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Improvement of Activation and Customer Engagement at Barclaycard Portugal

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Abstract

This project examines the drivers of card activation at Barclaycard Portugal. The goal is to surface the reasons for declining performance as measured by the key value drivers unblock and activation rates for legacy and new cards, and the development of applicable recommendations to improve the metrics. This has been done by researching the current market situation, surveying customers and an analysis of internal data across different cards and acquisition channels. Through showing the impact of the characteristics of users and acquisition channels, this research highlights the importance of an omni-channel approach that is intended to increase overall customer engagement.

1. Brief context

1.1 Client

Barclays is a UK based bank with global operations that is organized in four core businesses, namely Personal and Corporate Banking, Investment Banking, Africa Banking, and Barclaycard, the credit card business upon which we focus in the project. The company had total revenues of about £5.4 billion in 2015, of which £1.6 billion are accounted to Barclaycard globally (Barclays 2016). Barclaycard was established 1966 in the UK, launched in 2004 in Portugal and was one of the first non-Iberian banks to offer retail, commercial and investment banking products. In Portugal the bank is offering personal credit, but no business solutions, loans or deposits. Barclaycard makes up about 10% of personal credit cards in circulation in Portugal as of 2014 (Euromonitor 2015). Non the less, Barclays has already quit all banking business except Barclaycard in Portugal and is currently in the process of also divesting the Barclaycard credit card portfolio in Portugal and Spain with a sale to Bancopopular-e.

1.2 Market Overview

There has been a large drop in the number of active credit cards in the Portuguese market from 2012, which however can mostly be attributed to a change of Bank of Portugal's definition of debit and credit cards (Banco de Portugal, 2011; 2012; 2014; 2016). From 2013 to 2014, we see the growth of active credit cards exceeding that of debit cards. This is a result of several factors, such as an increase in customer confidence, decreasing interest rates and the ongoing trend towards e-commerce. As is typical for the credit card market, the market is somewhat saturated and customer acquisition is often incentivized by offering welcome gifts or special conditions for a predefined amount of time, which is driving up costs. Further, and universally applicable for the entire banking industry, technology and the internet play an increasing role in differentiation and will demand considerable investments in the foreseeable future.

1.3 Current client situation

Barclaycard Portugal has about 500 000 customers and an annual turnover of €500 million, composed of card based purchases, cash withdrawals and fund transfers (Barclays 2016). This averages a turnover of only €1000 per customer and already hints at a challenge with not only selling cards, but getting the customers to actually use them. Revenues for Barclaycard can be roughly broken down into interest income (about 80%) and income from charges and fees (about 20%). Costs are mostly caused from sales and operation as well as impairment provisions, which is split roughly 50/50. Barclaycard is acquiring customers through four main channels: Stands at shopping malls and public places, mobile teams visiting companies, telesales and through the internet. The company has introduced two new credit cards in 2015, Flex and Rewards, while the legacy cards, Classic, Gold and Platinum Travel, have slowly been phased out. Further, there are several co-branded cards that we did not include in the analysis, since they are sold through different outlets on which Barclaycard has less to no impact.

1.4 The Business Project Challenge

The interest income for Barclaycard is dependent on various factors. The interest rate they can charge and the amount of cards sold affect revenues, but there are more important value drivers such as unblock rate (UR = number of activated cards/total approved cards) and activation rate of those unblocked cards. After all, without unblocking and using the card no revenues are generated, as the cards are free of any annuity and fixed charges. Hence, 1000 card sales with an activation rate of 50% are worth as much as 500 sales with 100%, all else being equal. The Business Project

Challenge consisted of finding the cause for the declining performance as measured by unblock and activation rate, and the development of recommendations for improvement.

