobe and Hölztl, 2007; Tufano, 2007), one of the longest continuously operated programs with over £31.1 billion outstanding as of March 2006. Tufano (2008) reports that demand for Premium Bonds is stronger among lower income households than is their demand for alternative products, like stocks and shares. Premium Bond sales over nearly four decades are related to savings factors (the aggregate interest rate paid on the product relative to comparable rates) as well as to gambling factors (the size of the largest prize.)

PLS account holders face no risk of losing their principal, which is equivalent to the money deposited in the account. However, they may, or may not, willingly forgo the interest paid on a regular account in favor of the probabilistic allocation of a large coupon. The prize-linked savings mechanism combines the elements of a traditional savings account and a lottery (Kearney et al 2010). Like lottery, it offers chances that promise to give bigger prize but unlike lottery PLS keeps the principal investment intact while the interest rate depends on the issuers' decision.

### **2.1.3 Purchase Intention and Demand for PLS**

Bobadilla, Serradilla & MovieLens (2009) indicated that intention could predict behaviors that consumer Purchase Intention was used for predicting purchase intention in practice. Purchase behaviors were the decision process psychologically (Defever et al. 2011). With demands, a consumer would search for relevant information according to personal experiences and external environments in order to satisfy the demands (Mettas, 2011). Once the information was sufficiently collected, the consumer would precede evaluations and considerations and decide to purchase a product after comparisons and judgment. It was the Purchase Decision Process of a consumer (Dhar and Varshney 2011). In the decision process, a consumer would possibly take purchase behaviors on certain products when appearing demands and preference to the products (Karatzoglou et al. 2011).

Lee & Olafsson (2009) defined Purchase Intention as the possibility of a consumer being willing to purchase certain products that the higher consumer Purchase Intention showed the higher purchase probability. Lin et al. (2011) considered Purchase Intention as the psychological state of a consumer planning to consume certain brand in a certain period of time as well as the probability and possibility of a consumer taking or presenting real purchase reaction (Ochi et al. 2010). Moreover, Stever (2011) pointed out the measurement of Purchase Intention depending on consumer intention to purchasing certain products that the higher Purchase Intention revealed the higher purchase probability. In other words, Purchase Intention was the possibility of a consumer purchasing certain products that the higher Purchase Intention presented the larger purchase probability (Yim et al. 2012).

While delivering higher returns—e.g., higher rates of return or interest—may increase demand, psychological factors can be a potent stimulator of demand as well. Researcher in behavioral economics and behavioral finance are finding that certain systematic psychological biases can explain a great deal of consumer decisions. In this instance, the popularity of the PLS product may lie in its blend of the guarantee of no principal loss with a large, but low probability gain. In particular, the product structure is engineered to appeal to people who are “loss averse,” i.e., who will pay more to avoid a loss than to guarantee a gain of the same size. In particular, the PLS product guarantees no principal loss. However, unlike the traditional products that guarantee no principal loss (such as bank deposits, CDs, bonds), PLS leverages the behavioral phenomena that investors may avoid large gambles, but will take on small ones, in this case, the forgone interest on their invested funds. Finally, PLS reflects the behavioral factor that people often misestimate the probabilities of low-probability events (e.g. accidents or winning gambles) (Pffelfmann, 2006).

The popularity of PLS products also reflects their functional properties. Alternative products with no principal loss and good liquidity are typically low-yielding demand deposit accounts. The power of compound interest provides little incentives to savers with short and uncertain savings horizons and small principal balances that generate meager amounts of interest. Instead of receiving a certain but small payout, the PLS saver gets a small chance at a large payoff. This preference mirrors the opinions revealed by a recent survey by the Consumer Federation of America (CFA) and the Financial Planning Association (FPA), which that “more than one-fifth of Americans (21%)—38% of those with incomes below \$25,000—think that winning the lottery represents the most practical way for them to accumulate several hundred thousand dollars (Americasaves, 2006).

Bankers offering prize-linked savings around the globe suggested that the products might particularly appeal to “non-savers,” (i.e., those who had not previously been attracted to existing savings or investing products). To test this conjecture, we sought to see if the PLS structure appealed to non-savers. We considered savers to be those individuals with some form of a savings plan. They might plan to save the income of one family member, spend one’s regular income but save other forms of income, or save regularly by putting money aside each month. We considered non-savers to be (for parallelism to last

sentence) people who indicated that they had no regular savings plan, either spending more than their income or spending about as much as their income. Based on this categorization, 61% of all survey participants were non-savers. Among non-savers, 65% expressed an interest in the PLS product. Among savers, only 48% expressed an interest.

Writing about PLS accounts in Latin America, Guillén and Tschoegl (2002) conclude that “The bankers we spoke with believe that (the products) are especially successful with low-income depositors.” This observation is consistent with evidence on the demographics of gambling; the 1999 National Gambling Impact Study showed that 80% of gambling revenue comes from households with income less than \$50K; the same report indicates that households with incomes less than \$10K spent 3 times as much gambling—in aggregate real dollars—as those with incomes greater than \$50K. To test if PLS is especially demanded by low income and low wealth persons, the survey collected information on financial assets, including checking, savings, and money market accounts; CDs; IRAs; 401(k)s; 403(b)s; Keoghs; mutual funds; savings bonds; stocks; bonds; and any cash saved at home. In these simple cuts, the product was most demanded among people with less savings. Among participants reporting between \$1 and \$2,000 in savings assets, 73% expressed interest in the PLS offer. In contrast, only 38% of those with \$40,000 in savings were interested.

Because the PLS customer cannot improve the odds of winning (apart from saving more), one might expect that this activity, like gambling, may be attractive to optimistic individuals. Puri and Robinson (2007) provide evidence that optimism is related to a wide range of economic decisions that include portfolio choices and labor market decisions. They find that “Optimistic people are more likely to believe that their income will grow over the next five years, even controlling for past income growth.” In our survey we measure optimism by asking participants about their future expectations of their financial well-being as compared to the previous five years. We consider optimists to be those participants that replied “improve” as compared to those that considered their future expectations to either remain the same or become worse than it has been over the previous five years. Some 60% of survey participants were optimistic about their future income and only 5% were pessimistic about their future income. Among these optimistic

participants, 65% showed interest in the PLS product, but only 33% of the pessimists were interested

A number of other factors might relate to the demand for PLS. A number of authors, e.g., Campbell (2006), Agarwal, Driscoll, Gabaix and Laibson (2007), and Barber and Odean (2001) have found that financial decision making varies with education, age and gender. These traits may capture a variety of factors, ranging from financial sophistication, risk taking, or unobserved long-run wealth and income. It is reported that there is slightly stronger demand among younger persons, men, employed people, less educated persons and certain types of households.

## **2.2 Theoretical Framework**

### **2.2.1 Theory of Reasoned Action (TRA)**

According to Theory of Reasoned Action (TRA), beliefs influence attitude and social norms which in turn shape a behavioral intention guiding or even dictating an individual's behavior (Ajzen & Fishbein, 1980). Intention is the cognitive representation of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behavior. TRA has two core constructs: (1) attitude toward behavior (ATB) and (2) subjective norm (SN) associated with that behavior.

The attitude toward the behavior (ATB) is the previous attitude of a person toward performing that behavior. It suggests that people think about their decisions and the possible outcomes of their actions before making any decision to be involved or not involved in a given behavior. This theory views the intention of an individual whether to perform a given behavior or not as the immediate determinant of action, and attitude is determined by the person's beliefs and evaluation of behavioral outcomes. So an individual, who strongly believes that positive outcomes will result from performing a particular behavior, will have positive attitudes towards that behavior. On the other hand, if a person strongly believes that a particular behavior will have a negative outcome, then there will be negative attitudes towards that behavior.

Subjective norm (SN) is the social pressure exerted on the person or the decision maker to perform the behavior. SN refers to an individual's perception about what other people

think of his or her behavior in question (Ajzen&Fishbein 1980). What other individuals or groups will think, agree or disagree about the decision of a person to perform a given behavior and how important these other individuals or groups are to the decision maker play a vital role. So it is normal that sometimes people will consult others before making any decisions.

TRA is a general well-researched intention model that has been applied extensively in predicting and explaining behavior across many domains and virtually any human behavior (Ajzen&Fishbein, 1980). Information science researchers often use this theory to study the determinants of information technology innovation usage behavior. Although current models of technology acceptance have their roots in many diverse theoretical perspectives, much literature related to technology acceptance begins studies with the Theory of Reasoned action (TRA).

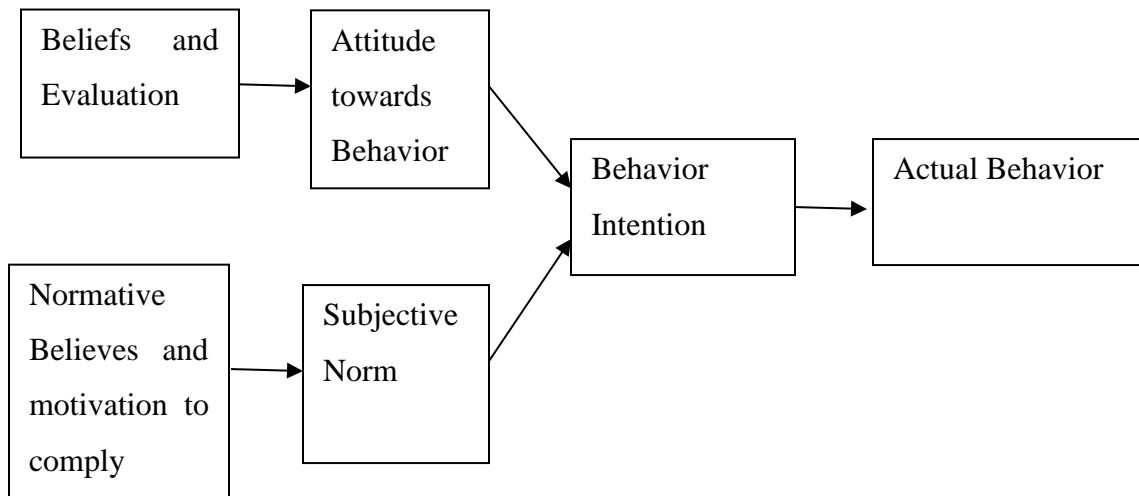


Figure 2. 1 The theory of Reasoned Action (Source: Ajzen & Fishbein, 1980)

### 2.3 Empirical Reviews

Tufano (2018) conducted survey of the potential demand for prize-linked savings accounts, an account that awards prizes as part of the saving product’s return. The study suggested that low-to-moderate income customers have substantial demand for prize-linked savings, with a majority of survey participants expressing an interest in opening a prize-linked savings account. As predicted by theory and international experience, interest in prize-linked savings is greatest among people who do not have regular saving



habits, who have little actual savings, who play lotteries extensively, and who are optimistic about their futures. The study indicated that in total, 58% of participants expressed a positive interest in the PLS accounts, 26% were not interested, and 16% had no information about the product.

