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Importance of key performance indicators of App-based loyalty programs for small businesses

A Master's Thesis submitted for the degree of
"Master of Business Administration"

supervised by

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Affidavit

I, **Michael Schöndorfer**, hereby declare

1. that I am the sole author of the present Master's Thesis, "IMPORTANCE OF KEY PERFORMANCE INDICATORS OF APP-BASED LOYALTY PROGRAMS FOR SMALL BUSINESSES", 69 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
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Abstract

Customer loyalty programs are a marketing instrument that have been used for decades, but are being made available to more and more companies due to newer technologies. However, it is proven that a lot of them fail or do not yield the desired results. Monitoring the programs performance is a good way to make sure that the previously set objectives can be reached or detect problems. This can be a problem, especially for small companies, as the resources for the monitoring are limited and need to be used effectively.

In this thesis, I want to find out how monitoring and tracking certain metrics could help reach the objectives, focusing on App-based customer loyalty programs for small businesses. In order to do this I will briefly look at why a loyalty program is implemented in the first place and how different programs work. Then I am going to summarize which metrics can be measured and what counter actions can be taken when the goals are not met. I propose a set of questions in order to determine which metrics should be tracked for each individual company. Lastly I conducted a survey with companies about how they see the importance of some of the metrics and their available time to analyze the system.

Most of the hypotheses could not be accepted, but some derived insights could be gathered after more variables were taken into account. Even though the significance of some findings could not be statistically proven, they can be seen as a starting point to conduct further investigations with more resources.

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3. Abbreviations

- BI: Business intelligence
- CLP: Customer loyalty program
- GDPR: General data protection regulation
- IS: Information system
- KPI: Key performance indicator
- ROI: Return on investment
- SME: Small and medium-sized enterprise

4. Introduction

Customer loyalty programs have been around for decades. The way to implement them ranges from integrated solutions with loyalty cards to simple stamp cards. The reasons why a company decides to implement a loyalty program also varies as I will explain in “5.2 Reasons to implement a loyalty program”, but are mostly targeted towards increasing revenue. However, many programs were introduced without thinking about the objectives and do not bring the intended results (Dowling & Uncles 1997: 81). Newer technologies for loyalty programs come with their own set of problems. This is one reason why this thesis focuses on App-based loyalty programs implemented by small and medium-sized enterprises.

Implementing the program is a big portion of the whole costs of a customer loyalty program. However, a lot of programs fail as companies forget to monitor and adjust continuously. A reason for this is probably, that they are not monitoring performance at all or not monitoring the right things. The problem is it is not clear what should be measured and what the steps are to counter any deviations from the optimal results.

An explanation why they fail to do so could be that the people, developing the software to monitor the loyalty program, are not the users and therefore have requirements in mind that are not correct. These are often App agencies or separate IT departments in a big corporation. Another one could be that the people who are responsible do not have enough time to process the sheer number of key performance indicators generated. So what are the actual metrics that are necessary to maintain a successful customer loyalty program?

The objective of this thesis is to first find out, what defines a successful customer loyalty program as well as what are the metrics an implementer/maintainer of such a program needs to adjust accordingly over time and adapt to a changing environment.

Even if the right metrics are delivered, we need to factor in the time that this person has available. Therefore I also examined how much time analyzing the data actually requires. This is especially important for small businesses as they

probably do not have as many resources as big corporations. So it is possible, that the requirements for them are vastly different depending on the size of the company.

The objective is not to suggest what kind of customer loyalty program (e.g. which rewards and incentives) is most suitable for a certain type of company. However, there will be a section on how to implement them successfully in order to determine what to monitor.

In order to acquire the necessary information, I start with the basic question of what customer loyalty even is and what reasons companies have to implement a customer loyalty program. These reasons were then translated into goals, which I used to find criteria that determine what a successful loyalty program is.

Then I took a deeper look into the different types of loyalty programs, to better understand the inner workings and characteristics. With this information, I collected which kinds of metrics can be calculated and presented that allow to monitor the previously mentioned success criteria, which were grouped afterwards. In addition to monitoring, I gathered which actions can be taken, in order to correct the program to meet its goals.

As the last step of my literature review, the specifics of an app-based customer loyalty program for small and medium-sized enterprises were researched. This was split into “what is specific to customer loyalty apps?” and “what challenges do SMEs face?”, because there were no publications about the combination. This gave me ideas on what I would have to look out for when designing the empirical part.

As the goal of this is to find out which metrics should be reported for a customer loyalty program to make it successful, I propose a set of questions that can help to decide if a metric should be considered worth being incorporated. Which metrics can be monitored in general is something that is available via literature review and is not necessary to acquire. What is not available is how important companies think certain metrics are to them. A qualitative approach would give me results for individual companies, but it cannot be generalized with a low number of participants that is typical for interviews. Hence, to be able to make significant statements a certain number of data points are required (see 7.1

Population and sample) which is why I chose to use a quantitative research approach. I also decided against using a qualitative research method like interviews because I wanted to see if the size of the company has an influence and to get meaningful results even more data points are required. In the end the desired response count was not reached, which is why the expressiveness of the analysis is limited.