2. Reflection on the work done

2.1 Problem definition

Barclaycard has experienced a drop in UR and the consequent usage (AR) of cards ever since the introduction of the new cards. The new cards are performing comparatively worse than the legacy cards Classic, Platinum Travel and Gold. Comparing the rates of the January and December 2015 sales cohorts there has been a decrease of 11% in UR from almost 68% to close to 60%. The sales through stands had particularly worsened towards the end of the year. In defining the problem, we asked the question what has changed with the introduction of the new cards, that is causing the retreat in UR.

2.2 Methodology

In collaboration with Barclaycard we agreed to structure the project by starting with expert interviews with functional experts within Barclaycard to thoroughly understand the business model and role of different teams. Further, we decided to run an online customer survey to learn more about purchase motivations and how they are related to the probability of a customer to use the card; we benchmarked competitors in the Portuguese market to find differentiators and points of parity; we analyzed and segmented internal data to identify the sources of the change in rates; and eventually, we synthesized the findings to formulate comprehensive recommendations that could be backed up with evidence found in the analysis.

Hypothesis

After the initial interviews, we were able to form the hypothesis that then guided us through the rest of the project. There were three hypotheses for which we did not have sufficient data to thoroughly test them. We believe that the performance of stands dropped only temporarily, until the sales representatives were sufficiently trained on the benefits of the new cards. Despite having hard evidence for this assumption, Paulo de Pinto, the Business Advisor, confirms that upon additional training the sales team found it easier to sell the cards. Being able to sell better, thus communicate the value proposition better, will likely lead to a recovery in the rates for the stands channel to historic levels. Second, we believe that the overall customer experience, especially in the offline channels (stands and mobile visits), is lacking engagement opportunities that would translate into higher AR. In today's era of online banking and with the aforementioned e-commerce trend, we see room for improvement.

The other hypotheses were tested against the data and findings in the analysis that follows. First, we assumed that the competitors' offerings were superior to that of Barclaycard, which proved to be false along most dimensions except the charged interest rate. Second, we assumed that the new cards have inferior features compared to the legacy cards, which also turned out to be wrong, since the features are almost identical or even improved. Third, we assumed that the low UR of the new cards Flex and Rewards is mostly due to changes in the relative sales volumes in the acquisition channels and their respective performance. This hypothesis has been proven true per the results of the analysis of Barclaycard's internal user data, which revealed a move of relatively more sales volume to less efficient channels (stands in particular) and away from internet, the most effective channel as measured by UR. Possible reasons for those changes were hypothesized to be (A) sales growth that is mainly driven through aggressive sales in channels where Barclaycard initiates first contact, as opposed to more "organic" growth through e.g. internet; (B) a misleading incentive structure for both customers and sales representatives; and (C) again missing engagement opportunities early in the customer journey.

Analysis

We started the analysis by defining the typical customer life cycle and the involved acquisition as well as activation processes. In the offline channels, Stands and Mobile, the proposal is sent for approval after application and signature of the customer with a sales representative. After entry into the system, the credit worthiness of the client is assessed and he awaits approval. When the approval is confirmed, the client receives an SMS with information about the progress and the card as well as PIN will typically be sent out within the following week. At this point, it is up to the prospective client to unblock the card via a phone call and use the card for a certain volume of purchases within the first two months to be eligible for a welcome gift. The clients receive reminders to unblock and/or use the card for up to 10 months after the initial sign up.

The process for Internet and Telesales differs only in the beginning. It starts with the reception of the application, upon which the signature has to be collected. Once collected, the information is entered into the system and the process is the same as for the others.

We analyzed the internal processes and process times, but found no differences between the channels or cards that would explain different UR. Therefore, we ruled out challenges with internal processes as a reason for the weaker performance of the new cards.

The acquisition and activation for the offline and online (Internet & Telesales) channels does however show considerable differences. Internet and Telesales clients typically unlock their cards far faster then the other clients, again confirming us that we are on the right track by looking at how channel volumes impact overall UR.