Guillen and Tschoegl (2002) studied demand for PLS in Latin American programs and found that low-income populations and unbanked people expressed higher interest in PLS. Moreover, Maynard et al (2008) conducted a survey of low-income Americans and found that 58% expressed positive interest in prize linked savings. Furthermore, they found that optimistic people, lottery players, non-savers, and the unbanked all expressed higher than average levels of interest.

Paul et.al (2020) assessed effect of PLS on saving in across branches in Mexico and the study randomized bank branches across Mexico to receive a temporary incentive of prize-linked savings (PLS). A total of 110 branches were involved in the experiment, the study treated 40 branches with the PLS and 70 control branches. We demonstrate that PLS products serve as a nudge and result in a 46% increase in bank account openings. Additionally, those opening accounts due to the lottery are significantly lower savers than their counterparts in the control branches. Furthermore, they keep their accounts open at similar rates and 36 percent use their accounts almost 5 years after the temporary incentive. This study did not observe current account holders changing their average savings during the lottery. Overall, the study indicated that PLS products could serve as an effective policy initiative to get individuals to open and learn to use savings accounts.

Robert (2012) assessed Savings and Prize-Linked Savings Accounts and by justifying many households have insufficient savings to handle moderate and routine consumption shocks. The study was conducted through online experiment that involves both a representative sample of the population and a disproportionately larger sample of low income and low savings individuals Many of these financially fragile households also have the highest lottery expenditures as a proportion of income. This combination suggests that Prize-Linked Savings (PLS) accounts, that combine principal-security with lottery-type jackpots, can increase savings among these at-risk households. Results from an online experiment show that the introduction of PLS accounts increase total savings

and reduce lottery expenditures significantly, especially among individuals with the lowest levels of savings and income. The results imply that PLS accounts offer a plausible market-based solution to nudge individuals to increase savings.

Cole et al. (2014) conducted a field study on the Million a Month program at First National Bank in South Africa and found that it drew unbanked people into the banking system; PLS did not cannibalize on other savings, but substitute for lottery. Cookson (2014) analyzed the introduction of PLS in a Nebraska district, USA, and its findings were: Woman preferred PLS than men; People who are rich seem to prefer PLS (not clear). Ozbay et al (2013) conducted laboratory experiment on PLS and found that PLS increases deferred payment.

Atalay et al (2013) explores the introduction of a novel financial product, PLS, which exploits the broad appeal of lottery tickets to influence individuals' choice to save. By using an online experiment, they examined the effect of the introduction of PLS on individuals' portfolio allocations. Their results showed that the introduction of PLS indeed increases total savings quite dramatically (on average by 12 percentage points), and that the demand for the PLS account comes from reductions in lottery expenditures as well as current consumption. Hence PLS leads to genuinely new savings, and even generates new savers. They further show that these results are stronger among participants with the lowest levels of savings and income, who are targeted by savings policies. Similar to this is non-savers are 70% more likely than savers to show interest in prize-linked savings (Tufano et al. 2011); Atalay et al. 2013).

Doorways-to-Dreams (D2D) (2015) examined role of PLS program in America, by using 'Save to Win PLS' program which offers its product through 63 credit unions in 6 states. In their 2015 report the D2D fund reported that about 57% of surveyed new accountholders identified as non-savers. Gertler and Higgins (2017) conducted field experiment on the long-term effects of PLS in Mexico. Their finding shows that temporary incentives created long-term changes in savings behavior for a substantial portion of those induced to open accounts by the lottery incentives.

Atalay (2012) explores the introduction of a novel financial product – PLS, which exploits the broad appeal of lottery tickets to influence individuals' choice to save. By

using an online experiment, Atalay (2012) examined the effect of the PLS introduction on individual's portfolio allocations. The study results show that the introduction of the PLS indeed increases total savings, quite dramatically (on average by 12 percentage points), and that the demand for the PLS account comes from reductions in lottery expenditures, as well as current consumption. Hence, PLS led to genuinely new savings and even generates new savers. The study further showed that these results are stronger among our participants with the lowest levels of savings and income whom are targeted for saving policies. The results suggest that PLS accounts offer a viable approach to increase savings among everyone, but especially among those who are the most at risk for routine shocks. The availability of PLS products from the private sector could 'nudge' households towards saving more in the same manner that the framing of choices and the setting of default options has been shown to have an effect on other household decisions (Thaler and Sunstein, 2008) without having to either mandate changes in savings behavior or involve potentially costly government programs.

## **2.4 Hypothesis Development**

This study is conducted to assess factors affecting PLS and its effect on deposit growth. This section presents hypotheses development on factors affecting interest to PLS and its effect on deposit growth. The interest of customers of a bank to PLS is associated to factors related customers and the product features in conformance with need of the customer

### **2.4.1 Factors Affecting Intention to PLS**

Factors affecting intention to PLS are related to demographic and socio-economic characteristics of the customers, banking practice of the customers and product features. Studies in relation to determinants of intention to use PLS showed that demographic and socio-economic characteristics of customers affect intention to consider PLS for saving decision.

#### **2.4.1.1 Personal Characteristics**

The demographic and socio-economic factors that got attention of previous studies include sex, age, education, marital status, employment status, and income.

Tufano (2011) revealed that deposit of male customers is more fluctuating than deposit of female customers. This is due to higher participation of males in expenditure because of their higher role in household administration than females. Especially, developing countries income of household is mainly expected from male than females. Because of their highly volatile deposit, male customers are less expecting than female customers to meet qualification criteria for PLS, thus, low intention to consider PLS for saving decision. Therefore, effect of sex on intention to consider PLS is hypothesized as male customers have lower intention to PLS than female customers.

Age is considered as important factor in affecting intention to use PLS of banks. But, according to Agarwal et.al. (2007) the effect of this factor is based on prizes included within the promotion. When prizes are included by considering age variation, customers at higher age level have larger intention to customers at lower age level because of larger propensity to save at higher age level than at lower age. Therefore, it is hypothesized as age has significant and positive effect on intention to be included in PLS.

Education is considered as source of judgement where reasonable PLS is launched. It is expected that customers at higher education level use their theoretical skill in decision making than customers at lower education level while considering PLS for saving decision. For rational decision makers, education provides additional advantage for decisional making (Blundell, 2008). As a result, they consider importance of PLS for their saving decision and try to meet criteria in PLS. Thus, it is hypothesized that education has significant positive effect on intention to consider PLS while saving.

Marital status has varying association with intention to PLS. Tufano (2011) indicated that married customers due to additional responsibility dependents in household and higher future consumption because of larger household, use available opportunities from prizes included within the promotion packages and restrict their current consumption. In addition, it is revealed that due to joint decision by partners, married customers are more interested than unmarried customers for PLS. As a result, it is indicated that saving of married households is stable at a given period. On the other hand, there are different studies that argue current consumption of married households is more dynamic than unmarried households because of large proportion of consumption in their income.

Therefore, this study hypothesized that intention of married customers is larger than interest of married customers for PLS.

Bovenberg and Evans (2010) shown that employment status is affecting intention to PLS. The employed customers, whether they are self-employed or employed to other organizations, are optimistic about their future income and their current saving is more fluctuating than unemployed customers. On the other hand, due to unexpected future income, unemployed customers restrict their current consumption and they have higher intention to PLS. As a result, it is hypothesized that intention to PLS is lower for employed customers than employed customers.

PLS is mainly developed to recruit unbanked society to the banking system. In line with this, low-income group society were more considered than high income group of society. As a result, income of the customers is expected to affect intention to PLS. Customers with higher income is less interested to PLS than customers with lower income (Bovenberg and Evans, 2010). Thus, this study hypothesized that income negatively affect intention to PLS.

#### **2.4.1.2 Banking Practice**

The second group of variables that affect intention to PLS are related to banking practice. According to previous studies, these factors include previous experience to banking service, objectives of saving, experience to PLS and experience from other banks.

Among the objectives of the product, attracting new customers to banks is the main one. Thus, PLS is mainly designed to attract new customers, hence, new customers have higher intention than existing customers to PLS. Accordingly, it is believed that customers that have experience to banking service have lower intention to new customers to PLS (Browning and Lusardi, 2006). Therefore, it is hypothesized that intention to PLS is negatively affects intention to PLS.

In addition, saving objective is considered as important factor for intention to PLS. Browning and Lusardi (2006) suggested that customers save either for interest income or to discourage consumption. As PLS takes longer time than interest period, customers that save to discourage consumption have higher intention to PLS than customers that save to

earn interest income. Therefore, it is revealed that intention to PLS is positively linked with saving to discourage consumption when compared to saving for interest income. Therefore, it is hypothesized that saving to discourage current consumption is significantly and positively affects intention to PLS.

According to Tufano (2007) customers with prior experience of PLS are interested by current PLS if the previous PLS is attractive and well featured, otherwise, the customers are discouraged by previous PLS and they have low interest. Therefore, it is revealed that customers that have prior experience from PLS of the bank have higher intention to use current PLS because of knowledge gained from previous PLS. Thus, this study hypothesized that prior experience has positive effect on intention to PLS.

In addition, if a bank provides PLS superior to other banks, intention to the PLS is higher for customers that use PLS of other banks than customers that do not use PLS of other banks. This implies the bank is providing competitive product to product of other banks (Engen, Gale and Scholz, 2016). Hence, it is revealed that customers that gained experience from other banks have higher intention to customers that have experience from other banks.

#### **2.4.1.3 Product Features**

The third group factors that affect intention to PLS is related to the product features. In line with the product features, it is indicated that PLS is affected by affordability of eligibility criteria, social compliance and emotional affect (Guillen. and Tschoegl, 2002). If customers perceive that the product is easily affordable, their intention to use the product is high, otherwise, the intention is low. Based on this it is hypothesized that affordability has positive and significant effect on intention to PLS.

The second indicator of product feature is social compliance. Socially compliant products are demanded by customers. customers of banks that perceive products of the banks as socially compliant have higher intention to use the product than the customers that perceive the product as socially not compliant. Customers that perceive PLS as it meets social compliance have intention to use because the product does not disagree with belief of the customers (Guillen. and Tschoegl, 2002). Thus, it is hypothesized that social compliance has positive effect on intention to use PLS.

According to Kearney, Tufano, Guryan, and Hurst (2011) Emotional affect is an important attribute of PLS that attracts customers to use PLS. In line with this, prizes included are indicator of emotional effect of product. Customers that are attracted by the prizes included within the promotion are more attracted by the PLS than the customers that are not attracted by the prizes included within the promotion. Thus, it is hypothesized that PLS positively and significantly affects intention to PLS.

