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HOW BARCLAYCARD PORTUGAL CAN ACTIVATE AND ENGAGE CUSTOMERS

INÊS FILIPA PRAZERES DO ROSÁRIO

#1013

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# How Barclaycard Portugal Can Activate and Engage Customers

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**Abstract**

Barclaycard has experienced a drop in the unblock rates of the two credit cards it introduced in the market in mid-2015. Our analysis identifies the major driver for such decline to be the increase of the relative sales volume of these cards in the least effective acquisition channels, whereby misleading incentives lead to the selection of undesired customers and engagement opportunities are being disregarded. A restructuring of the incentives for both customers and salespeople, and an improved interaction with customers along their life-cycle are hence suggested, aiming at improving unblock rates, as well as card usage.

**Keywords:** Credit cards, Unblock rate, Activation rate

## I. Brief Context

### a. Client

Barclaycard is Barclays' credit cards business and was established in the UK in 1966, launching the country's first credit card. From that moment onwards, it rapidly tapped into new markets around the world to become one of today's leading payment providers and one of Barclays' main profitable businesses. In 2015, Barclaycard contributed to 30% of Barclays Group's adjusted Profit Before Tax and registered a 17.7% adjusted return on equity, the highest among Barclays' reporting businesses. (Barclays, 2015)

Since 2004 that Barclaycard is present in Portugal, where Barclays was already operating in the retail banking business. (Barclaycard Portugal, 2016) Since then, it has evolved both organically and inorganically. Particularly, in September 2009, Barclays announced its intention to acquire the credit card business of Citigroup in Portugal. The transaction, completed two months after, translated in the acquisition of approximately 400 thousand credit card accounts which were intended to be rebranded to the international brand Barclaycard.[1]

However, a strategy redefinition in 2015 led Barclays to exit what it has defined as its non-strategic activities around the world, in an effort to reduce costs and improve returns to shareholders. (Barclays, 2015). This turnaround plan was also felt in Portugal where, in that year, Barclays sold its retail banking, and wealth and investment management businesses, among others. If Barclays stated at that time that it remained committed to maintaining its credit cards operations in the Portuguese territory, by the end of April 2016, the international press was reporting Barclays to have agreed to sell the business to Bancopopular-e. According to Reuters, the deal should close by the end of the year.[2]

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[1] http://www.newsroom.barclays.com/r/1631/barclays_to_acquire_citi_s_portugal_credit_card_business (accessed March 10, 2016)

[2] http://uk.reuters.com/article/uk-barclays-spain-idUKKCN0XP0XB (accessed May 1, 2016)

Barclaycard's portfolio worldwide includes both personal – branded and co-branded credit cards - and business solutions – which include commercial cards, payment acceptance and point of sale finance. Its offering, however, is different across locations, with the UK being currently the only country where both business and personal products and services are offered. In Portugal, Barclaycard is only present in the personal credit cards market (Barclaycard, 2016), which is analysed below.

**b. Market Overview**

Before moving forward, the distinction between credit card networks, of which MasterCard and Visa are examples, and credit card issuers, such as Barclaycard, shall be made. Simply put, while credit card networks handle the processing of credit card transactions, credit card issuers are financial institutions that issue the cards to consumers and service their accounts.

At the level of credit card issuers, the market for personal credit cards in Portugal is highly fragmented, with several financial institutions, of which the majority are banks, offering such cards. In 2014, BNP Paribas Personal Finance, under the brand of Cetelem, was the card issuer with the highest number of personal credit cards in circulation and the second highest total value of personal credit card transactions. (See Appendix I for the other top players in the market.) Its predominance was mainly the result of partnerships – i.e. co-branding agreements - with FNAC, IKEA and CTT. (Euromonitor International, 2015)

In what concerns credit card networks, Visa has long been the leader in terms of number of credit cards in circulation and transaction value. In 2014, Visa was the operator of approximately 67% credit cards, followed by Mastercard with a percentage of 30% and American Express with 3%. The gap between Visa and MasterCard, despite significant, has been declining as some retailers, such as IKEA and FNAC, have launched MasterCard backed credit cards. (Euromonitor International, 2015)

In what concerns the evolution of the total number of credit cards in circulation[3], the most recent report from Bank of Portugal on payment methods (Banco de Portugal (2015)) shows that the number of credit cards has increased by 2.8% from 2013 to 2014, surpassing the 6 million cards in that year. Several factors can be identified to have driven the increase in the number of credit cards in circulation in 2014, these being an increase in consumers' confidence, a decrease in interest rates and the rise of e-commerce. Even if data is not yet available for 2015, these same factors are expected to have boosted credit card usage in this year as well. (See Appendix II for a graphical representation of the evolution of these factors.) Nevertheless, in 2014, the number of credit cards still lied well below the almost 14 million debit cards circulating in the country (Banco de Portugal, 2015), showing the preference of Portuguese customers for a means of payment that don't lead them into debt.

## c. Current Client Situation

Barclaycard Portugal[4] has, nowadays, seven branded and co-branded credit cards circulating in the market. The branded cards are five, comprising Classic, Gold and Platinum Travel, which issuance was discontinued by mid-2015, when Flex and Rewards were introduced. Barclaycard's offering in Portugal also includes a co-branded card with AMI, a Portuguese non-governmental organization, and another with CEPSA, the multinational oil company.

Because all of these cards are exempt from annual fees, as well as from commissions on purchases in the European Economic Area (if these are denominated in Euros, Swedish Krona or Romanian Leu), interest paid by customers on their credit cards balances, extra loans or repayment plans constitutes the major bulk of Barclaycard's revenues – more than 80%, according to Barclaycard.

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[3] It is not possible to find official estimates on the number of personal credit cards only.
[4] For simplification purposes, from here onwards I will be referring to Barclaycard Portugal as "Barclaycard" solely.

Interest received is therefore a decisive factor in the company's profitability. And it is determined by multiple variables, particularly the nominal interest rate applied – defined by Barclaycard but still subject to an upper limit imposed by the Bank of Portugal – and factors that the company cannot directly control. The latter are essentially: the number of customers who do use their cards (active customers), the average balance these carry on their cards (this being mainly the result of card usage - both in terms of frequency and transaction amount - and repayment schedules chosen by customers), and the percentage of customers that are able to repay their balance without defaulting (charge-off rate).