A rough initial segmentation of company data revealed that two of the legacy cards with particularly high unblock rates were sold mostly through online channels, while the new cards were indeed mostly sold through the offline channels. Yet, these two legacy cards also had very low total sales. Gold, with the majority of sales and the only legacy card with an UR equal to that of the new cards, shows approximately the same distribution of sales in acquisition channels as the new cards. Thus, all else being equal, it looked like the new cards are not necessarily performing worse then the legacy cards, but exactly the same. Not only did the new cards have an acquisition structure weighted towards offline channels, but also total sales were up year over year in all channels but Internet (Hypothesis A: Aggressive Sales Growth).

Since we had only been looking at totals and averages for the full year of 2015, we drilled down further to investigate how different metrics changed throughout the year, how the cards and channels developed individually, and finally how metrics change in cohorts over time, depending on what month a customer had been approved. The two internet heavy legacy cards had rates far above average and typically the majority unblocked within a week or two from approval. The new cards and Gold are below the average of 65% and take up to four weeks before the cumulative UR flatten out. Rewards has the lowest UR, while Flex and Gold are practically the same. Looking at the cumulative UR for cohorts of customers, we found that the rate for Flex is up from 55% at introduction in May to 66% at the end of the year. Rewards is down from 65% to 54% from the introduction in August to the end of the year. The UR in the individual channels are however almost the same as for the old cards and in some cases Flex even outperforms them in individual channels. Finally, we looked at card performance by applying the acquisition channel structure of one card to all of the others, to make them more comparable. As expected, the result showed that if all had the relative channel sales volumes of e.g. Classic, they would all have the very high UR of more then 80%.

All of the above mentioned findings go to prove that the low UR of the new cards is mostly due to changes in the relative sales volumes in the acquisition channels. To understand why the rate of Flex was improving, while Rewards was worsening we examined what exactly had happened throughout the year. Flex was only sold through Stands upon introduction. Incrementally, the other, more effective channels were added, thus improving the overall UR. Rewards had started at a rate of 65% with balanced acquisition channels, but dropped to 54% due to increases in Stands and Mobile (70% of sales through Stands at the end of the year), while Sales in Internet and Telesales practically remained constant.

In conclusion, the new cards will not be able to achieve the same unblock rates as the top performing legacy cards, because of the different weights of the acquisition channels. Both should be able to outperform the old Gold card long-term, because the Internet and Telesales sales of the two top performing legacy cards are now split amongst the new cards. However, total Internet sales are down, while the others have increased, putting downward pressure on the overall UR and making a difference of up to 2%. Selling more through Internet is likely not a solution as the channel is becoming more competitive. Hence, in order to not just color the rates shortly through aggressive online marketing, but to achieve sustainable performance improvements, the online channels need to be improved.

We then asked the questions, what makes Internet and Telesales more effective and how can we use the same mechanisms to increase rates in the offline channels?

Methodology

The methodology part may also be seen as a qualitative extension of the analysis. A comparison of offline and online channels revealed that there are mentionable differences along the dimensions Motivation, Involvement and Engagement. Internet clients are typically self-motivated and well-informed, while Stand clients are sold by a sales representative that is rewarded based on approved accounts rather than activated ones. Internet and Telesales clients have multiple touch points with the brand and are involved in the process, while Stands clients are detached and lose contact after signing at a booth. Internet and Telesales clients typically start with a better understanding and engage with the bank online, while Stand clients often opt out of online services and limit themselves to direct mail.

Also, a survey with existing Barclaycard clients showed that the top reasons for getting a card were that there is no annuity and no need to change the bank. The least important factors were access to additional credit, the opportunity to buy on credit or the need for an additional credit card. Those using the card do so mostly because of offered discounts and to complete online purchases. Customers not using the card state that they prefer cash, are afraid of losing control of their budget or only applied for the card to get the welcome gift in the first place.