#### **2.4.2 Effect of PLS on deposit growth**

The second main focus of this study is identifying the effect of PLS on deposit growth. In line with this objective, studies have shown the association between PLS and growth of customer deposit on PLS launching bank. The studies revealed that savers that have preference for skewness in returns may allocate some of their funds to PLS which offers the same expected return but with a small chance of winning large amounts (Freidman and Savage, 1948). Categorizing savings programs on a spectrum from coercive to exciting, Tufano and Schneider (2007) consider prize-linked savings a program that could make saving exciting, by leveraging the excitement generated by lotteries. This overlap between prize-linked savings and lotteries is important as survey results show that low-income families believe they are more likely to build wealth by playing the lottery than by traditional saving with compound interest. PLS product may attract people with loss aversion therefore may lead them to reallocate funds from consumption to the PLS. Hence, expenditure on consumption will decrease, or remain constant. Loss averse (Kahneman and Tversky, 1992) individuals may allocate some of their funds from lottery or consumption to PLS due to the “no principal loss” aspect of the PLS. Additional funds might come from the fact the individuals might choose to take risk on the smaller consumption rather than the previous ones (Pfiffelmann, 2008), hence it is expected that there will be a shift from consumption funds to the PLS in which there is no risk of losing the potential interest and the principal. Because of the PLS introduction, individuals may allocate some savings from traditional savings to PLS by reducing or holding constant traditional savings. If the money allocated to the PLS is sourced from the current consumption or lottery expenditure PLS increases the total savings. This also implies that there is a possibility that the introduction of the PLS may generate new savers (who

would not save without PLS otherwise). Therefore, it is hypothesized as PLS positively and significantly affect customer deposits.

## 2.5 Literature Gap

Previous studies were conducted at branches independently provide the PLS that has not studied cases like the PLS of CBE where PLS is provided by all branches of the bank and customers are not required to open new account for the PLS. In addition, the studies failed simultaneously to identify factors that determine to inclusion to the PLS and its effect on deposit growth that is the main objective of the promotion strategy. Therefore, this study fills the literature gap by identifying customer related factors and product related factors that determine the intention to use PLS of a bank. In addition, this study fills the literature gap examining effect of PLS on deposit growth.

## 2.6 Conceptual Framework

The review of literature indicated that interest to PLS is affected by personal and product related factors. The personal factors include demographic and socio-economic factors. Further, this study argues that interest to PLS is might be affected by market factors; such as competition from other banks by providing competitive prizes. In the first step this study examines factors affecting intention to PLS by using demographic, socio-economic and product features. In the second stage the study identifies the effect of intention to PLS on the customers' deposit growth. The study is conceptualized and presented in Figure 2.1 below.

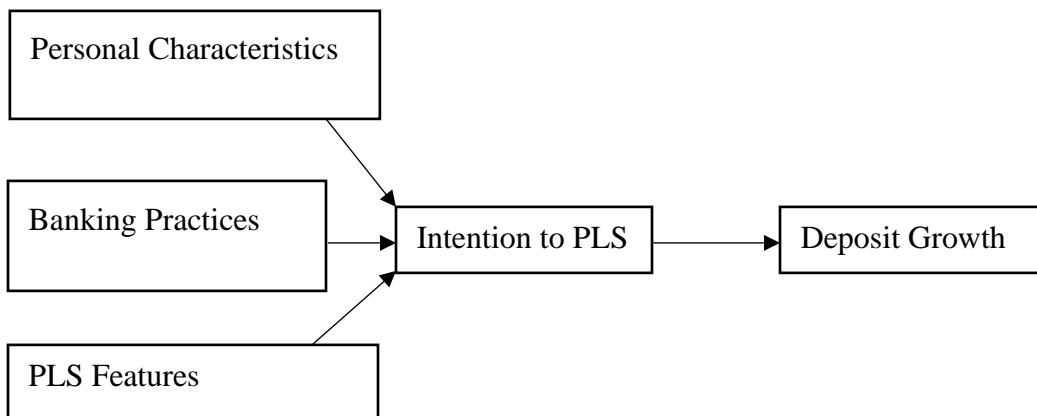


Figure 2. 2 Conceptual Framework (Source: Ajzen & Fishbein, 1980)



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

Burns & Grove, (2001) states that designing a study is intended to plan and implement the study in a way that will help the researcher to obtain intended results, thus increasing the chances of obtaining information that could be associated with the real situation. This study has intended to describe the propensity of intention to PLS and identifying the factors affecting the intention to PLS. Further the study examines the effect of intention to PLS on deposit growth. As a result, in order to address the aforementioned objectives, descriptive and explanatory research designs were implemented based on the cross-sectional field survey method. According to (Reid, 1987) in the cross-sectional field survey, independent and dependent variables are measured at the same point in time. In addition, the study is also said to be associational in design because there is the intent to establish the relationship between independent and dependent variable of the study. This study designs explanatory research is the investigation of cause-and-effect relationships to determine causality; to observe variation in the variable that is assumed to cause the change in the other variable and then measure the changes in the other variable using statistical methods. Thus, this study uses both descriptive and explanatory research designs.

#### **3.2 Research Approach**

According to Creswell (2009) the three approaches that are commonly implemented in research are quantitative, qualitative and mixed, where one of them is not better than the others, all of this depends on how the researcher want to do research of study. In the quantitative research is a type the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner. Creswell (2009) further states quantitative approach the investigator primarily uses postpositive claims for developing knowledge, i.e., cause and effect relationship between known

variables of interest or it employs strategies of inquiry such as experiments and surveys, and collect data on predetermined instruments that yield statistics data. The study has collected study data by using questionnaire and the responses was coded numerically. Therefore, in terms of methods, this research has employed quantitative method while conducting the study.

### **3.3 Population and Sample Design**

According to Hair *et al.* (2010), target population is said to be a specified group of people or object for which questions can be asked or observed made to develop required data structures and information. The target population of this study customer of PLS accounts in CBE in West Addis Ababa District.

According to Alreck and Settle (2005) the choice of sample size is normally made after considering statistical precision, practical issues and availability of resources. On the other hand, Tabachnick and Fidell (2001) noted that samples are selected on a random basis and those samples are considered as representative of the population. The sampling designs to be applied for this research are random and convenience sampling. Then convenience sampling were followed to select sample respondents from selected branches by approaching customers visiting the branch with the support of the staffs.

A different sampling paradigm by Lowler (1984) noted that there is no a single precise way for the determinations of sample size hence there are a number of inadequacies for deciding on sample size. Malhotra and Peterson (2006) stated that, the larger the sampling size of a research, the more accurate the data generated.

However, to determine the sample size, the study has used Yamane's (1967) formula that provides a simplified method to calculate the sample size. This formula is based on a 95% desired confidence level and 5% desired level of precision.

$$n = \frac{N}{1 + N(e)^2}$$

Where: -

n = Sample size; N = population size; e = level of precision

There are 4 group of branches in the district; level I, level II, level III and level IV. The study selected 1 branch from each level to make equal chance of selection of the respondents. The branches for the study were randomly selected from sampling frame list of branches in the district. The branches randomly selected for the study include Abakoran, Paulos, Military Tera and Alem Bank. Target population and sampled respondents at each branch is presented in Table 3.1 below.

*Table 3. 1 Population and Sample Size*

Name of Branch	Population	Sample size
Abakoran	896,321	152
Paulos	745,632	126
Military Tera	458,520	78
Alem Bank	258,789	44
Total	2,359,262	400

Source: CBE (2021) and Own Computation (2021)

As presented in Table 3.1 above, total of 400 respondents were sampled. Since sample size is computed proportionally, 152 customers from Abakoran Branch, 126 customers from Paulos Branch, 78 customers from Military Tera Branch and 44 customers from Alem Bank branch were sampled for the study.

### **3.5 Type and Source of Data**

The researcher uses primary data and it was collected by using structured questionnaires from customers at sampled branches. According to Biggam, (2008), primary data is the information that the researcher finds out by him/herself regarding a specific topic. The main advantage with this type of data is that it is collected with the research's purpose in mind. It implies that the information resulting from it is more consistent with the research questions and objectives.

As Neuman (2003) states, it is a process of asking many people the same questions and examining their answers. The questionnaire will help to cover larger target groups than the interview, given the quality and chance of no response. The respondents of the

questionnaires are PLS account holders visiting branches. The researcher distributed the questionnaire to sampled respondents.

This study has used condition that customers have additional deposit of minimum 500 Birr from balance of July 1, 2021. This is period that the current PLS started. If a customer has not this incremental deposit, they were not included in the study. If the customers meet this condition, data collection was proceeded.

### **3.5 Variable Measurement and Model Specification**

For the purpose of this study a quantitative methodology involving close-ended questionnaire was used as the measuring instrument. The close-ended questionnaires can be administered to groups of people simultaneously, since they are less costly and less time consuming than other measuring instruments. The usage of this particular scaling method ensures that the research study illustrates the ability to assess the responses and measure the responses quantifiably so that a pattern or trend may be produced in order to assess research questions.

#### **3.5.1 Variable Measurement**

This study was conducted by using group variables that include demographic and socio-economic, banking experience, PLS features that indicate quality of the product. In addition, the study has used deposit of the customers that include deposit during the beginning of current PLS and current deposit. Variables used in empirical estimation are briefly presented as follows;

Intention to PLS is dependent variable and it contains dummy values; where '1' indicates intention to PLS and '0' indicates that the customers are saving without considering PLS on PLS eligible accounts. Therefore, intention to PLS is categorical variable with dummy of 1 if the customer considers PLS for saving decision and 0 otherwise.

The demographic and socio-economic factors included are sex, age, education, marital status, employment type and income. Sex and marital status are dummy variables where sex is measured as 1 if the customer is male and '0' otherwise. Similarly, marital status is measured as '1' if the customer is married, and '0' otherwise.

Age is categorized into four groups; “below 31 years”, “31-40 years”, “41-50 years” and “Above 50 years”. These categories were computed based age information from the bank. customers eligible for PLS are at age above 18 years. The age customers were binned for every 10 years based on data from the bank. In addition, there is not customer data for age above 60 years.

Education is also categorized based on data of the bank. Accordingly, five categories of education level were proposed for the study. These categories include ‘Primary Education’, ‘Secondary Education’, ‘TVET/Diploma’, ‘Bachelor’s Degree’ and ‘Master’s Degree and Above’.

Employment is categorical variable and it is indicated by ‘unemployed’, ‘employed’ and ‘self-employed’. This variable is categorized based employment category of the bank and previous studies in PLS and saving.

Income is continuous variable and it is measured as natural logarithm to linearize the values of income and to reduce the number effect.

The banking practice is indicated by experience of using the banking service, saving objective, prior experience to PLS and current use of PLS of other banks. The banking experience is presented by using three categories; ‘less than a year’, ‘1 to 3 years’ and ‘above 3 years’ that indicates ‘low’, ‘moderate’ and ‘high’ banking experience.

The saving objective is categorical variable and it is measured based on three categories; ‘interest’, ‘not to consume currently’ and ‘to save excess income’.

Prior PLS experience and current PLS from other banks are categorical variables that are measured as dummy of 1 if the customers have prior experience and use PLS of other banks and ‘0’ otherwise.

Product feature indicators are dummy variables and measured as 1 if the customers perceive PLS affordable/socially compliance/emotional affect, 0 otherwise.

Furthermore, control variable, beginning deposit is included in the study. This variable is continuous variable and it is measured as natural logarithm.

In the second stage, predicted probability was used as independent variable. In this stage deposit growth is used as dependent variable. It is continuous variable and measured as

difference between current deposit and biggening deposit. Then, this variable is transformed to natural logarithm form to convert to log-linear function and reduce number effect. Control variables included were independent variables that are used at the first stage.