The number of active customers can be thought of as the multiplication of three elements, these being: the total number of cards issued (and approved), the percentage of these which have been unblocked[5] by the customer (defined as unblock rate), and the percentage of the approved and unblocked cards which are actively used by its owners (defined as activation rate). (See Appendix III for a comprehensive view on the major factors influencing interest received.) With this being said, I am now in conditions to explain the challenge posed by Barclaycard to my Business Project team.

**d. The Business Project Challenge**

Barclaycard has identified that two of the cards it has on the market since mid-2015 - Barclaycard Flex and Barclaycard Rewards - have been presenting lower unblock rates than the previous cards Classic, Platinum Travel and Gold.

Low unblock rates means that only a small percentage of the total people that signed up for a card decided to take a step further, unblocking it so as to be able to use it.

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[5] Unblocking the card is a necessary step that customers have to take – through a phone call, once they receive the card and PIN code – so as to be able to use it on purchases and other transactions.

With interest received being very intertwined with the number of customers actively using the cards – which are directly impacted by unblock rates - and their usage of them, Barclaycard has presented my Business Project team with the challenge of understanding the reasons behind the lower unblock rates of these cards and finding viable ways of increasing it[6]. Barclaycard has also proposed us studying how to stimulate card usage after unblocking, i.e. how activation rates can be increased.

This Work Project was then built on the basis of the work developed by me and my team in the context of the Business Project, with the collaboration of business representatives, Paula Rodrigues and Paulo de Pinho, and our academic advisor, Professor Luis Martinez.

**II. Reflection on the Work Done and Individual Contribution**

**Problem Definition**

The Business Project challenge introduced above differs from the challenge initially posed by Barclaycard, which related essentially to understanding the behaviour of Portuguese consumers, regarding their spending habits and favourite purchasing methods (cash, debit cards, credit cards, etc.). In the first meetings with the team, however, Barclaycard Portugal suggested a change in the focus of the Business Project, then accepted by the team, to a current challenge the company is facing.

As introduced above, by the end of 2015, Barclaycard Portugal found that the two new cards it had brought to the market in the middle of the year, Barclaycard Flex and Barclaycard Rewards, were showing significantly lower unblock rates than that of the other cards it had on the market. The analysis of the team revealed that, in 2015, while Flex showed an unblock rate of 62.89% and Rewards a rate of 54.37%, Classic, Platinum Travel and Gold registered rates of 87.59%,

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[6] This corresponds to "activating a customer", according to Barclaycard's terminology.

74.83% and 63.06%, respectively.[7] With the unblock rate of Flex not being too far away from that of Gold (also relatively low when compared to Classic or Platinum Travel), we also found that these two cards represented the biggest bulk of the company's card sales in 2015.

Our analysis aimed then at understanding the reasons behind the lower unblock rates of Flex and Rewards, with the ultimate mean of providing recommendations for the improvement of their unblock rates.

**Methodology**

  **i.**  **Hypothesis**

Based on insights obtained from business experts from Barclaycard Portugal and the analysis of internal data, we have developed a set of hypothesis which we considered to be the possible answers for the problem outlined before – i.e. the factors likely to have been causing the comparatively lower unblock rates of Flex and Rewards.

*H1: The features of the new cards are worse than those of the old cards*

The card features of Flex and Rewards might be comparatively worse than those of Classic, Platinum Travel or Gold. Therefore, customers might be dissatisfied with the new cards' features, leading to lower unblock rates.

*H2: The features of the new cards are worse than those offered by competitors*

Competitors might be offering cards with better characteristics than Barclaycard Flex or Rewards, causing the unblock rates of these cards to be lower.

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[7] The dataset used comprises 96,865 customers Barclaycard customers with card approval date in 2015.

*H3: Increase of relative sales volume in the least effective channels*

Based on internal data provided by the company, we have found that unblock rates varied significantly across acquisition channels - i.e. the channels through which Barclaycard acquires customers, comprising internet, telesales, stands at shopping centres and mobile (stands at companies). Internet is the best performing channel in terms of unblock rates (consistently around 98% throughout 2015), followed by telesales (also with a consistent unblock rate of around 80%) and mobile (around 50%). The unblock rate of stands, on the other hand, have registered a drop from approximately 58% in January to 47% in December, with the steepest decline being registered from August onwards. (Graphs IV.1 to IV.2 in Appendix IV illustrate unblock rates across channels in 2015.)

By analysing the distribution across channels of each card's sales, we have concluded that the new cards, Barclaycard Flex and Barclaycard Rewards, were sold mostly through stands, the acquisition channel showing one of the lowest unblock rates. On the other hand, the old cards, Classic and Platinum Travel, show higher unblock rates than Flex or Rewards, but were mostly sold through internet and telesales, the channels consistently showing the highest unblock rates. Therefore, the comparatively lower unblock rates of Flex and Rewards might just be the result of the channels mix through which they are sold.

## ii. Methodology

The development of the project comprised five main steps, outlined below, each of which with different objectives. These are ordered in the same sequence in which they took place, which is not the order that would have been optimal. In particular, the internal data analysis (one of the last steps) was very helpful in our problem definition and hypothesis analysis which, due to Barclaycard's delays in delivering us the dataset, could only be performed in the last month of the project.

During the month of February, we have conducted interviews with the responsible for three of Barclaycard's teams – Operations, Sales and Portfolio. These aimed at obtaining information regarding the activity and concerns of teams closely dealing with the unblocking and activation of customers.

The first interview was with Patrícia Grave, from the Portfolio team, which took place on February 16th. Such meeting was particularly important in presenting us the set of actions taken by Barclaycard during the activation flow, which lasts from the moment a customer's application for a card is approved and the moment he uses it for the first time. These actions aim at leading the customer to use his card for the first time after he receives it. Further insights were also given on actions taken to promote card usage after the first use and on cards' features.

The representative of the Sales team, Fernanda Pereira, was the second to be interviewed, on February 17th. Particularly relevant in this meeting were the explanations on the different channels through which a customer may be acquired and their relative importance. Being the acquisition process outsourced to third parties, Fernanda also provided us with explanations of how Barclaycard ensures their control.

The last business expert interview was with Alexandra Domingos from the Operations team, who focused on the acquisition flow - i.e. the phase that precedes the activation flow and which lasts from the moment a customer fills the application for a card and the moment in which the application is approved – and the recent efforts aimed at improving it. Alexandra also revealed that two main outsourced parties are responsible for this flow and elaborated on their role in it.

*Online customer survey*

Based on the information collected in the meetings, we were able to identify six distinct customer groups, differing on their stage on the customer life-cycle and degree of activation.