2.3 Recommendations for the company

The first problem we are addressing is that of motivation. The current incentive structure for sales representatives in the form of commission and for prospective customers in the form of a welcome gift and no annuity is misleading. With commissions being proportional to the number of cards approved, sales representatives are incentivized to go after everyone with sufficient credit profile or income, even if these customers do not intend to use or need a credit card. Since there is no revenue created by just selling cards, but only if they are actually used, there is no benefit in such sales, but customers sign up because they have nothing to win or lose. We therefore propose a two tired incentive structure, where a certain percentage r of the current fixed commission in Euro per approved account a_0 is removed and replaced by a second payout in case of unlocking. *A* represents the number of approved sales of a sales representative, $u_{average}$ is the average UR in the channel where she is active and u_{actual} is the individual UR of the representative's approved sales. Instead of a remuneration proportional to approvals (*R*=*A**a_0*)*, the commission would be based on the following formula:

$$\boldsymbol{R = A \cdot \left((1 - r) \cdot a_0 + u_{actual} \cdot r \cdot a_0 \cdot \frac{1}{u_{average}} \right)}$$

By setting up the commission scheme as shown above, the additional payout for an unblocked card $\boldsymbol{r \cdot a_0 \cdot \frac{1}{u_{average}}}$ is larger then the reduction of the approval commission $\boldsymbol{r \cdot a_0}$, but as it is contingent on the individual's UR it will not lead to more cost for Barclaycard, unless the sales representatives outperform the average in her channel. If a sales representative meets the average or required rate in their channel, they still receive the same commission as before. Should the individual rate be higher or lower then the average, the performance will be rewarded or penalized accordingly. Hence, with the new structure, the sales representatives' incentives are better aligned with the bank's objective to create revenues rather than just accounts.

Providing a welcome gift gives some degree of differentiation to Barclaycard and will stay the same. However, we recommend introducing an artificial barrier for customers that are not actually interested in the continuous usage of the credit card. Imposing e.g. a low administration fee that becomes due only if a certain equally low transaction volume is not reached within the first year or if the account has to be closed after 24 months, will create a psychological rather then financial barrier designed to keep non-motivated customers away.

Thus, adjusting the incentive structure (Recommendation 1) will help to better align the goals of Barclaycard with the motivation of the sales representatives and introducing a contingent fee (R2) will prevent negative selection in prospective customers.

The second issue we are addressing is that of low involvement and engagement, particularly in the offline channels. In the online channels, the prospective customer has to perform certain actions leading up to unblocking the card, which keep the customer involved in the process. We believe these additional touch points are a major reason for the better performance in the channels once the customer has to take action and unblock the card. In the offline channels, the customer does not interact with Barclaycard or the brand until the PIN/card arrives, they are mere bystanders to the process, often do not provide their E-mail or use Online Banking, and are not sufficiently encouraged to learn more about their new card to get excited.

To increase involvement for the offline channels, and service for all channels, we recommend introducing an additional step for customers to take action (R3). While this must not be mandatory, so as not to scare less internet savvy customers away, it should be attractive and ideally linked to some sort of incentive (e.g. making the eligibility of the welcome gift also conditional on taking that action). By providing a preliminary account with access to an online application tracking system and restricted access to Barclaycard's Online Banking platform from the day the customer signs at a stand, this can be achieved. In doing so, the customers stay involved with the process; the platform can be used to familiarize the prospective clients with the brand and product; the clients are more likely to provide their E-mail and use the Online Platform, which leads to higher engagement after unblocking; and the client has a great user experience of an otherwise boring process. Further, we suggest to not only address involvement during the activation phase, but also improve engagement during the usage time of the customer life cycle. The current communication and promotions seem to be rather static. By introducing a dynamic and individualized dashboard for Flex customers and information about individual point milestones for Rewards customers (R4), ideally paired with the development of a mobile app, customers stay continuously engaged and Barclaycard becomes a part of their daily life.