### 3.5.2 Model Specification

This study has used two models for aforementioned objectives. Factors affecting the intention to PLS was analyzed by using probit model. This study has used to group of customers that have intention to PLS and customers of the without the intention. Since the dependent variable is dummy (1 for customers that have the intention and 0 otherwise), probit model is appropriate to identify factor that affect intention to use. The empirical estimation for factors affecting intention to PLS is presented as follows in Equation 1.

$$pls_i = \beta_0 + \beta_1sex_i + \beta_2age_i + \beta_3edu_i + \beta_4ms_i + \beta_5emp_i + \beta_6inc_i + \beta_7pex_i + \beta_8plsob_i + \beta_9aff_i + \beta_{10}sc_i + \beta_{11}ea_i + \beta_{12}bdp_i + \varepsilon_i \quad (1)$$

Where  $pls_i$  is intention to PLS of customer i, sex is sex; age is age; edu is education, ms is marital status, emp is employment status, inc is income, pex is previous experience, plsob is pls of other banks, aff is affordability; sc is social compliance of the product, ea is emotional affect of product, and bdp is beginning deposit in natural logarithm of customer i.  $\beta_0 - \beta_{12}$  are coefficients of independent variables and  $\varepsilon_i$  is error term.

The effect of the PLS on deposit growth was estimated by using linear model. The second stage model is presented as follows.

$$gd_i = \beta_0 + \beta_1sex_i + \beta_2age_i + \beta_3edu_i + \beta_4ms_i + \beta_5emp_i + \beta_6inc_i + \beta_7pex_i + \beta_8PLS_i + \varepsilon_i \quad (2)$$

Where  $gd_i$  is deposit growth and  $PLS_i$  is predicted probability of PLS of customer i.

### 3.6 Data analysis and presentation

After the data are collected both descriptive and inferential statistical techniques were employed to analyze the data. The data was analyzed using Stata 14 computer software. The statistical tools were aligned with the objectives of the research. Inferential statistics

were used to show the relationship and the strength/degree as well as direction of associations between variables. Thus, the strength of the relationship between variables and the influence of independent variables on dependent variable and statistical significance were assessed.

### **3.7 Reliability and Validity Test**

#### **3.7.1 Validity Analysis**

Bryman & Bell (2007) defined validity as how much any measuring instrument measures what it is intended to measure. They also suggest that the important issue of measurement validity relates to whether measures of concepts really measure the concept or not. There are several ways of establishing validity such as content validity; convergent validity concurrent; predictive validity; construct validity; and convergent validity. This study addressed content validity through the review of literature and adapting instruments developed by Tufano (2011).

#### **3.7.2 Reliability Analysis**

Nunnally (1978) stated that reliability is the consistency of a test, survey, observation, or another measuring device. The level of reliability of the instrument indicates the consistency of the variables. Cronbach's alpha is an index of reliability associated with the variation accounted for the true score of the underlying construct and it can only be measured for variables which have more than one measurement question. Since latent variables are not included in the survey instrument, there were no reliability checks for the instrument.

### **3.8 Ethical Considerations**

During the distribution of the questionnaire, respondents were informed about the purpose and the benefit of the study along with their full right to refuse or accept the participation. The respondents were told their response would be kept confidential and their identity shall not be exposed. Every person involved in the study was entitled to the right of privacy and dignity of treatment, and no personal harm were caused to subjects in the research. Information obtained is held in strict confidentiality by the researcher. All

assistance, collaboration of others and sources from which information was drawn were acknowledged.



## **CHAPTER FOUR**

### **RESULT AND DISCUSSION**

#### **4.1 Introduction**

This study was mainly conducted to examine effect of PLS on growth of customer deposit at CBE. In line with this objective, 393 customers of the bank at branches in Addis Ababa were contracted by using structured questionnaire. However, this study includes respondents that have appropriate awareness on existence and qualifications for prize of PLS. Based on the survey conducted, 68(17.3%) of the respondents were not aware about the existence and qualifications of PLS, hence, these observations were not used for further analysis. Therefore, this study was conducted by using data collected from 325 respondents that have awareness on PLS to evaluate current features of the product.

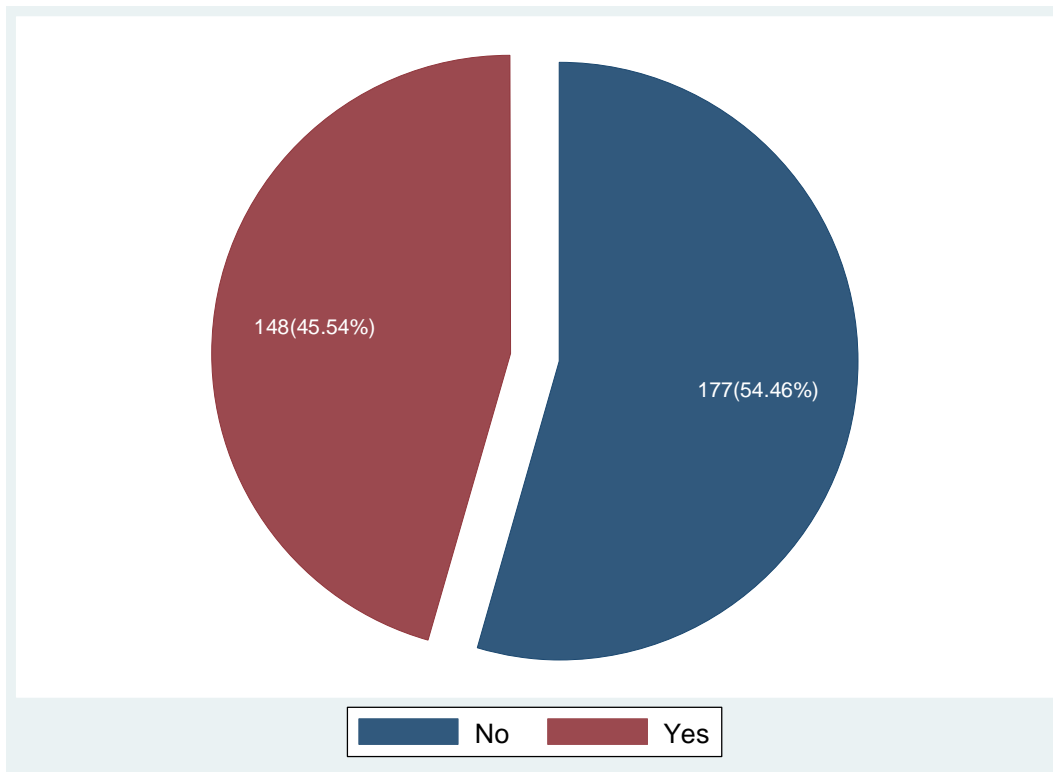
This chapter presents result of data analysis and discussion on the results. This study has followed descriptive and inferential methods to analyze the data. The first section of the chapter briefly presents result of the survey on focus of customers towards PLS. The second section of the chapter presents characteristics of customers based on intention to PLS. The third section is about features of the product. The fourth section discusses factors affecting intention to PLS. The final section is about effect of PLS on deposit growth of the customers.

#### **4.2 Intention to PLS and Related Factors**

##### **4.2.1 Intention to PLS**

This study has included 325 customers of CBE that are using saving services of the banks in personal saving accounts. In addition, these customers are eligible for prizes of PLS promotion i.e., they have minimum additional deposit of 500 Birr from their June 30 balance. There are customers that are saving by considering prizes of PLS. On the other hand, there are customers that are saving without considering PLS. The summary of the

survey result on number of customers based on intention to PLS is presented in Figure 4.1 by using pie chart and summarized by using frequency and percentage.



*Figure 4. 1 Intention to PLS*

This study has included customers of the bank with additional deposit of at least 500 Birr starting from beginning of current PLS period. These customers are eligible for the promotion whether they are saving to win the prize included in the promotion or not. Based on the survey, it was observed that 54.4% of the respondents are not saving by considering the promotion of the bank. On the other hand, 45.54% of the respondents are considering PLS while their saving decision. Although majority of customers were not influenced by the strategy, PLS is good source of decision for saving. This strategy is intended not only increase deposit but also to discourage withdrawals.

For the customers that have knowledge about the PLS, source of information was assessed and summarized by using frequency and percentage. The summary result is presented in Figure 2 for each group of intention to PLS and overall statistics is computed.

As shown in Figure 4.2, there are three sources of information; employees of the bank, advertising of the bank, and social reference. Advertising is main source of the information as indicated by 67.38% of the respondents.

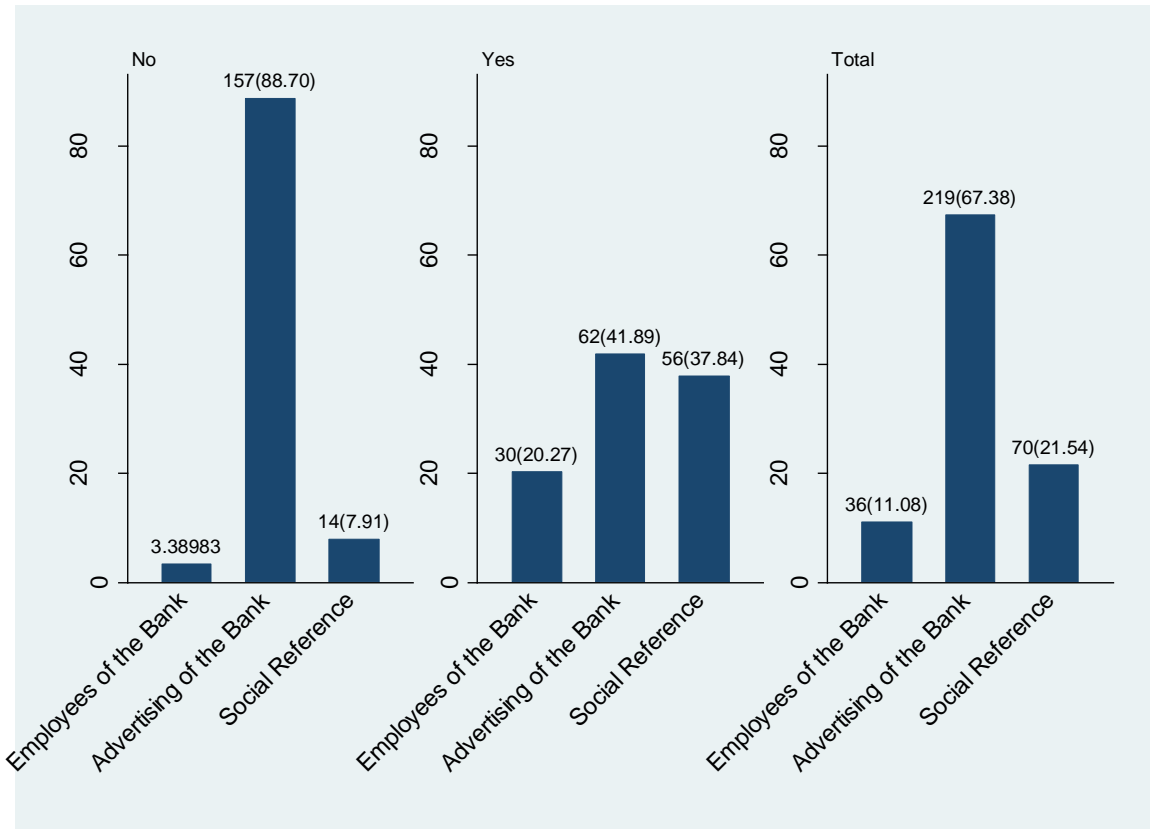


Figure 4. 2 Source of Information

But source of information varies for customers that save for PLS and that do not save for PLS. It was observed that 88.7% of the customers that do not consider PLS for saving decision got information from advertising of the bank. although it is smaller, in comparison with customers that consider PLS, advertising is source of information for largest group of customers that that includes 41.89% of the customers that consider PLS while saving.