In order to understand the motivations and reasons for customers of each group for using or not using Barclaycard's card, as well as their degree of satisfaction with the interaction with the company, we have set up an online customer survey. Four versions of this survey were developed and sent out to customers of the six customer groups. The necessity of developing different versions arose from the fact that, depending on a particular group's stage on the customer life-cycle, some questions made particular sense being done while others were not applicable.

However, out of the 17,000 invitations to complete the survey sent out by Barclaycard, only 174 complete answers across the six customer groups were obtained, which severely impacted our ability to draw generalizations from the answers. Thus, the surveys' results were mostly used to exemplify specific arguments made.

*Competitor benchmarking*

In order to understand if the features offered by Barclaycard distinguish it from the remaining companies in the market in a positive or negative manner - thus, testing if such features can be a driver for the lower unblock rates of these cards - we have benchmarked Barclaycard's offer against that of its competitors

For that, we have analysed all the branded cards offered by the major card issuers, based on the number of cards in circulation in 2014, according to Euromonitor International (2015). Therefore, Barclaycard Flex and Barclaycard Reward's features were compared to that of 38 other branded cards available in the market.

*Internal data analysis*

This stage consisted on the analysis of internal data on process times, which allowed us to study how unblock rates differ across channels and cards and what their evolution has been throughout 2015.

*Extensive analysis and synthesis*

This was the last step in our methodology, based on the key findings from the previous phases. We here looked at the differences between channels that cause different unblock rates among them. Based on that analysis, we have built recommendations for Barclaycard.

**iii.    Analysis**

The main findings of the analysis for each hypothesis is presented below.

*H1: The features of the new cards are worse than those of the old cards*

We have compared the characteristics of the new cards, Barclaycard Flex and Barclaycard Rewards, to those of Classic, Platinum Travel and Gold. We found them to be very similar in the benefits offered (discounts on several Barclaycard's partners, insurance pack attached to the card, contactless technology) and in terms of costs (no annual fees, no charges on purchases inside the European Economic Area, cashbacks charged at the same rate). The only difference identified across cards were the existence of a rewards system in Platinum Travel and Rewards but not in the remaining cards. Also, while Classic and Flex showed a difference of almost 25 percentage points in unblock rates, Classic's features were shown to be actually very similar to those of Flex, with Classic, however, not offering free travel assistance. Given this, we have concluded that the features of Flex and Rewards are not inferior to those of the legacy cards and cannot, therefore, explain their lower unblock rates.

*H2: The features of the new cards are worse than those offered by competitors*

We have also put the features of Flex and Rewards against those offered by competing card issuers. We found Barclaycard's cards to offer a mix of advantages not matched by competitors. Namely, of the 38 competitors' branded cards analysed, only 3 other offered a welcome gift. Also, only 12 of them offered no annual fee and 13 do not require customers to change banks.

On the other hand, Flex and Rewards have one of the highest interest rates in the market – both in terms of nominal and effective rate (TAN and TAEG, in Portuguese).

Barclaycard's offer was concluded not to be inferior to the cards offered by competitors. Also, by providing a welcome gift and having no fixed costs (which should incentivize unblocking), the cards' features compared to those of competitors were found not to be at the root of their lower unblock rates.

*H3: Relative sales volume in the different channels*

In order to test the impact of the acquisition channels mix on the unblock rate of the new cards, we have computed the unblock rate per card in each of the channels, as Graph IV.3 on Appendix IV shows. We found that there are not substantial differences in unblock rates between cards in each individual channel. Also, in some of the channels, Flex outperforms the unblock rate of the other cards. On the other hand, the unblock rate of Rewards is consistently lower than the average of each channel.

Furthermore, we have estimated what the unblock rate of each card would be if it was sold through the same channel mix as each of the other cards (Graph IV.4 on Appendix IV). We observed that if all the cards had the same mix, then they would have approximately the same unblock rates. Particularly, if all the cards were sold through the channels mix of Classic, then unblock rates per card would be approximately the same and around 80%. This analysis also showed that Flex mostly outperforms the other cards in each distribution structure (apart from Classic) while Rewards is lagging behind the others cards.

The main takeaways are that the channel through which a card is sold is a factor which has a huge impact on the unblock rate of such card. Flex, if it had the same sales distribution across channels as Classic, could even achieve an unblock rate of 82%. Rewards would still underperform under Classic's distribution, but would still attain an unblock rate of around 75%.

In summary, the lower unlock rates of the new cards, Barclaycard Flex and Rewards, seems to be the result of the fact that these cards have been sold mostly through stands, while Classic and Platinum Travel are sold mostly through internet and telesales, the two acquisition channels which consistently show the highest unlock rates.

In other words, the channel distribution of Flex and Rewards, different to that of Classic or Platinum Travel, explains why the two new cards show relatively lower unlock rates. We also noticed that Gold and Flex share a similar channel mix and, at the same time, a very close unblock rate. On the other hand, cards' features do not seem to have an important influence on unblock rates – Flex and Rewards have, in essence, the same characteristics of the old cards and they combine multiple advantages not matched by the majority of the cards offered by competitors.

Having concluded this, we looked at the differences between the least and most effective channels in terms of unblock rates so as to understand what drives internet and telesales to outperform stands and mobile. We found two key differences:

1. *Real motivation when applying for a card:* In the internet channel, it is the customer that by his own initiative submits his application on Barclaycard's website. Most likely, the customer does so because he has heard about the card, compared it to other alternatives and concluded that he wants one. Therefore, once the application is approved and he receives the card, he is led to unblock it as he wishes to use it. In the telesales channel, the customer is first approached by phone by Barclaycard but then he has some time to think about whether he wants to subscribe to the card or not until signing the application (collected by a person from Barclaycard). Hence, only people who realize, after the call, that they are somehow interested in the card end up signing, who are more prone to then use the card. On the other hand, in the stands or mobile channels, the sale and the signature happen at the same exact

moment, leaving customers with little time to reflect on whether they wish to use the card in the future. In fact, the salespeople are remunerated based on the number of cards they are able to sell which are approved, having an incentive to convince anyone to create a card, even if they do not intend to use it. The fact that Barclaycard's cards are free of fixed costs nor require customers to change to a different bank might just be an easy argument for a salesperson to convince someone not truly interested in the card.[8]  Such person, despite signing the application, will most likely not unblock the card as she does not mean to use it.