Finally, after also analyzing communication material and Barclaycard's online presence, there appears to be room for improvement of brand image and usage of new media. There appears to be a gap between the internal brand image, that has been communicated to us throughout various interviews, and the external positioning. While we have been told that the target customer is typically mature and in the later stage of life, the largest age group are the 35-45 year olds. The self-description was that of a secure, international, independent credit and payment provider, but marketing is clearly lifestyle oriented and successfully attracting younger age groups. Also, we had the feeling Barclaycard Portugal still perceives itself as a traditional bank, just with limited physical outlets, whereas really they have become a pure play internet bank in Portugal and should embrace that. People are aware of Barclaycards online presence, but predominantly use it to voice complaints. Other banks have succeeded in creating more intimate communication by providing more engaging content. We therefore recommend running interactive marketing campaigns that do not directly promote Barclaycard, but start conversations and support building a brand image that can help Barclaycard become more than a piece of plastic in the customers' mind (R5). This is particularly important for a bank with no physical presence in a market. Various possibilities for such campaigns have been worked out in the Business Project.

All the proposed recommendations aid in improving the prospects' experience during their customer journey and set them up for increased engagement. The application tracking system is further intended to build the central platform to drive Barclaycard's attempts of becoming an omni-channel service provider. We introduced an action plan for progressive implementation of the different recommendations, while keeping disruption of the day-to-day business at a minimum. A set of Balance Score Cards was developed to introduce accountability and as a measure to track whether a recommendation is paying of or should be discarded.

2.4 Concerns

In my opinion there may be, on the one hand, concerns concerning the implementation of the recommendations and, on the other hand, concerns regarding how comprehensive our recommendations and analysis truly are.

First, even tough our Business Advisors are on one page with us concerning the different effectiveness of the acquisition channels, the sentiment of the subject matter experts we met during the expert interviews does not suggest, that they are open to making changes that may drag down total sales. The representatives of most functions made it rather clear that the major metric by which their success is measured is sales, rather then the UR, as this is considered to be something hardly to be actively managed. For example, upon suggesting an artificial barrier for customers not actually considering to use the card, the portfolio team suggested introducing more incentives like an initial big purchase at 0% interest instead. This, however, would result in the exact opposite of what we are trying to achieve, since with this additional incentive there would then be two reasons to get a card and not use it, but still no mechanism to keep these non revenue creating customers away. Never the less, as long as the average customer life time value, that is known to Barclaycard internally, exceeds the average spending to acquire a new account, the current paths remains a viable option.

And that leads to the second concern: while data to assess profitability and usage of the cards is available internally, unfortunately we were not granted access. We had to limit out analysis on the UR, which is an important factor when considering how interest and thus revenue is generated, but the level of activity upon unblocking as well as the resulting profitability would have allowed for more comprehensive advice. While we found the underlying reasons for the deterioration of UR and have assumptions of how they translate to overall profitability, we cannot say for sure. It could well be that accounts acquired at Stands are less likely to unblock and eventually use the card, but maybe those that do become hugely profitable accounts, compensating for the additional cost and lower rates.

Being aware of these limitations to the work that we could do, we consciously formulated recommendations that would not cut too much one way or the other (e.g. abandon the Stand channel). All recommendations are meant to drive UR and Engagement in general without sacrificing sales, with the exception of recommendations 1 and 2, which we believe are structured so as to not impact the total sales numbers considerably.

2.5 Individual Contribution

My contribution to the project was comprised of first, providing some guidance, and second managing the analysis of the data Barclaycard had provided us with. The first is addressed in the Personal Reflection part of the Work Project and not further discussed here.

The data provided by Barclaycard consisted of basic demographic data, such as the age; some details on card usage and marketing availability, such as the top spending categories in volume and whether or not clients have opted out of E-mail marketing; and timestamps in the form of dates to provide insights into the process, such as the date when the application was received.