The second source of information is social reference that is source of information about PLS for 37.84% of the customers that are interested to PLS and 7.91% of customers that are not interested to PLS while saving. On overall, social referencing source for 21.54% of the respondents.

The smallest group of customers get information about PLS from employees of the bank. This method provided information for only 3.39% of the customers that do not consider PLS and 20.27% of customers that consider PLS for their saving decision.

This finding about source information about PLS and intention for PLS shows that the number of customers that consider PLS for saving decision varies based on type of source of information.

#### **4.2.2 Personal Characteristics**

This study intends to differentiate characteristics of customers based on intention to PLS. In relation to PLS and other saving practices, characteristics of customers assessed by this study include demographic and socio-economic characteristics, and banking experience. This section of the chapter presents summary of demographic and socio-economic characteristics of the customers and their banking experience for each group and variance is computed for the respondents within the groups by using chi-square.

The demographic and socio-economic characteristics of the customers include sex, age, education level, marital status, employment type, and income. The summary statistics such as frequency and percentage is presented for customers that save by considering PLS and customers that save without considering PLS. The association between characters of customers with the PLS intention status is analyzed by using Pearson chi-square except income. The association between income and the PLS intention is analyzed by using T-test. The summary result of data analysis on demographic and socio-economic characteristics is presented in Table 4.1.

Among the respondents included in this study, 31.38% of the respondents were females and remaining 68.62% are males. As presented in Table 4.1 above, saving by considering PLS more focused by females than males. It is observed that 63.73% of the females and 37.22% of the males save with intention of winning the PLS prizes. This indicates majority of female customers of the bank are attracted by PLS of the bank.

On the other hand, smaller proportion of the male customers of the bank save their money without using availability of PLS as a source of decision to save. This association is statistically significant suggesting that considering PLS for saving decision is associated

with gender of customers of the bank. But this association does not interaction of other factors. Hence, further analysis is conducted by following vigorous methods based on econometric procedures.

*Table 4. 1 Demographic and Socio-Economic Characteristics and PLS*

Variable	Category	Overall	Saving by considering PLS		
			No	Yes	Chi2
Sex	Female	102(31.38)	37(36.27)	65(63.73)	19.83***
	Male	223(68.62)	140 (62.78)	83(37.22)	
Age	Below 31	81(24.92)	29(35.8)	52(64.20)	63.54***
	31-40	98(30.15)	84(85.71)	14(14.29)	
	41-50	97(29.85)	50(51.55)	47(48.45)	
	Above 50	49(15.08)	14(28.57)	35(71.43)	
Education	Primary Schools	21(6.46)	10 (47.62)	11(52.38)	20.52***
	Secondary Schools	42(12.92)	19(45.24)	23(54.76)	
	TVET/Diploma	67(20.62)	45(67.16)	22(32.84)	
	Bachler's Degree	106(32.62)	69(65.09)	37(34.91)	
	Master's Degree and Above	89(27.38)	34(38.20)	55(61.8)	
Marital Status	single	130(40.00)	55(42.31)	75(57.69)	12.90***
	Married	195(60.00)	122(62.5)	73(37.44)	
Employment	Unemployed	76(23.38)	62(81.58)	14(18.42)	43.56***
	Employed	197(60.62)	103(52.28)	94(47.72)	
	Self-Employed	52(16.00)	12(23.08)	40(76.92)	
Income		18131.51	20235.06	15615.78	4.33***

Note: Percentage in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Own survey, 2021

The second demographic factor that might affect saving and intention for inclusion in PLS is age of the customers. on overall, majority of customers of the bank that qualify the eligibility criteria are at age between 31 and 50 years that comprises 30.15% of the customers at age range of 31-40 years and 29.85% of customers at age range of 41-50

years. However, smaller number of customers at this age groups make their saving with intention to be included in PLS. It is observed that only 14.29% of the customers at age group of 31-40 years save by using PLS as a source of decision making. Similarly, 48.45% of the customers at age group of 41-50 years considering PLS while saving in the bank. But highest attention is provided by customers at highest age group in the survey, 'above 50 years' that include 71.43% of the customers at this age group. Further, the second group customers that considered PLS is customers at age group of 'below 31 years' where 64.2% of the customers consider prizes PLS while saving. This association is statistically significant that suggests the PLS is most considered by customers at lowest and highest age limits.

The third factor related to saving in general and PLS in particular is education of the customers. It is believed that education support the decision making and interlink with other factors. Education is assessed based on four categories and it was observed that majority of the respondents have educational qualification of bachelor's degree and followed by Master's degree, 32.62% and 27.38% respectively. when the education level is associated with saving based on PLS, largest number of customers was observed at education level of 'Master's and above' where 61.8% of the customers with this educational qualification considers PLS for their saving decision. Following group of customers in this group, customers with lowest education qualification in the survey consider PLS in saving decision that include 52.38% and 54.76% of customers at educational level of primary and secondary schools respectively. The association between education and PLS is significant.

The fourth customer related factor saving, in general, and PLS, in particular, is employment status. Majority of the respondents in the survey were employed that earn salary income that include 60.62% of the respondents. Among these customers, 47.72% consider PLS for saving. The smallest group of respondents are self-employed that include only 16% of the respondents. However, in relationship with PLS, 76.92% of the self-employed customers have intention for the PLS. The PLS intention is lowest for customers that are unemployed that only 18.42% of the customers consider PLS while saving.

It was observed that 60% of eligible customers for PLS are married and the 40% of the customers are single. But majority of customers with marital status of 'single' are interested to PLS that comprises 57.69% of the customers in this category. On the other hand, only 37.44% of the married customers considers PLS while saving. This association is statistically significant suggesting that PLS attracts married customers than unmarried customers.

Monthly income of the customers is another focus of this study. It is summarized by using mean and the comparison between customers with intention of PLS and without intention of PLS is analyzed by using T-test. As presented in Table 4.1, the average income in the survey was 18,131.51 Birr per month. The average income of customers that save without considering PLS is 20,235.06 Birr and monthly income of the customers that consider PLS while saving is 15,615.78 Birr. This indicates that the average income of customers that considers PLS while saving is lower than customers that do not consider PLS. This variation is statistically significant.

#### **4.2.3 Banking Practices and PLS**

The second group of factors that might affect intention to PLS is banking practice and PLS experience. These factors include banking experience, type of saving account, objective of the saving, previous experience and experience to PLS of other banks. The summary is presented in Table 4.2 by using frequency, percentage and chi2 test.

Majority of the respondents in the study have saving experience for more than 3 years that include 66.46% of the respondents. Among these customers, the 48.15% of customers are interested to PLS and consider PLS while saving. On the other hand, only 6.15% of the customers in the survey have a banking experience for less than a year and only 5% of these customers attracted by PLS and save accordingly. The association between banking experience and PLS is significant suggesting that customers with longer banking experience are attracted more than customers with shorter banking experience by PLS of the bank.

The second banking practice factor is type of account held by the customers. The type of accounts assessed were normal (ordinary) saving, women saving and other saving accounts.

Table 4. 2 Banking Practice of Customers

Variable	Category	N (%)	PLS		
			No	Yes	Chi2
Banking Experience	Less than a year	20(6.15)	19(95)	1(5)	14.12***
	1-3 years	89(27.38)	46(51.69)	43(48.31)	
	Above 3 years	216(66.46)	112(51.85)	104(48.15)	
Account Type	Normal Saving	189(58.15)	133(70.37)	56(29.63)	48.45***
	Women Saving	99(30.46)	36(36.36)	63(63.64)	
	Other saving	37(11.38)	8(21.62)	29(78.38)	
Objective of Saving	interest income	58(17.85)	32(55.17)	26(44.83)	34.30***
	not to consume currently	171(52.62)	70(40.94)	101(59.06)	
	unconsumed	96(29.54)	75(78.13)	21(21.88)	
Previous use	No	101(57.06)	31(20.95)	132(40.62)	43.59***
	Yes	76(42.94)	117(79.05)	193(59.38)	
Use PLS of Other Banks	No	153(86.44)	33(22.30)	186(57.23)	135.49***
	Yes	24(13.56)	115(77.70)	139(42.77)	
Rate prize of PLS of CBE with prize of PLS of Other Banks	Very Low	2(7.41)	3(2.59)	5(3.50)	20.02***
	Low	3(11.11)	0(0.00)	3(2.10)	
	Similar	14(51.85)	41(35.34)	55(38.46)	
	High	5(18.52)	45(38.79)	50(34.97)	
	Very High	3(11.11)	27(23.28)	30(20.98)	

Note: Percentage in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Own Survey, 2021

Majority of the respondents hold normal saving account that include 58.1% of the respondents. Among these customers, 29.63% of the customers consider PLS in their saving decision. In addition, in the study 30.46% of the respondents were women account holders. Among these customers, 63.64% of the customers have intention to be included within the PLS promotion. The association between account type and intention to PLS is significant suggesting that interest to PLS varies based on type of account ownership.



The customers save with different objectives that include earning interest income, discouraging current consumption and unconsumed income. Majority of the responses indicated that saving is mainly to discourage consumption that include response of 52.62% of the customers in the study. In addition, majority of these customers are interested to PLS that include 59.06% of the customers that save their money in the bank not to consume currently. However, 29.54% of customers in the survey save excess income. Among these customers, only 21.88% are interested to PLS. The association between saving objective and PLS is significant suggesting that interest to PLS varies based on objective of the saving.

Previous experience of customers about PLS was assessed that the current practiced might be influenced by previous experience. Further, this is intended to evaluate the performance of the product for sustainable promotion. It was surveyed that 40.62% of the respondents in the survey has not considered PLS for their saving decision. On the other hand, 59.38% of the respondents have previous experience of considering PLS for saving decision. Among the customers that currently do not consider PLS for their saving, 42.94% were considering PLS for their saving decision during the previous PLS periods. Majority (79.05%) of customers that are interested on PLS for their saving have previous experience of considering PLS for saving decision.

To assess competition from the market and competitiveness of the product, customer adoption of PLS of other banks assessed. The survey result indicated that 42.77% of the respondents use PLS of other banks in the market. On the other hand, 57.23% of the customers in the survey do not use PLS of other banks. it was observed that 77.7% of customers that use PLS other banks use PLS of CBE. But only 13.56% that do not consider PLS of CBE for their saving decision use PLS of other banks. For further analysis, in relation with this, prize of the PLS of CBE is evaluated in comparison with prize of other banks by customers that use PLS of the other bank.