2. *Touchpoints and involvement in the acquisition flow*: The internet and telesales channels involve additional touchpoints with the customer as compared to the other two channels, stands and mobile. In fact, in the offline channels – i.e. stands and mobile – the contact between Barclaycard and the customer practically breaks once the sale is completed at the sales point (the stand). The interaction with the company only happens when Barclaycard sends an SMS which confirms the approval of the card and when the PIN and card are received by post (9 workdays on average after the sale). Therefore, the customer is not invested in the process and has a passive attitude, not having the incentive for learning more about Barclaycard or getting enthusiastic about it. On the other hand, when the customer submits his application through internet or is acquired through the telesales channel, the prospective customer still has to take certain actions before receiving the card. Namely, he has to arrange a meeting with a person from Barclaycard who shall collect the prospective customer's signature, keeping him personally more involved with the brand.

We have also found differences in terms of engagement across channels at the stage following the acquisition. For concreteness, people acquired through internet and telesales are more likely to access Barclaycard Online and allow Barclaycard to send them promotions by email, which

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[8] The customers surveyed revealed that their top reasons to have created a Barclaycard card were the absence of fixed costs (no annual fee) and not requiring to change bank.

keeps customers engaged and encourages use. On the other hand, customers who have been acquired through stands or mobile mostly receive direct mail together with their monthly invoice. These are therefore generally less informed about Barclaycard's promotional offers and less connected with the company.

**Recommendations to the Company**

Tackling the two key differences in the online (internet and telesales) versus offline (stands and mobile) channels highlighted above, we have provided Barclaycard recommendations on actions envisaging the improvement of unblock rates.

*Real motivation when applying for a card*

We have found that in the offline channels, customers who are not interested in obtaining a credit card may be led to create one. Two factors might play in this: one are persistent salespeople – whose remuneration is based solely on card approval and not card unblock or usage and who are therefore incentivized to collect as many signed applications as possible; the other is that Barclaycard cards are free of fixed costs and do not require customers to change to a different bank. These two factors combined lead several people who do not intend to own and use a credit card to create one, which drives unblock rates down.

We have therefore proposed that the commissions received by salespeople based on card approval was divided in two parts: one that continues to be solely dependent on card approval and the rest to be dependent on the unblock rates of the cards they are able to sell. By penalizing or rewarding salespeople based on the unblock rate they achieve compared to the average of the channel, our remuneration scheme provides incentives for salespeople for only selling cards to customers who are at least slightly interested in owning and using a card and who will, most likely, unblock it. We have thus argued that, by changing salespeople incentives, customer negative selection shall be reduced and unblock rates improved.

Furthermore, in order to prevent customers from subscribing to the card simply driven by the fact that it is free, with no intention of using it, we have suggested that an "artificial barrier" was imposed. This might assume the form of an annual fee of a symbolic value, which would be levied with card usage, or as a penalty fee paid by customers not using the cards after 24 months. Both aim at improving unblock rates by preventing that customers not truly interested in obtaining a credit card end up doing it due to the wrong incentives.

*Touchpoints and involvement in the acquisition flow*

Given the few touchpoints of the customers acquired through the offline channels with the brand, we have recommended the introduction of an additional step that the customer can take while waiting for his card to arrive. We suggested Barclaycard to provide the customer with login credentials to an "application tracking system", though which the customer can know the stage at which his application is, as well as get acquainted to the brand and the product, and obtain additional information of where and how to use the card.

After providing recommendations for the improvement of unblock rates, extra ideas were given so as to incentivize card usage by people who already have their card unblocked, i.e. to increase activation rates. This is important because unless a customer uses the card after unblocking it, he will never bring Barclaycard any revenues.

Namely, we have provided specific suggestions for initiatives relating to Flex and Rewards. Regarding the first, we have suggested the introduction of an online tool (mobile app, for instance) with updated information regarding their spending with the card, so as to help these customers keeping control of their personal finance and incentivize the use of Barclaycard. As for Rewards owners, we believe that informing them frequently regarding the points they have collected so far and how many they are missing to be able to receive a particular offer is bound to lead customers to use the card more frequently.

We also believe that card usage might be enhanced by increasing the ongoing engagement of the brand with customers. For that, we have suggested marketing campaigns which, by requiring customers' interaction, not only increase their connection with the brand but creates word of mouth as well, concretely in social media.

**Concerns**

The analysis and recommendations provided assume that Barclaycard will continue operating as it has been doing, disregarding the future sale of the business which has been officially announced by Barclays by the end of April 2016.

However, implementing changes at a time when the business is to be sold might be more difficult as business people might be more occupied preparing for the deal. Furthermore, there is the possibility that once the sale is completed, the card accounts which are currently part of Barclaycard's credit card portfolio will be transferred to that of Bancopopular-e, being rebranded under the brand of the latter. In such case, some of the suggestions that we made in the project might not be applicable. Still I believe that our findings may alert both parties for some problems affecting unblock rates, while suggesting valuable suggestions to improve those as well as activation rates.

**Individual Contribution**

Now that a brief summary of the analysis and conclusions has been presented, in this section I describe what my contribution to the development of the Business Project has been, which culminated with the elaboration of the final report.

My very first contribution to the latter has been the introductory analysis of Barclaycard as a Barclays' business unit, worldwide and in Portugal, as well as the analysis of the credit card market in Portugal.

Being the only Portuguese in my Business Project team, I suggested from the start being responsible for the tasks in which I could have a "competitive advantage" in comparison to my colleagues due to the language barrier.

Particularly, I have played a major role in the development of the customer surveys, being responsible for the translation, collection of the results and their analysis. Indeed, the questions included were built and discussed in group but then had to be translated to Portuguese, as the surveys were to be applied to customers in Portugal. I was then in charge of the collection of the results, compilation and their translation back to English. I then did most of their analysis, with the help of another element of the group.

Furthermore, I was responsible for the analysis of competitors' offers. This has been developed using mainly the information available on their websites – only available in Portuguese – and by reaching those companies by phone or through the online chats they make available– again, in Portuguese. Therefore, having me doing such analysis proved more efficient given the data sources and time constraints we were subject to.

I have also actively collaborated in several other parts of the report and on building recommendations, based on the findings obtained in the analysis I did, described above. Apart from these tasks, I have been present in all the group meetings and those with the Barclaycard's representatives, compiling the notes taken by the several elements of the group.