Before I was able to analyze the data and eventually draw conclusions, I checked on consistency and errors in the data set. There were several issues with the dates that needed to be addressed so that the overall picture would not be distorted. One example is that of the date that the PIN was sent to the customer: The PIN should always be sent after approval of the card and before the date that the card was unlocked. However, there were many instances where the date was far after the date of unlocking. I concluded that in such cases the client had forgotten the PIN and it had to be re-issued, leading to the original date to be overwritten. Such entries could therefore not be used in the analysis of process times. Another example is that of the date when clients received their welcome gift. This date appeared in some cases to be before an application had even been send, which is intuitively impossible. However, there were clients in the database, that had an account before and were now in the process of opening it again, thus showing the offer reception of the previous account. Both of my assumptions were confirmed by Barclaycard and handled accordingly in the data to prevent false conclusions.

After extensive error handling and checks for consistency of the data, I then proceeded to add auxiliary columns calculated from the raw data. Such information includes the computation of workdays between process steps, a column tracking where in the process an error occurs or a column showing the “vintage” months in which a client had been approved. With all the additional information in place, I was able to quickly segment the data and look at averages as well as cohorts over time using Excel’s Pivot Table and analysis tools.

A pivot analysis tracking relations between client characteristics, process times, card types, acquisition channels, other dimensions and Unblock Rates soon revealed the differing performance of the cards, the stronger and weaker channels, and the fact that there does not seem to be an effect of process times on Unblock Rates. Also, I investigated all relations between the different dimensions independent of Unblock Rate (e.g. as expected, clients in the internet channel are statistically more likely to accept E-mail marketing).

Provided with the insights form the data analysis and insights into the process, I was able to make recommendations concerning the additional touch points and incentive structure for sales representatives.

3. Academic discussion

3.1 Link to the MSc in Finance

The first 2 semesters of my Masters were in the field of Finance, where I focused on Corporate Finance, investment decisions, valuation and M&A in particular. The activation rate as a key value driver directly effects revenues of a credit card business and as such it naturally has a potentially huge impact on the valuation of a credit card portfolio. Barclaycard is in the process of selling the Portuguese credit card business, while struggling with comparatively low activation rates that may put downward pressure on the sales price. The question that arises is whether to sell immediately, or to invest in measures to increase activation rate and sell at some point in the future. Assuming that there is a way to increase activation rate and thus revenues, the company must decide whether the expected appreciation in value through an increased activation rate justifies the required investment. Should it be a positive NPV project, Barclaycard can appropriate some of the value when selling the portfolio. Otherwise, the buyer will possibly be able to extract the inherent value later and claim all of it by buying at a lower price. To make this assessment several theories from the MSc in Finance can be used to make this investment decision.

3.2 Application

As typical for banks and often recommended, a dividend discount model (DDM) would usually be one of the foremost options to value such a financial institution as a whole. This is because banks differ considerably from normal businesses and a lot of them engage in a wide range of businesses, which would require separate accounts for valuation that are rarely available. The DDM is a simple and quick, but dirty way to get to a valuation of the overall company. "However, if you want your valuation to reflect the complexities of today's banking businesses and to yield insights into where and how a bank is creating value, then the process of valuation becomes more complicated, […]. [Instead] use the equity cash flow approach for valuing banks […].", is what Keller, Goedhart and Wessels are recommending in McKinsey's guide to Corporate Valuation (2010, 765). Free cash flows for banks are notoriously difficult to calculate for different reasons:

- In contrast to other industries, it is difficult to differentiate operating, investing and financing activities, since those lines are blurry in banks (e.g. is rebalancing the balance sheet to meet leverage requirements a financing or operating activity?).
- Capex does not necessarily represent reinvestment in fixed assets, but re-investment usually means hiring more people or lending more capital.
- Working capital, by definition current assets less current liabilities, is very difficult to come by for reasons similar to that in the first point. A bank may hold a lot of current assets in the form of investments, securities and other borrowings that are not necessarily required to grow the business.