When prize of PLS of CBE compared with prize of PLS of other banks, it is similar or higher in creating interest of the customers. On overall, majority of the customers rated it similar to prize of other banks that include 38.46% of the users of other banks. In addition, 34.97% and 20.98% of the users indicated that the prize of PLS of CBE is high

or very high, respectively. The prize of PLS is rated lower by customers who do not consider PLS for saving decision than customers who consider PLS while saving. For example, 18.52% of the who do not consider and 38.79% of who consider rated high and 11.11% of who do not consider and 20.98% of who consider PLS rated ‘very high’. Therefore, this suggests that prize of PLS of CBE is more attractive when compared to PLS of other banks.

#### 4.2.4 Product Features and PLS

This section of the study presents survey result about perceived features of the PLS. The product feature is presented comparatively for customers that save by considering PLS and without considering PLS. The perceived quality of the product is indicated by affordability, social compliance and emotional affect and the survey result is presented in Table 4.3 below.

*Table 4. 3 Perceived Features of PLS*

Features of PLS	Saving by considering PLS		
	No	Yes	Total
<b>Affordability:</b> easy to meet requirement of eligibility of PLS	33.33	81.76	55.38
<b>Social Compliance:</b> PLS of the bank complies your beliefs	58.76	95.27	75.38
<b>Emotional affect:</b> Prizes included in PLS are relevant to your interest	48.59	93.92	69.23

Source: Own Survey, 2021

Majority of the respondents indicated that meeting requirement of the eligibility criteria is not difficult. This is evidenced by 55.38% of the customers of the bank who are qualified for PLS. This implication varies between customers that save by considering the PLS and customers that save without considering PLS. As shown in Table 4.3, 81.76% of the customers that save by considering PLS believe that the requirement is affordable. On the other hand, although they are qualified with their current saving, only 33.33% of the customers that save without considering PLS believe that PLS is affordable, i.e., 66.67% of the customers perceive that it is not easy to afford qualification for PLS.

The second quality indicator of the promotion is compliance to the social norms. The overall responses suggests that the product has significant no disagreement with social beliefs. This is indicated by 75.38% of the participants. Further, it is indicated by customers that consider the PLS, where 95.27% of the customers that consider PLS for saving decision confirmed that PLS complies social norms. In this regard, majority of customers that do not save by considering PLS also confirmed that there is not significant variation from their social norms.

Furthermore, it is indicated that prizes included in PLS are relevant to interest of the customers. This is confirmed by 69.23% of the customers included in the study and 93.92% of the customers that consider PLS for their saving decision. But majority of customers that save without considering PLS indicated that prizes included within the promotion is not attractive that only 48.59% of the customers that save without considering PLS indicated that the prizes are relevant to their interest. The possible reason for this is participants in this study are from only Addis Ababa but the prizes consider customers at branches in throughout the country.

### **4.3 Deposit Growth and Intention to PLS**

The second main focus of this study is to identify effect of the PLS on deposit of the customers. Before analyzing the effect of PLS on deposit growth by following econometric procedures, deposit of customers and its growth is summarized by using descriptive statistics based on intention to use PLS. The descriptive statistics used for the summary include mean and standard deviation. Result of the descriptive statistics is presented in Table 4.4 below.

The average deposit of customers during the starting period of current PLS was 5,510.23 Birr and 8,826.05 Birr for customers that save with intention of PLS and without intention of PLS respectively. As it is expected by the bank, customers with lower saving practice were attracted by the promotion strategy than the customers that have higher saving practice.

Currently, deposit of customers that are attracted by the PLS have higher deposit than customers that are not attracted by the PLS with an average deposit of 14,964.30 Birr and 13,522.72 Birr respectively.

Table 4. 4 PLS and Deposit

Deposit	PLS	mean	sd
Beginning deposit	No	8,826.05	8896.756
	Yes	5,510.23	5702.448
Current deposit	No	13,522.71	10736.48
	Yes	14,964.3	12775.18
Deposit growth	No	4,696.67	3558.049
	Yes	9,454.07	10628.27

Source: Own Survey, 2021

The average personal deposit is increased by 9,454.07 Birr for customers that are attracted by the PLS and by 4,696.67 Birr for customers that are not attracted by PLS for their saving decision.

#### **4.4 Factors Affecting Intention to PLS and Its Effect on Deposit Growth**

As presented in previous sections, 54.46% of the customers are not interested to the promotion strategy of the bank. This means, these customers may withdraw their savings when they need and they are not stimulated by the promotion to increase their current deposit although their current deposit is higher than their deposit at beginning of the promotion period. On the other hand, 45.54% of the customers are initiated by the PLS and they have stable deposit and intention to increase their current deposit. Factors affecting intention to PLS and the effect of PLS on deposit growth is predicted by using probit and linear model respectively. Conformance of the models to classical model assumptions is checked before interpreting the results of estimations. In the probit model for easy interpretation, coefficients were substituted by marginal effects.

##### **4.4.1 Empirical Estimations and Hypothesis Summary**

Based on previous studies, hypotheses about factors affecting intention to PLS and the effect of PLS on deposit growth are developed and presented in Section 3.6 at Chapter Three. To test the hypotheses probit and linear regressions were run. Based on econometric procedures, conformance of the models to classical model assumptions was checked.

### Classical Model Assumption Tests

This study has used two models; probit model and linear regression. Before providing interpretation on the results, model assumption tests were run. Robustness checks were examined based on classical model assumption. Accordingly, for the probit model goodness-of-fit and model specification test were conducted. In addition, for the linear model, multicollinearity, omitted variable and normality tests were conducted. For the both models, based on homoscedasticity assumptions, empirical estimation was conducted by following robust method to fix heteroskedasticity problem. Summary of the assumptions is presented in Table 4.5 below.

*Table 4. 5 Model Assumption Tests*

Model	Test	Method	Test-Stat	Prob
Probit	Goodness-of-fit	Hosmer-Lemeshow	chi2(8) = 10.93	0.2057
	Model Specification	Link Test	z-value (_hatsq = 1.73)	0.083
Linear	Multicollinearity	VIF	Mean VIF = 3.03	
	Specification-error Test	Ramsey RESET omitted variable test	F(3, 303) = 0.01	0.9984
	Normality Test	Skewness and Kurtosis	adj chi2(2) = 0.31	0.8558

Source: Own Computations, 2021

As presented in Table 4.5, the empirical models satisfy the basic assumptions of probit model and linear model.

### Estimation Results

The empirical estimation of Probit model was employed to predict factors affecting intention to PLS. It is predicted based on empirical model presented in Equation 1. The result of empirical estimation is presented in Table 4.6 below.

This model is summarized with Wald statistics (chi2 = 141.36) that is statistically significant at 1% significance level suggesting that independent variables included in the model significantly affects dependent variable.

Table 4. 6 Probit Model

	<b>dydx</b>	<b>Std.Err.</b>	<b>z</b>	<b>P&gt;z</b>
sex	-0.233	0.059	-3.980	0.000
Age				
31-40	0.045	0.059	0.760	0.448
41-50	0.032	0.050	0.640	0.520
Above 50	0.003	0.088	0.030	0.972
Education				
Secondary Schools	-0.109	0.074	-1.480	0.138
TVET/Diploma	-0.241	0.109	-2.220	0.027
Bachelor's Degree	-0.137	0.081	-1.680	0.093
Masters and above	-0.198	0.077	-2.560	0.011
Marital Status	-0.132	0.059	-2.250	0.024
Employment				
Employed	0.166	0.070	2.380	0.017
Self-Employed	0.214	0.089	2.400	0.016
Income	-0.128	0.031	-4.150	0.000
Saving objective				
not to consume currently	-0.007	0.058	-0.120	0.902
unconsumed	0.025	0.061	0.410	0.681
Experience				
1-3 years	0.157	0.144	1.080	0.278
Above 3 years	0.257	0.139	1.850	0.064
Prior experience	-0.099	0.062	-1.600	0.110
PLS Other Banks	0.205	0.069	2.970	0.003
Affordability	0.016	0.052	0.310	0.754
Social Compliance	0.207	0.062	3.340	0.001
Emotional affect	0.216	0.058	3.730	0.000
Beginning Deposit	-0.015	0.021	-0.700	0.481

Wald chi2 = 141.36

Prob > chi2 = 0.000

Log pseudolikelihood = -103.66

Pseudo R2 = 0.5372

The value of Pseudo R-square (0.5372) suggests independent variables predict 53.72% variation of dependent variable. This indicates 53.72% of intention to PLS is explained

by demographic and socio-economic characteristics of customers, banking practices, and product features included in the model.

The second empirical model used in this study conducted to examine the effect of PLS on deposit growth. This estimation is conducted by using linear regression and it is conducted based on Equation 2. The estimation result is presented in Table 4.7 below.

*Table 4. 7 Effect of PLS on Deposit Growth*

<b>Deposit growth</b>	<b>Coef.</b>	<b>St.Err.</b>	<b>t-value</b>	<b>p-value</b>
PLS	0.400	0.193	2.07	0.039
sex	-0.177	0.150	-1.18	0.238
Age				
31-40	0.441	0.156	2.83	0.005
41-50	0.004	0.129	0.03	0.976
Above 50	0.212	0.211	1.00	0.317
Education				
Secondary schools	0.023	0.195	0.12	0.904
TVET/Diploma	-0.310	0.239	-1.29	0.196
Bachelor's Degree	-0.178	0.195	-0.91	0.362
Master's Degree	-0.030	0.193	-0.16	0.876
Marital status	0.095	0.123	0.77	0.441
Employment				
Employed	0.319	0.115	2.77	0.006
Self-employed	0.987	0.238	4.15	0.000
Saving Objectives				
Not to consume currently	-0.172	0.123	-1.40	0.162
Unconsumed	-0.115	0.123	-0.93	0.351
Saving experience				
1 – 3 years	0.305	0.185	1.65	0.100
Above 3 years	0.317	0.174	1.83	0.069
Prior PLS	-0.167	0.113	-1.48	0.139
Income	0.164	0.091	1.81	0.070
Constant	6.245	0.962	6.50	0.000
<b>Obs = 325 R-squared = 0.239 F-test = 5.239 Prob&gt;F = 0.000</b>				

Source: Own Survey, 2021

The effect of PLS on customer deposit growth is analyzed by using linear model. PLS is predicted from probit model and deposit growth is difference between current deposit and beginning deposit. Deposit is converted to log-linear form by transforming to logarithm

values. Then the effect is estimated by including other control variables that confound with PLS and affect deposit growth of customers.

### **Hypothesis summary**

Based on results of the empirical estimations, hypotheses of the study are summarized and presented in Table 4.8 below.