## III. Academic Discussion

### a. Possible Links with MSc Field

The challenge posed by the Business Project aimed at understanding the reasons behind the lower unblock rates of Barclaycard's credit cards, Barclaycard Rewards and Barclaycard Flex,

and find ways for their improvement. With interest received representing more than 80% of total Barclaycard's revenues in Portugal, the number of active customers and their usage of the cards was argued to be very intertwined with the company's bottom line.

Understanding how card usage and other factors may impact the profitability and valuation of a bank's credit card business seems to me particularly relevant at a time when the international press has been announcing developments in the sale of the operations of Barclaycard in Portugal. Namely, the Spanish Bancopopular-e has recently been announced to be the buyer of the Iberian operations of Barclaycard. Despite not revealing concrete numbers on the deal, Barclays has so far said that the business will be sold "at a small premium to gross receivables".[9]

This section hence looks at methodologies suggested by literature for the calculation of the selling price of a credit card business and which factors most influence it, being structured as follows: firstly, I give an overview of the general valuation models and their applicability to credit cards businesses; then, I look in more detail at existent literature focusing on the valuation of credit card portfolios; finally, I look at the variables that have been reported to most influence the selling price and the implied premium on a credit card portfolio sale.

**b. Relevant Theories and Empirical Studies**

Four general approaches to valuation, each of which allowing for several variations, can be identified. These are: income approach, which involves calculating the value of an asset as the present value of the expected future cash flows on that asset; asset-based valuation, which makes use of book value estimates; market (or relative) valuation, which uses multiples of comparable assets to derive the value of an asset; and contingent claim valuation, that measure the value of assets through option pricing models.

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[9] http://uk.reuters.com/article/uk-barclays-spain-idUKKCN0XP0XB (accessed May 1, 2016)

Such standard valuation methodologies used to value non-financial companies can also be used in the valuation of banks and of their credit card businesses, with the necessary adjustments. Little attention has been paid by literature to the topic, however. Instead, most of the existing literature on credit cards focused on the competitive structure of the industry and credit card pricing. There is also some research on the valuation of credit card portfolios – a credit card business' pool of credit card accounts and receivables. Because the major part of the value of a credit card business can be though to derive from the value of its credit card portfolio, below I take a look on the existing literature on credit card portfolio valuation.

*Valuing credit card portfolios*

Jarrow. et al. (1998) introduced an arbitrage free model for the valuation of credit card portfolio. They decompose the value of a credit card loan, $C_L(0)$, in two components – the initial credit card loan, represented by $L(0)$, and the net present value of the loan, $V_L(0)$. That is:

$$C_L(0) = L(0) + V_L(0) \tag{1}$$

Hence, whenever $V_L(0) > 0$, a credit card loan is worth the issuing bank more than the value of the receivables. The implication is that a bank selling its credit card portfolio at a given time t should charge the buyer the amount payable to the bank by the cardholders, i.e. the outstanding loan amount $L(t)$, plus the NPV of the credit card loans, $V_L(t)$. The portfolio is then said to trade at a premium of $p$, $p = \frac{V_L(t)}{L(t)}$.

Based on Jarrow and van Deventer's model, Chatterjea et al. (2003) estimated that $1.00 in a credit card loan is worth approximately $1.25 to the issuer, a premium of 25%. They also found this to be consistent with the percentage premiums obtained in previous sales of credit card portfolios.

Martien (2002) distinguishes between three valuation techniques that he advocates should be used together to determine the value of a credit card portfolio. The first, implied valuation of

public companies, involves calculating the difference between the market and book value of equity (plus the loan loss reserve) of comparable credit card issuers, expressed as a percentage of the managed assets. The second, comparable portfolio sales transaction, involves looking at the premia at which credit card portfolios have been sold. These first two methods can, thus, be categorized as market or relative valuation approaches. Finally, the third method, denominated portfolio-specific analysis, calculates the value of a portfolio as the present value of the expected future cash flows on that asset (an income based approach). However, no particular method for the NPV calculation is recommended.

The importance that should be given to each technique, Martien (2002) argues, depends on the portfolio under analysis and the degree of availability of the necessary information. In fact, the first two methods rely on the existence of comparable companies or transactions which information is known. In today's reality, however, the majority (if not all) of the credit card businesses are not trading alone on the stock market as they are now part of big multi-business banks, which makes the first approach not very useful these days.

Hussain (2007) presents a model for the calculation of the value of a credit card portfolio which allows for an understanding of the main variables that influence the valuation of a credit card portfolio. This is because Hussain (2007) divides the NPV of a bank credit card portfolio as the sum of five components (all discounted to the present through the cost of capital to the bank): fees charged on the cards, the loss related to transactor customers[10], the interest payments on credit card balances by revolver customers[11], cards' operating expenses and default costs, and merchant fees. The value of the credit card portfolio can then be obtained by adding the NPV of the cards to the outstanding balance on all credit cards. On the other hand, the multiple

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[10] Transactor customers are those that pay their entire balance within the grace period and, therefore, do not pay any interest on their cards as they never carry a balance. Therefore, such customers use the bank's capital to postpone the payment of their personal purchases, therefore creating a loss for the bank.
[11] Revolvers are said to be the customers that carry a balance on their card and which, therefore, pay interest on it.

variables included in Hussain (2007) reflect the complexity associated with valuing a credit card portfolio. (See Appendix V for the NPV formula in Hussain's model.)

Koller, et al. (2010), instead of suggesting a method for the valuation of a credit card portfolio, defend that a bank's credit card business should be done using a discounted cash flow approach (i.e. an income approach). Also, as it is not possible to value operations separately from interest income and expense due to the nature of a credit card business, Koller, et al. (2010) recommend the use of equity DCF method, whereby the future cash flows to equity (the numerator of equation (2)) are discounted at the bank's cost of equity. The equity value of a credit card business can then be calculated as:

$$V_e = \sum_{t=1}^{\infty} \frac{NI_t - \Delta E_t + OCI_t}{(1+k_e)^t} \qquad (2)$$

Where $NI_t$ represents the net income at time t, $\Delta E_t$ the increase in the book value of equity, $OCI_t$ other comprehensive income, $k_e$ the cost of equity capital. This method allows therefore to directly calculate the equity value of a credit card business.

*Credit cards portfolio value drivers*

Hussain's (2007) model helps identifying the factors that might create value in a credit card portfolio. These include fees charged, the total number of cards in the portfolio, the balance on the cards, the interest rate and default rate of customers. His model also differentiates between the impact of different types of customers - transactors and revolvers - on the valuation, thereby showing that the customer mix might be decisive for the value of a portfolio.