All those reasons make it very difficult to value a bank from the outside using the equity cash flow (ECF) approach and why DDM is sometimes preferred for reasons of simplicity. Yet, DDM and ECF should essentially boil down to the same numbers. ECF starts out with net income, which is adjusted for non-cash items and changes in working capital, fixed and non-operating assets, cumulating in cash flow from operations. We then account for any financing activities involving debt and non-equity claims and get to the cash flow to equity (Koller, Goedhart and Wessels 2010, 127). We also get to ECF by taking net income adjusted for changes in book value of equity and other comprehensive income. Finally, we should arrive at the same result by adjusting dividends for share repurchases or additional equity issues (Koller, Goedhart and Wessels 2010, 771). Alternatively, the cash flow to equity for banks can be calculated as net income less increases in loans, securities and other assets, plus increases in deposits, marketable debt and other liabilities, to go the long way. In reality, the complexities and varying accounting standards make it close to impossible for outsiders to be as exact, since they are forced to rely on rough estimates.

Still, in this particular case ECF is appropriate, since we need to value only a part of the business and we can assume that most of the required information is available within Barclaycard, though not for potential acquirers. Either way, the equity DCF method is preferred over the enterprise DCF approach, because we need to include both operational and financial cash flows.

Income for banks can be grouped in three major categories, namely net interest income, fee and commission income, and trading income. Concerning Barclaycard Portugal, the major sources will be the first two. Barclaycard uses debt to provide credit card loans. The spread of the resulting interest income and expense determines net interest income. Fee income is derived from merchant fees as well as other additional services and products.

In order to make the investment decision in the case of Barclaycard, we would have to build a model that tracks the changes in net interest and fee income for changes in activation rate. For sakes of simplicity we would assume that most of the operational costs are broken down over all card holders, not just the active ones, and as such we can neglect additional costs for operations for active customers. To determine the incremental ECF resulting from a higher activation rate, we must determine how much of an increase in activation we can expect and how long it will take to achieve it. Here is an example with fictional numbers to illustrate one very simple approach of estimating incremental ECF. Assume we currently have €100 mio. in net interest income, €50 mio. in fee income and an overall activation rate of 40%. We expect to be able increase activation rate to 41% in one year and 42% in 2 years, with an initial investment of €5 mio., while the growth rate at 1% and interest for credit card loans and bank debt stays constant.

Base Case	**Year 0**	**Year 1**	**Year 2**	**Year 3**
Card Holders	1000	1010	1020	1030
Active Card Holders	400	404	408	412
Growth Rate		1.0%	1.0%	1.0%
in mio €				
Net Interest Income	100.0 €	101.0 €	102.0 €	103.0 €
per active	*0.3 €*	*0.3 €*	*0.3 €*	*0.3 €*
Net Fee Income	50.0 €	50.5 €	51.0 €	51.5 €
per active	*0.1 €*	*0.1 €*	*0.1 €*	*0.1 €*

Incremental CF	**Year 0**	**Year 1**	**Year 2**	**Year 3**
Activation Rate	40%	41%	42%	42%
Active Card Holders	400	414	428	433
Net Interest Income	100.0 €	103.5 €	107.1 €	108.2 €
growth		*3.5%*	*3.5%*	*1.0%*
Net Fee Income	50.0 €	51.8 €	53.6 €	54.1 €
growth		*3.5%*	*3.5%*	*1.0%*
ΔNet Interest Income	0.0 €	2.5 €	5.1 €	5.2 €
ΔNet Fee Income	0.0 €	1.3 €	2.6 €	2.6 €
ΔTotal Net Income	0.0 €	3.8 €	7.7 €	7.7 €

The example shows that the effective growth rate for net interest income and fee income is higher than the base growth rate, because of the higher activation rate. At the bottom line, there is the total incremental net income. To get to ECF, one would have to subtract respective increases in credit card loans and add respective increases of debt on the right hand side of the balance sheet. This may change the end result slightly, since banks sometimes finance their loans with debt of different maturity, and as such there is likely no perfect balancing of loan increases on the asset side and debt increases on the liabilities side. In this simplified approach, we also neglect the bank's need to meet capital requirements. Of course, Barclaycard cannot raise debt to finance new credit card loans indefinitely, but must also retain earnings or raise sufficient amounts of equity. Once we arrive at the ECF, the terminal value (Damodaran 2009) must be calculated, which is then discounted together with the ECF. Knowing the present value of the incremental cash flows, we can easily see whether it is a negative or positive NPV project by comparing against the required €5 mio. investment.