*Table 4. 8 Hypothesis Summary*

Hypotheses	Sign	Significance	Decision
H1: Sex negatively and significantly affects PLS	-	Significant	Supported
H2: Age of customers positively and significantly affects PLS	+	Not significant	Not Supported
H3: Education level of customers positively and significantly affects PLS	-	Significant	Supported
H4: Marital Status has negative and significant effect on PLS	-	Significant	Supported
H5: Employment status has positive and significant effect on PLS	+	Significant	Supported
H6: Income of customers negatively and significantly affects PLS	-	Significant	Supported
H7: Saving objective has positive and significant effect on PLS	+	Not significant	Not Supported
H8: Banking experience has positive and significant effect on PLS	+	Not Significant	Not Supported
H9: Prior experience of PLS has positive and significant effect on PLS	-	Not significant	Not Supported
H10: Practice of PLS of Other Banks has positive and significant effect on PLS	+	Significant	Supported
H11: Affordability of PLS has positive and significant on intention to PLS	+	Not significant	Not Supported
H12: Social Compliance of PLS has positive and significant effect on intention to PLS	+	Significant	Supported
H13: Emotional affect has positive and significant effect on intention to PLS	+	Significant	Supported
H14: PLS has positive and significant effect on deposit of customers	+	Significant	Supported

Source: Own Computation, 2021



#### **4.4.2 Effect of Personal Characteristics on Intention to PLS**

This section presents demographic and socio-economic factors that affect intention to PLS. Demographic and socio-economic factors included in this study are sex, age, education, marital status, employment, and income.

Sex of the customers has significant effect on intention to use PLS for saving decision. It is significant at 0.01 significance level. The marginal effect of this variable is negative and it suggests that male customers of the bank have lower probability of considering PLS for their saving decision than female customers. Specifically, the probability of male customers to consider PLS for their saving decision is 23.3% points lower than female customers. This finding is similar to Tufano (2011).

The other demographic factor examined by the study is age of the customers. But this factor is not statistically significant in affecting intention to consider PLS for saving decision. But coefficients of the variable are positive suggesting that intention to consider PLS for saving decision is higher at higher age. Therefore, the second hypothesis is partially supported.

Coefficient of education is negative for all levels of education included in the study. This indicates customers at higher education level has lower intention to consider PLS for their saving decision. The strongest significance was observed for highest education level in the survey ( $p$ -value = 0.011) and coefficient of (-0.198) that suggests probability of considering PLS for saving decision is 19.8% units lower for customers with educational qualification of 'Masters and above' when compared to customers with primary education qualification. Following this education level, coefficient of educational qualification of 'TVET/Diploma' is significant at 0.05 and coefficient of -0.241 that suggests probability of considering PLS for saving decision by customers with educational qualification of TVET/Diploma decreases by 24.1% from customers with primary education. Intention of considering the promotion strategy is not significant for customers at educational qualification of 'Secondary Schools' and Bachelor's Degree'. The third hypothesis is partially supported that education has significant but negative effect on intention to PLS. Therefore, the finding about the education suggests that the

most educated customers are not attracted by the PLS. This finding contradicts (Blundell, 2008).

The effect of marital status is negative and significant (p-value = 0.024) at 0.05% significance level with coefficient of -0.132 that indicates probability of married customers to consider PLS for saving decision decreases by 13.2% from unmarried customers. The fourth hypothesis is confirmed that marital status negatively affects intention to PLS because of inelastic demand for consumption because of additional responsibility when compared to unmarried buyers. Thus, withdrawal of money is expected by the customers and probability of additional deposit is lower when compared to unmarried households. This finding is consistent to Tufano (2011).

The effect of employment is positive and significant on probability of considering PLS for saving decision. In this study, three types of employment were identified that include unemployed, employed and self-employed customers. Probability of considering PLS for saving decision increases by 16.6% for employed customers and 21.4% for self-employed customers. These associations are significant at 0.05 significance level. therefore, hypothesis 5 is confirmed suggesting that the intention of employed and self-employed customers to consider PLS for saving decision is higher than unemployed customers because of speculation in their income source. This finding confirms Bovenberg and Evans (2010).

Income is negative and significant at 0.01 significance level. The coefficient of income suggests that probability of considering PLS for saving decision decrease by 12.8% for 1% income increase from average income of the customers. This finding is similar to expectation of the bank while launching the product. The main objective of the PLS is to attract low-income group of society to bank that have low banking practice. The lower income groups are more attracted by the promotion strategy than the higher income groups. Thus, hypothesis 6 is confirmed suggesting that customers with low-income are attracted by the prizes included in the promotion method. This finding is congruent to Bovenberg and Evans (2010).

#### **4.4.3 Banking Practice Related Factors**

The effect of saving objective is not related with decision of considering PLS for saving. When compared to interest earning objective, the probabilities of considering PLS for saving does not vary for consumption discouraging and saving excess income. Therefore, this study failed to support hypothesis 7 that implies the saving objective doesn't affect using PLS for saving.

Experience in banking service has weak effect on intention to use PLS for saving decision. The probability of considering PLS for saving decision increases for experienced customers with the banking services. But this association is not statistically significant. The probability of intention to use PLS for saving decision by customers that were using the banking service for more than three years is 25.7% higher than customers that have the banking experience for less than a year. But this probability is significant at 10% significance level. Therefore, hypothesis 8 is partially supported that there is weak and higher probability of considering PLS for saving decision.

There is not significant variation of probability of considering PLS for saving decision due to prior experience of customers from PLS of previous periods. The association is negative but it not significant. There is weak negative effect of experience from previous period PLS on probability of using PLS. The probability of currently considering PLS for saving decision decreases by 9.9% for customers that were considering the promotion during the previous PLS promotions. Therefore, hypothesis 9 is not supported.

The effect of PLS of other bank is significant and positive at 1% significance level. The estimation result shows that the probability of using PLS of CBE for saving decision is 20.5% higher for customers that use PLS of other banks. This indicates that PLS of CBE is more competitive than PLS of other banks. Based on this finding, hypothesis 10 is supported. This finding suggests in addition to superior prize included in PLS of CBE, PLS of other banks became source of experience for PLS of CBE. This finding supports (Engen, Gale and Scholz, 2016).

#### **4.4.4 Product Related Factors**

The quality of the product is indicated by affordability, social compliance and emotional affect. Except affordability, other quality indicators are significantly related with probability of considering PLS for saving purposes. Although it was indicated that the qualification for PLS prizes is affordable, there is very small variation of probability between the customers that perceive PLS as affordable and unaffordable. Therefore, hypothesis 11 is not supported suggesting that the affordability feature of the PLS is not causing saving.

Other two features of the promotion are significant at significance level of 1% suggesting that socially compliant feature of the promotion and attractiveness of prizes included with the promotion are strongly affecting intention to use PLS for saving decision. Their association with the PLS is positive that implies probability of considering PLS for saving decision is higher for customers that perceive the promotion strategy as socially acceptable and customers that are attracted by prizes included in the promotion tool. Specifically, the probability of intention to consider PLS for saving decision increases by 20.7% for customers that perceive the promotion strategy as socially acceptable and the probability increases by 21.6% for customers that are attracted by prizes included in the promotion strategy. Based on these findings, hypothesis 12 and hypothesis 13 are supported. These findings are according to Guillen. and Tschoegl, (2002) and earney, Tufano, Guryan, and Hurst (2011).

Finally, this study has controlled effect of beginning deposit on intention of using PLS that customers with higher deposit are less sensitive to the strategy than customers with lower deposit. The effect of this variable is not statistically significant suggesting that intention to use PLS does not vary based deposit of the customer.

#### **4.4.5 Effect of PLS on Deposit Growth**

As shown in Table 4.7 above, prize linked saving promotion has positive and significant effect on deposit growth of customers. It is statistically significant at 5% significance level. The coefficient of PLS is 0.4 that suggests 1% of increase of probability of considering PLS for saving decision results 0.4% increase of deposit growth of customers. This finding indicates that PLS is good strategy to increase customers deposit

that ultimately results positive effect on performance of the bank. The bank is mobilizing additional deposit from its customers through PLS promotion. Customers are improving their saving practices because they are attracted by the prize linked saving promotion strategy and retaining their existing deposit. Therefore, hypothesis 13 is supported.

Save to Win is the largest PLS program in America, which offers its product through 63 credit unions in 6 states. In their 2015 report the D2D fund reported that about 57% of surveyed new accountholders identified as non-savers. Gertler and Higgins (2017) conducted field experiment on the long-term effects of PLS in Mexico. Their finding shows that temporary incentives created long-term changes in savings behavior for a substantial portion of those induced to open accounts by the lottery incentives.

Introduction of PLS indeed increases total savings quite dramatically (on average by 12 percentage points), and that the demand for the PLS account comes from reductions in lottery expenditures as well as current consumption. Hence PLS leads to genuinely new savings, and even generates new savers. They further show that these results are stronger among participants with the lowest levels of savings and income, who are targeted by savings policies. Similar to this is non-savers are 70% more likely than savers to show interest in prize-linked savings (Tufano et al. 2011); Atalay et al. 2013).

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATION**

#### **5.1 Summary of Major Findings**

This study was conducted to identify factors that affect intention to PLS and its effect on deposit growth of customers of CBE. Based on this main objective, three group of factors that affect intention to PLS were conceptualized. The study has used descriptive statistics and econometric estimation. The major finding of the study includes about demographic and socio-economic characteristics of customers; banking practice of the customers; and product features that affect intention to PLS and effect of intention to PLS on deposit growth of the customers. Decisions are made based on estimation results and supported by descriptive results.

The first major finding of this study is demographic and socio-economic factors of the customers significantly affect intention to PLS. Among the demographic and socio-economic factors included in the study, sex, education, marital status, employment and income are statistically significant. The effect of sex is significant at 1% and intention of male customers to PLS is lower than intention of female customers. In addition, the effect of education is significant at 5% and negative. Further, effect of employment is significant at 5% and positive that implies employed customers are more interested to unemployed customers. Furthermore, income is negatively related and it is significant at 1% that suggests customers at higher income level are less interested to PLS than customers with lower income.

Among the banking practice related factors, effect of PLS of other bank is positive and significant at 1% significance level. However, other banking related factors such as saving objective, banking experience, and prior experience to PLS of CBE are not statistically significant.

The effects of three features (affordability, social compliance and emotional affect) of PLS on intention to use the PLS were examined. Social compliance and emotional affect

were significant at 1% and their coefficients are positive. But effect of affordability is not significant.

The effect of PLS is positive ( $\beta = 0.4$ ) and significant at 5% that indicates 1% increase probability of considering PLS for saving decision results on 0.4% increase in deposit. As a result, it was indicated that PLS increases deposit of customers, hence, increase in saving culture.

## **5.2 Conclusion**

Customers of CBE are providing low interest to PLS promotion strategy that is intended to increase saving practice and to increase amount of deposit of customers. Even from the eligible customers, majority of them have no interest to consider for their saving decision. Instead, they are following conventional practice of saving. The interest variation is characterized by demographic and socio-economic characteristics of the customers. Relatively, females are more attracted by the PLS than males and it also varies based on age and marital status of the customers. Customers with lower income are more attracted than customers with higher income by the PLS.

The product is characterized by superior quality when compared with the same product provided by other banks in the banking industry in Ethiopia. But the interest of customers has decreased from previous period. The product is indicated as quality that it is affordable, socially acceptable and the prizes included in promotion are attractive.