Sullivan, et al. (1991) reported that this mix affects significantly the profitability of a credit card portfolio. As transactors do not generate any interest revenues, revolvers are more interesting from an income perspective as, by keeping a balance on their cards, are a source of interest revenues for the bank. On the other hand, Sullivan, et al. (1991) also show that revolved

accounts are associated with higher credit risk and charge-off losses. Thus, revolvers might even be a source of value destruction.[12]

Martien (2002) refers to a study performed by First Annapolis which analysed the impact of several factors on the premium to receivables charged on the sale of a credit card portfolio. The average balance on the cards was concluded to be a consistent value driver, with the value premium increasing by one percentage point for every $250 increase in the average card balance. A two percentage point reduction in the voluntary attrition rate – the ratio of account closures to total accounts - was also found to improve *p* by one percentage point. The study also concludes charge-off rates to be one of the most important determinants of value, estimating a three to four percentage point increase in the premium for each percentage point decrease in charge-off rates. This is because customers' defaults impacts portfolio value in several ways. Two other factors which were concluded to be consistent value drivers are revenue yields and the existence of an ongoing marketing and brand-licensing arrangement.

## c. Implications for Theory and Future Research

As outlined before, the research on credit card portfolio valuation methods is very limited as literature has focused in studying other aspects of credit card businesses. Empirical studies on the impact of value drivers also date from several years ago.

This is surprising given that credit cards are a large and growing sector. With size being also a factor influencing positively the value of a credit card portfolio, Martien (2002), acquiring portfolios of customers has been pursued by several issuers as a source of growth – the acquisition of Barclaycard by Bancopopular-e is in itself an example.

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[12] This example highlights the difference that exists between income and value: value is only created when the company generates cash flows at a rate of return higher than its cost of capital, which reflects the riskiness of its activities. Hence, having too many revolver customers might translate into an increase in not compensated by the potential increased income brought by revolvers, driving the value of the overall portfolio down.

With the valuation of credit cards portfolios (and businesses) requiring attention to the particularities of the industry, there is still room in the literature for research on valuation methods and the main sources of value creation. This might help card issuers understanding value opportunities they are missing.

## IV. Personal Reflection

*Personal experience*

Looking back at the last four months, I feel that my personality traits and work style were well reflected on my individual performance and on the work I developed in collaboration with my Business Project team.

Being a hard worker and perfectionist by nature, I put a lot of effort in all of the tasks I am assigned in order to achieve the best results possible. This Business Project was no exception. I feel that my individual dedication to it was clear, investing long hours in the tasks I was in charge of, while asking the team for feedback so as to improve my contribution to the work.

Even though we were following the milestones agreed in the kick-off meeting with Barclaycard, by the middle of the third month of project (March, 2016), I started feeling that little material work was being developed. We were already working on the questionnaire that was sent out to Barclaycard customers, but we had still not started desk research. At that point I urged my group to get together to discuss concrete next steps for the development of our Business Project report and divide tasks. As a means of facilitating my colleagues' work, I offered to develop the parts that involved mostly the analysis of data in Portuguese.

However, three weeks had passed and two of the elements of the group had done practically nothing. These two same elements, even if they were always present at the weekly group meetings, they kept postponing their assigned tasks. Therefore, I embraced the tasks that these

two people had left pending – the introduction on Barclaycard and the analysis of the credit card market in Portugal – as I could not let this compromise the time management and quality of the work by the end of the project.

The last two paragraphs reflect the fact that I can easily get worried when I feel that discussed (internal) milestones or deadlines are not being met. This is mostly the result of the fact that I am pessimistic very frequently but perfectionist at the same time. If on the one hand these personality traits lead me to strive to have all the work done some time before the deadline, on the other hand it might be irritating for people working with me. This is thus a key point I think I still need to ameliorate.

*Benefit of hindsight*

When we agreed with Barclaycard on the project's milestones, I personally did not have the notion that bureaucracies could consume so much time and delay our group work the way they did. Now that I have been through the experience, I do not hesitate in stating that we should have better analysed and discussed the project's milestones and timing with the company. For instance, by designing the questionnaires in the beginning of March, I personally never imagined that their approval, sending, and the collection of the answers could last until the last week of April.

Looking back, given Barclaycard's delays in providing us with the internal data on customer unblocking and spending – which has been fundamental as a starting point for developing our problem definition and the analysis of hypothesis – and in approving and sending out the questionnaires, I do not feel that we could have done anything different so as to improve the quality of the final output. In fact, as the months passed, we kept remembering Barclaycard of the data we had asked for and as well urged the company to close the questionnaires as soon as possible.

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**Appendices**

**Appendix I – Personal credit card market in Portugal**

Table I.1 - Personal credit card transactions by card issuer (top 5), in 2014

| Card issuer | Transaction value (EUR mn) |
|---|---|
| Banco BNP Paribas Personal Finance SA | 866.6 |
| Banco Comercial Português SA | 860.7 |
| Caixa Geral de Depósitos SA | 723.8 |
| Banco Português de Investimento SA | 617.4 |
| Banco Santander SA | 387.2 |

*Source: Euromonitor*

Graph I.1 - Market share by card issuer based on number of personal credit cards in circulation, in 2014
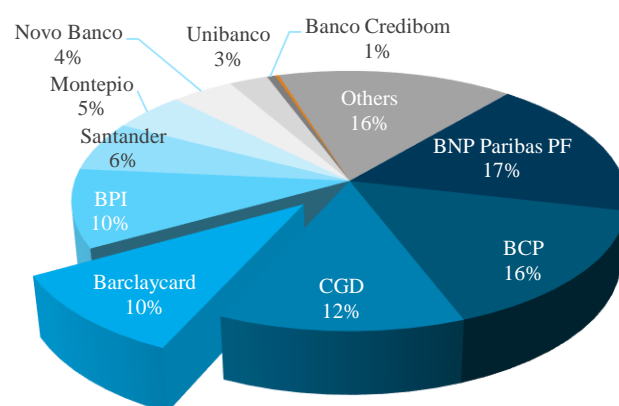