3.3 Implications for theory and future theories

There are several particular factors influencing income in the card business that are not covered in established valuation books. Hussain (2005) develops a model for valuing credit card portfolios by looking at different components separately. The proposed model is based on research of R. K. Hammer, the leading investment banking firm for the card industry. The most dominant factors R.K. Hammer considers in valuations are credit quality, income yields (e.g. net interest income may be affected by outstanding teaser rates), open vs. closed accounts as well as attrition rate. The latter 2 factors show the importance that also leading professionals ascribe to activation rates. In Hussain's simplified model, focusing on the valuation of fees, transactors, revolvers, expenses, defaults, merchant fees, and several other fees and incentives, he finds that value is most sensitive to changes in the merchant fees. The second largest effect comes from purchases, which indirectly translate to merchant fee income.

Anyone buying or selling a credit card portfolio is well advised to consider operational aspects influencing activation, rather than limiting the focus on capital structures, market growth and future interest rate development alone. Going even deeper, one would also have to factor in the effect of outstanding teaser rates and other marketing activities. If a more detailed model was developed, net interest income should be differentiated by looking at income from transactors and revolvers separately, operating expenses and possible defaults should be considered. Unfortunately, the exact method used by R. K. Hammer does not seem to be disclosed, but there certainly is room for research in the area to provide a more comprehensive approach to valuing credit card portfolios.

4. Personal Reflections

4.1 Personal Experience

From the beginning it was obvious that I was the only person in the group with hands on project experience in similar consulting settings and for banks in particular. As such, I was able to help the team find the necessary structure and define a game plan for the project. While some team members started getting lost in details and became anxious about the approaching deadline, I was able to keep an eye on the big picture and to steer resources where they were needed.

Initially, most communication was through me as well, but I soon passed the lead there to Inês, since she was doing very well with the advisors at Barclaycard and was always on top of things. Overall, up until the analysis phase in the last 3 weeks of the project, I had more of a steering role, than an operating one. I was mostly consolidating the work, setting targets and working on how we can get to a solution of the problem.

My greatest weakness is that I quickly get impatient, when I believe there is work that I can do faster and/or more accurate than other team members. As such, a big chunk of the analysis part was done by me alone and it was then also difficult to split the work of making it presentable and put it into slides. I certainly need to be more of a coach rather then focusing on getting things done quickly.

4.2 Benefit of hindsight

We split the work in packages that were corresponding to everyone's individual strength, but met regularly enough to brainstorm on any upcoming issues together. This way, we were able to work very efficiently in the beginning, while combining the creative brain power of everyone involved. At the same time, it prevented some of us to work on certain topics, because we had created silos and it would not have been feasible to bring everyone up to speed on every topic within the given time. A better estimation of what will turn out to be the most work intensive parts of the project and a respective allocation of resources from the beginning, rather than one purely based on preference and individual strength, may have helped us to execute faster toward the end of the project. This may have made the project as a whole more effective by sacrificing short term efficiency thinking in the beginning.

I consider myself a Pragmatist and once in the leader position I usually quickly identify who has which strengths and weaknesses; I give everyone some sort of ownership in the project, an understanding of how their particular work contributes to the big picture and a platform through which successes can be shared. Finally, I believe to be doing a good job breaking this big picture down to actionable steps for everyone to follow. Yet, I often fall back into the pace setting leadership style and need to learn patience.

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