Intention to consider PLS for saving decision is affected by demographic and socio-economic characteristics of customers, and the feature of the product. Intention for PLS is affected based on sex of the customers where males are less attracted by the promotion than females. In addition, the interest is lower at higher education level and married customers are less interested to unmarried customers. Further, the promotion strategy attracted customers at lower income. Furthermore, social compliance and emotional affect features attracted customers to consider PLS while saving. The bank is providing superior product when compared to other banks that the customers preferred PLS of CBE and rated higher or equal quality of the product when compared with other banks.

The PLS launching has improved saving practice of the customers and resulted on deposit growth of the customers in particular and the bank in general. The customers have increased their deposit because of attractive prizes included within the promotion.

### **5.3 Recommendations**

Based on the conclusion drawn, following suggestions are provided for management of the bank to improve saving culture of the society and increase deposit of the bank.

It is recommended to provide information about the PLS and its importance for its customers. The prizes included within the promotion must be inclusive based on gender, education, and age of its customers.

Because of its significant role for deposit growth and improvement in saving culture, management of the bank is suggested to make the prize included in the PLS highly attractive.

Further, competitiveness of the product with PLS of other banks must be improved as significant number of customers of the bank are using PLS of other banks. This is because the product that can be source of competitive advantage to attract new customers and retain the existing customer, thus, results on improvement in deposit.

### **5.4 Limitations and Suggestions to Further Studies**

This study is conducted by using customers only in Addis Ababa although the PLS is provided in all branches of the bank throughout the country. For the further generalization, further studies are recommended to include customers out of Addis Ababa, especially, customers at rural area that PLS of CBE mainly targets to improve saving practices.

This study is conducted by following cross-sectional survey instead of using panel data because of lack of data. For vigorous findings, further studies are suggested to follow panel data methodologies that efficiently shows deposit growth.

Further, this study suggests to conduct advanced studies by applying sophisticated models as PLS has supportive role for improvement of saving.



Finally, this study has faced challenge of lack of well-developed theories about PLS despite its role to a bank, society and the country. Therefore, further studies are suggested to develop inclusive theories for efficient analysis of effect of demand for PLS and its effect on deposit of bank in general and deposit of customers in particular.

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## **Appendices**

### **A1: Questionnaire**

I am Postgraduate student at St. Mary University. As partial fulfillment of Masters in General Business Administration, I am conducting a research study on “Impact of Prize Linked Saving Promotion on Deposit Growth: A Case of Commercial Bank of Ethiopia”

Therefore, I would appreciate if you could spare a few minutes of your time to answer the following questions. All the information provided will be purely used for academic purposes and your identity will be treated with utmost confidentiality.

Your assistance will be highly appreciated and thank you in advance.

Yours faithfully,

Fikrte Moltote

## Part I: General Information of Respondents

1. Gender

- Male
- Female

2. Age

- 18 up to 30
- 31 up to 45
- 46 up to 60
- Above 60

3. Education level:

- Primary Schools
- Secondary Schools
- TVET/Diploma
- Bachelor's Degree
- Master Degree and above

4. Monthly income

\_\_\_\_\_

5. Employment

- Unemployed
- Employed
- Own Business

6. Marital Status

- Single
- Married

7. Which type of saving account did you open (you can have more than one answer)?

- Normal Saving
- Women Saving
- Youth/teen youth

- Other
8. What is your purpose of saving?
- earn interest income
  - not to consume currently
  - unconsumed income
  - other
9. For how long have you been using the banking service (in years)?
- Less than one year
  - One year to three
  - More than three
10. Do you know existence, eligibility and benefits of prize linked saving in CBE (awareness)?
- No
  - Yes
11. If your response for Question No. 10 is “Yes”, how did you get information?
- Employees of the bank
  - Advertising of the bank
  - Social reference
12. It is easy to meet requirement of eligibility of PLS, especially minimum deposit and prohibition of withdrawal (affordability).
- No
  - Yes
13. PLS complies my beliefs (Social Compliance).
- No
  - Yes
14. Prizes included in PLS are relevant to your interest (Emotional Affect).
- No
  - Yes
15. PLS is attractive because it has no additional cost and it is possible to withdraw the money is needed (cost of using).



- No
- Yes

16. Do you expect additional income, out of your regular income, during the current PLS period (Optimism)?

- No
- Yes

17. Do you use PLS of other banks?

- No
- Yes

18. If your response for Question No. 17 is 'Yes', how do you compare prize of CBE with prize of other banks?

- very low
- low
- similar
- high
- very high

19. Do you save by considering PLS?

- No
- Yes

20. If your response is "Yes", for question No. 19, are you new customer who opened new account for the PLS?

- No
- Yes

21. How much was your saving during a beginning of the current PLS period?

\_\_\_\_\_

22. How much is your current deposit?

\_\_\_\_\_

23. Source of additional deposit required for qualification of PLS

- Transferred from other accounts
- Salary

- Remittances and supports
- Additional income earned
- Transfer from other banks

## Appendix B: Outputs

### Appendix B1: Probit Model

```

Probit regression                               Number of obs   =       325
                                                Wald chi2(22)   =      141.36
                                                Prob > chi2     =       0.0000
Log pseudolikelihood = -103.66437              Pseudo R2      =       0.5372

```

pls	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
sex	-1.314907	.3289416	-4.00	0.000	-1.95962	-.670193
age						
31-40	.2671926	.3694977	0.72	0.470	-.4570097	.9913948
41-50	.1889711	.3003544	0.63	0.529	-.3997128	.7776549
Above 50	.0179007	.514028	0.03	0.972	-.9895756	1.025377
edu						
Secondary Schools	-.675321	.4648629	-1.45	0.146	-1.586435	.2357934
TVET/Diploma	-1.440588	.6514261	-2.21	0.027	-2.71736	-.1638163
Bachelor's Degree	-.8416863	.5081185	-1.66	0.098	-1.83758	.1542076
Masters Degree and Above	-1.197857	.5013329	-2.39	0.017	-2.180452	-.2152629
ms	-.7459451	.326052	-2.29	0.022	-1.384995	-.1068949
emp						
Employed	.8269276	.3409927	2.43	0.015	.1585941	1.495261
Self-Employed	1.074261	.4272964	2.51	0.012	.236775	1.911746
svobj						
not to consume curretly	-.0416433	.3400028	-0.12	0.903	-.7080365	.6247499
unconsumed	.1466164	.3603023	0.41	0.684	-.5595632	.852796
expr						
1-3 years	.8336277	.7837016	1.06	0.287	-.7023992	2.369655
Above 3 years	1.385955	.7636174	1.81	0.070	-.1107079	2.882617
aff	.0914074	.2910456	0.31	0.753	-.4790316	.6618464
sc	1.16362	.3564218	3.26	0.001	.4650464	1.862194
ea	1.21452	.3605186	3.37	0.001	.5079168	1.921124
opsm	-.5571128	.3593204	-1.55	0.121	-1.261368	.1471422
plsob	1.15455	.4109408	2.81	0.005	.3491206	1.959979
lninc	-.7209175	.1745181	-4.13	0.000	-1.062967	-.3788683
lnbd	-.0823748	.1161725	-0.71	0.478	-.3100688	.1453192
_cons	5.727351	2.3379	2.45	0.014	1.145152	10.30955

## Appendix B2: Linear Regression

Linear regression

Number of obs = 325  
 F(18, 306) = 5.24  
 Prob > F = 0.0000  
 R-squared = 0.2393  
 Root MSE = .78689

lngd	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
PLS	.3997766	.1928231	2.07	0.039	.0203497	.7792035
sex	-.1773689	.1501491	-1.18	0.238	-.4728242	.1180864
age						
31-40	.4414844	.1560989	2.83	0.005	.1343212	.7486476
41-50	.00394	.1294368	0.03	0.976	-.2507588	.2586388
Above 50	.2118796	.2112126	1.00	0.317	-.2037332	.6274924
edu						
Secondary Schools	.0234377	.1946111	0.12	0.904	-.3595077	.4063831
TVET/Diploma	-.3100027	.2393859	-1.29	0.196	-.7810535	.1610482
Bachelor's Degree	-.178236	.1952811	-0.91	0.362	-.5624998	.2060278
Masters Degree and Above	-.0303092	.1934584	-0.16	0.876	-.4109864	.350368
ms	.0947315	.1227876	0.77	0.441	-.1468834	.3363464
emp						
Employed	.3185066	.1148512	2.77	0.006	.0925085	.5445048
Self-Employed	.9873336	.2376759	4.15	0.000	.5196476	1.455019
svobj						
not to consume curretly	-.1724048	.1230819	-1.40	0.162	-.4145989	.0697892
unconsumed	-.1153051	.123464	-0.93	0.351	-.3582508	.1276407
expr						
1-3 years	.3054738	.1852223	1.65	0.100	-.0589967	.6699444
Above 3 years	.3171706	.173581	1.83	0.069	-.0243928	.6587341
opsm	-.1672125	.1127006	-1.48	0.139	-.3889788	.0545537
lninc	.1644344	.0905806	1.82	0.070	-.0138052	.3426741
_cons	6.245496	.9616118	6.49	0.000	4.353288	8.137705

## Appendix C: Assumption Tests

### Appendix C1: Link Test: Probit Model

```

Probit regression                               Number of obs   =       325
                                                LR chi2(2)      =       243.07
                                                Prob > chi2     =       0.0000
Log likelihood = -102.4398                    Pseudo R2      =       0.5426
    
```

pls	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
_hat	1.054932	.0983782	10.72	0.000	.8621145 1.24775
_hatsq	.1109102	.0640584	1.73	0.083	-.014642 .2364625
_cons	-.1381586	.1285667	-1.07	0.283	-.3901447 .1138276

### Appendix C2: Link Test: Linear Regression

Source	SS	df	MS	Number of obs =	325
Model	59.6125694	2	29.8062847	F(2, 322) =	50.65
Residual	189.472739	322	.588424656	Prob > F =	0.0000
Total	249.085309	324	.768781817	R-squared =	0.2393
				Adj R-squared =	0.2346
				Root MSE =	.76709

lngd	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
_hat	1.094046	3.103844	0.35	0.725	-5.012329 7.20042
_hatsq	-.0055145	.1819062	-0.03	0.976	-.3633892 .3523601
_cons	-.3998804	13.2172	-0.03	0.976	-26.40285 25.60308

### Appendix C3: Multicollinearity Test: Linear Regression

Variable	VIF	1/VIF
PLS	3.20	0.312583
sex	2.39	0.418334
age		
2	2.88	0.347592
3	2.05	0.487914
4	2.87	0.348374
edu		
2	2.66	0.375627
3	4.65	0.214874
4	4.89	0.204656
5	4.32	0.231616
ms	1.98	0.504414
emp		
2	1.87	0.534561
3	2.74	0.364572
svobj		
2	2.55	0.392197
3	2.26	0.441752
expr		
2	5.01	0.199703
3	5.05	0.197930
opsm	1.81	0.551850
lninc	1.32	0.760195
Mean VIF	3.03	