*Source: Euromonitor, Barclaycard, Team Analysis*

Note: The market shares hereby presented were calculated according an approximate number of Barclaycard's cards in circulation in 2015 (obtained from Barclaycard) and to data from Euromonitor's report "Credit Cards in Portugal". The data in the report included the category "Others", which was assumed not to include Barclaycard's data as the approximate number of credit cards in circulation of Barclaycard (500 thousand) represented more than 60% of the number of credit cards issued by that category "Others" in 2014 in that report (779 thousand). Therefore, we assume that Barclaycard was not part of Euromonitor's analysis.
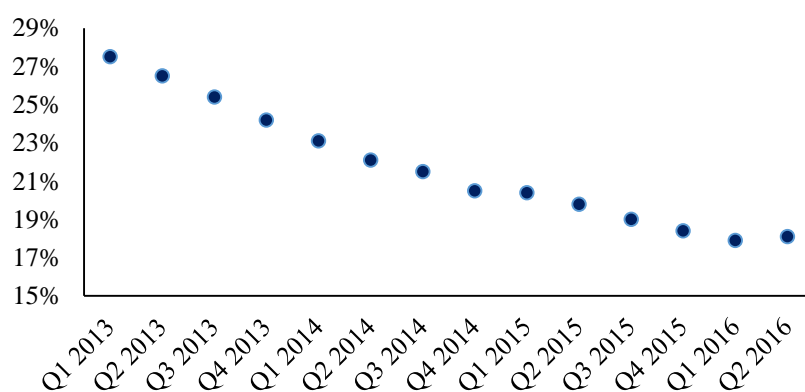
**Appendix II – Factors boosting credit card usage**
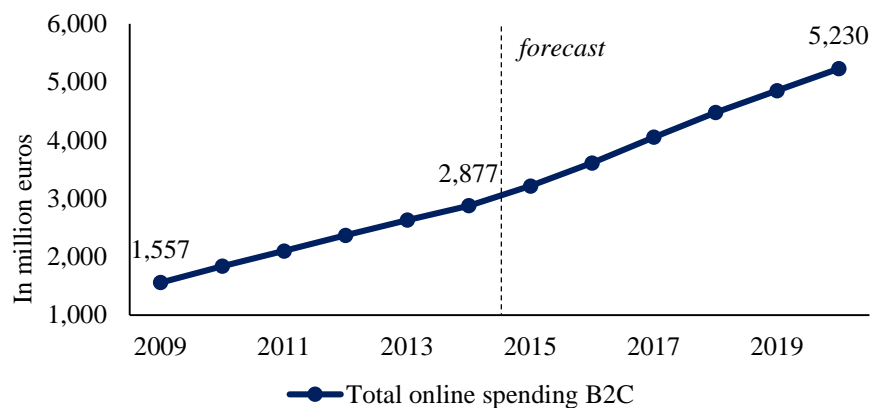
Graph II.1 – Consumer confidence indicator
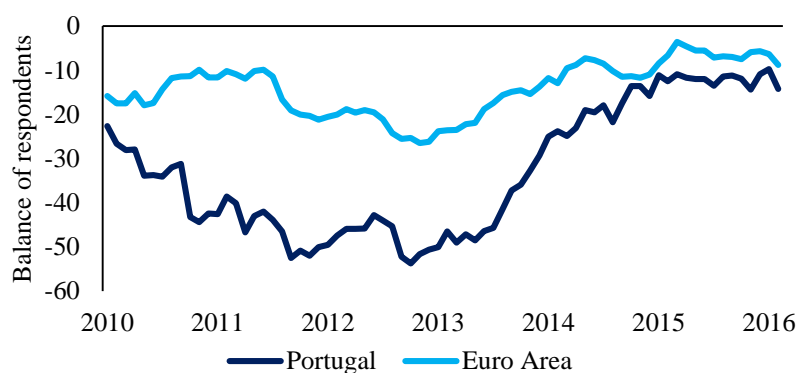


*Source: Banco de Portugal*

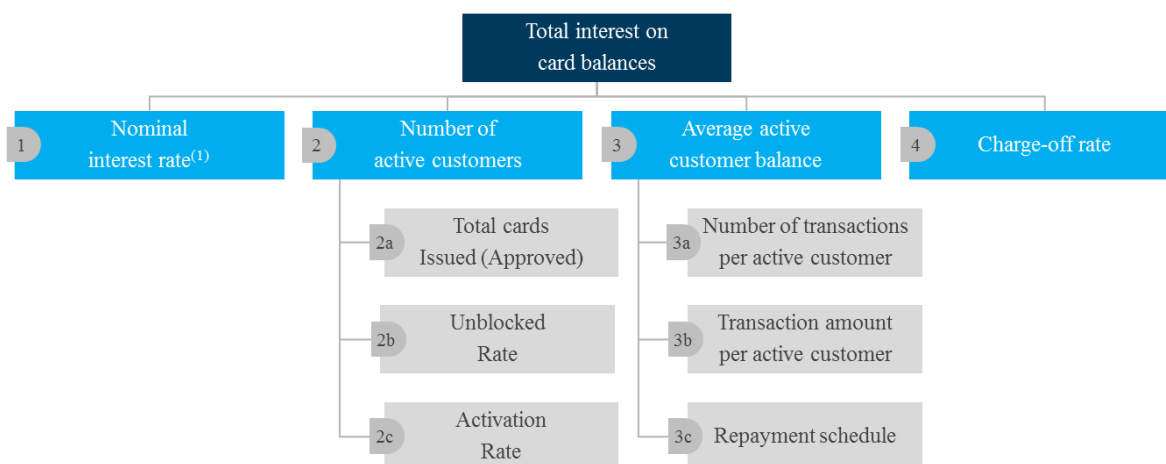Graph II.2 – Maximum TAEG on credit cards allowed by Banco de Portugal



*Source: Banco de Portugal*

Graph II.3 – B2C e-commerce



*Source: ACEPI*

## Appendix III – Factors influencing interest received

**Total interest on card balances**

| 1 Nominal interest rate(1) | 2 Number of active customers | 3 Average active customer balance | 4 Charge-off rate |
|---|---|---|---|

- 2a Total cards Issued (Approved)
- 2b Unblocked Rate
- 2c Activation Rate

- 3a Number of transactions per active customer
- 3b Transaction amount per active customer
- 3c Repayment schedule

## Appendix IV – Unblock rates across cards and channels

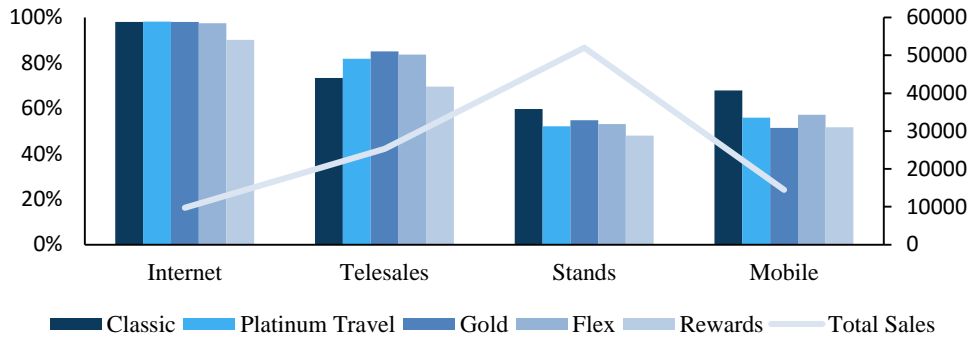### Graph IV.1 – Unblock rate and sales distribution by channel
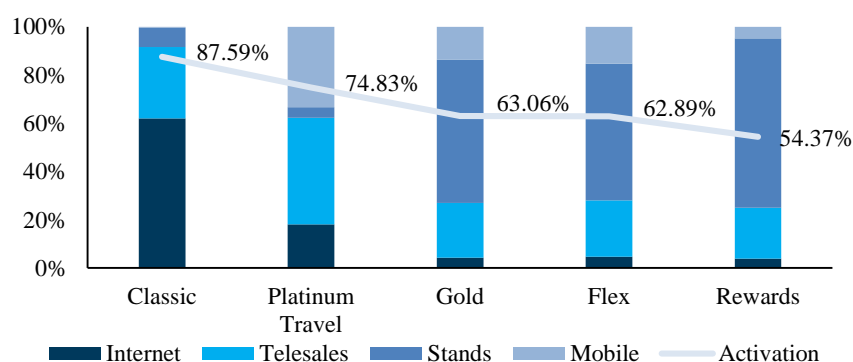


*Source: Internal Data, Team Analysis*

### Graph IV.2 – Unblock rate development by channel (2015)
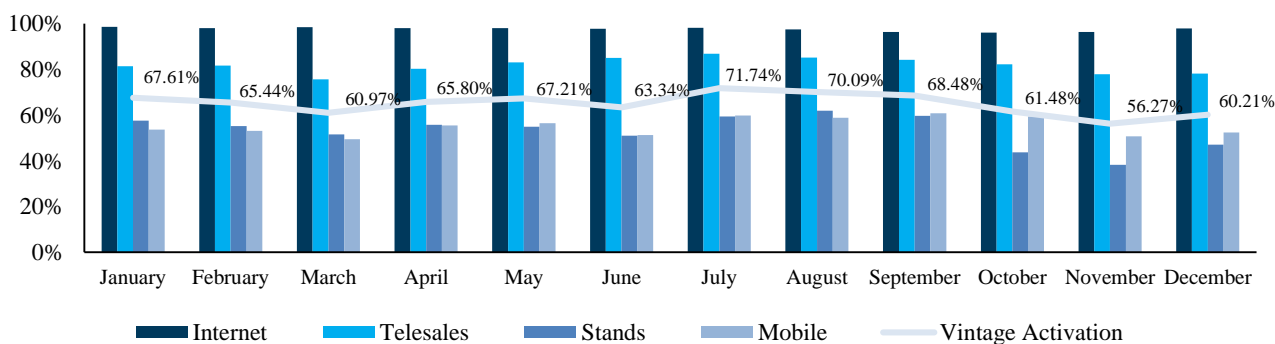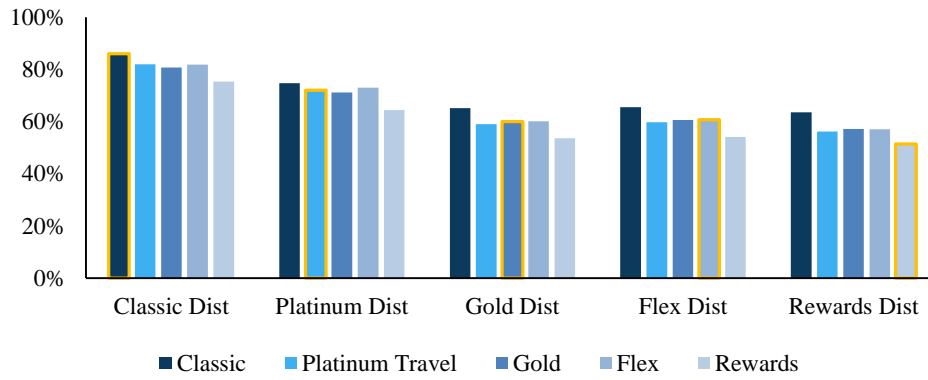


*Source: Internal Data, Team Analysis*

Graph IV.3 – Unblock rate per card in each channel and sales by channel



*Source: Internal Data, Team Analysis*

Graph IV.4 – Unblock rate per card at different acquisition channels distributions



*Source: Internal Data, Team Analysis*

**Appendix V - Hussain's credit card valuation model**

Hussain (2007) has defined a "simple model" in which the NPV of a credit card portfolio can be calculated through the following equation:

$$NPV = \left(\frac{N\alpha}{r} + \frac{N\beta C}{r - g_c}\right) + \left(-\frac{NB}{2} - \frac{12NB\left[1 - (1+r)^{-\frac{G}{365}}\right]}{r - g_B}\right) + \frac{NC(R-r)}{r - g_c} + \left(-\frac{NC(x+d)}{r - g_c}\right) + \frac{12aNS}{r - g_s}$$

$NPV = Fees\ collected + 'Loss'\ with\ transactors + Interest\ paid\ by\ revolvers + Operating\ and\ default\ expenses$
$+ Merchant\ fees$

Where:

$\alpha$ = the constant part of fees

$\beta C$ = the variable part of fees, proportional to revolving balance

$a$ = percentage of the sales received as merchant fees

$B$ = average monthly balance on a transactor card

$C$ = average monthly revolving balance on interest-bearing cards

$d$ = default rate, the percentage of the receivables not received

$F$ = average annual fee charged per card

$G$ = grace period in days

$g_B$ = rate of growth of the transactor balances per year

$g_C$ = rate of growth of the revolving balances per year

$g_F$ = rate of growth of the credit-card fees per year

$g_S$ = rate of growth in the charges, or sales, per year

$N$ = total number of cards issued

$r$ = annual cost of capital to the bank

$R$ = annual rate of interest on the outstanding balance

$S$ = average annual sales charged on each card

$x$ = operating expense ratio