The results of this survey were then analyzed to see if there are any significant differences in preferred metrics, information channel and available time. Additionally, the influence of the company size on those variables was taken into consideration. I then interpreted these results, and tried to extract the insights that would be useful for companies, that are implementing a customer loyalty program as well as companies that are consulting in this field.

5. Literature

One of the earliest loyalty programs dates back to the S&H Green Stamp program first introduced in 1896. Customers received trading stamps for purchasing items at retailers which could later be redeemed for rewards like housewares and other items.¹

Even though this was more than a century ago, simple programs like this still exist such as “10 + 1” stamp cards. However, more advanced ones have been developed over the years. Other typical areas include frequent flyer programs, rental car companies and hotel chains.

In the literature review I want to start with definitions for what loyalty is (chapter 5.1), summarize why companies implement customer loyalty programs (chapter 5.2) as well as disadvantages for such programs (chapter 5.3). Following this I will discuss what defines a successful program (chapter 5.4) and what can be done to make it more successful (chapter 5.5). In chapter 5.6 I list which metrics can potentially be used to monitor the program and what criteria should be used to assess them. Lastly I will point out some of the specifics of App-based loyalty programs for SMEs (chapter 5.7).

5.1 What is loyalty?

When talking about loyalty and how to measure it, it is important to define a few terms. The reason I present some of the theoretical terms and concepts of customer loyalty programs is that it is beneficial to know which factors have an influence on customer loyalty in order to use those insights to plan, monitor and take corrective measures.

The business dictionary defines customer loyalty as “Likelihood of previous customers to continue to buy from a specific organization”.² Dick and Basu (1994) more scientifically define “customer loyalty as the relationship between relative attitude and repeat patronage” (Dick & Basu 1994: 102). Where relative attitude is the attitude towards an entity (e.g. brand, company) compared to alternatives. It is preferable to look at the relative and not

¹ https://en.wikipedia.org/wiki/S%26H_Green_Stamps

² <http://www.businessdictionary.com/definition/customer-loyalty.html>

the absolute attitude. For example, a person can have a strong attitude towards a BMW car, but would still buy the Ferrari (given the same price) because the attitude is even stronger.

Baloglu (2002: 47) describes it similarly as a combination of behavioral loyalty and attitudinal loyalty. He as well as several other authors also point out that it is important to not only look behavioral loyalty as it could show loyalty to only the program, which is not necessarily supported by attitudinal loyalty towards the brand.

Another classification was made by Bendapudi and Berry (1997: 17), which are constraint-based and dedication-based relationships. Constraint-based could be, that a customer has to shop at this store because it is the only one in a 50km radius. In a dedication-based relationship a customer buys, even though there are alternatives which do not have high switching costs.

		Repeat Patronage	
		High	Low
Relative Attitude	High	Loyalty	Latent Loyalty
	Low	Spurious Loyalty	No Loyalty

Illustration 1: Relative Attitude-Behavior Relationship (Dick & Basu, 1994)

It is also important to point out that attitudinal loyalty does not necessarily translate to behavioral loyalty. To build on the previous example: a person might be a huge fan of Ferrari, but might not have the necessary resources to actually buy one.

Dick and Basu (1994: 101) have classified 4 types of loyalty as seen in Illustration 1, where Loyalty is the most desirable one.

5.2 Reasons to implement a loyalty program

Now that we have looked at loyalty in more detail it is important to define what a customer loyalty program is and what the goal of it is.

Uncles, Dowling and Hammond (2003: 294) consider it a formal program which has mainly two aims: (1) to increase sales revenue and (2) maintaining the current customer base by “building a closer bond between the brand and the current customers” (Uncles et al. 2003: 294). They also point out that it can have several peripheral goals such as increasing cross-selling and creating databases. In total they see the potential of loyalty programs to “increase single-brand loyalty, decrease price sensitivity, induce greater consumer resistance to counter offers or counter arguments (from advertising or sales-people), dampen the desire to consider alternative brands, encourage word-of-mouth support and endorsement, attract a larger pool of customers, and/or increase the amount of product bought” (Uncles et al. 2003: 303).

Hart et al. (1999) see customer loyalty programs as one of the main customer relationship marketing instruments to increase customer retention. So one could say, that a customer loyalty program is a tool, that fosters the relationship between the company and the customer to fulfill the companies goals. Hence, in order to say what makes a loyalty program successful we have to determine the reasons, why it is implemented in the first place.

Typical reasons include increasing revenue, due to customers buying more, reduced costs as serving loyal customers costs less, positive recommendations and more information about customers (Dowling & Uncles 1997; Xie & Chen 2013).

How do they do that? One explanation is that “they enhance customer’s psychological bonding with service providers, drive customer’s share of wallet, and magnify positive behavioral intentions” Xie and Chen (2013: 464)

To illustrate the different stages Xie and Chen (2013: 466) propose “a process of customer relationship management where three phases (i.e., customer acquisition, customer engagement, and customer retention) are facilitated by loyalty programs” (see Illustration 2).

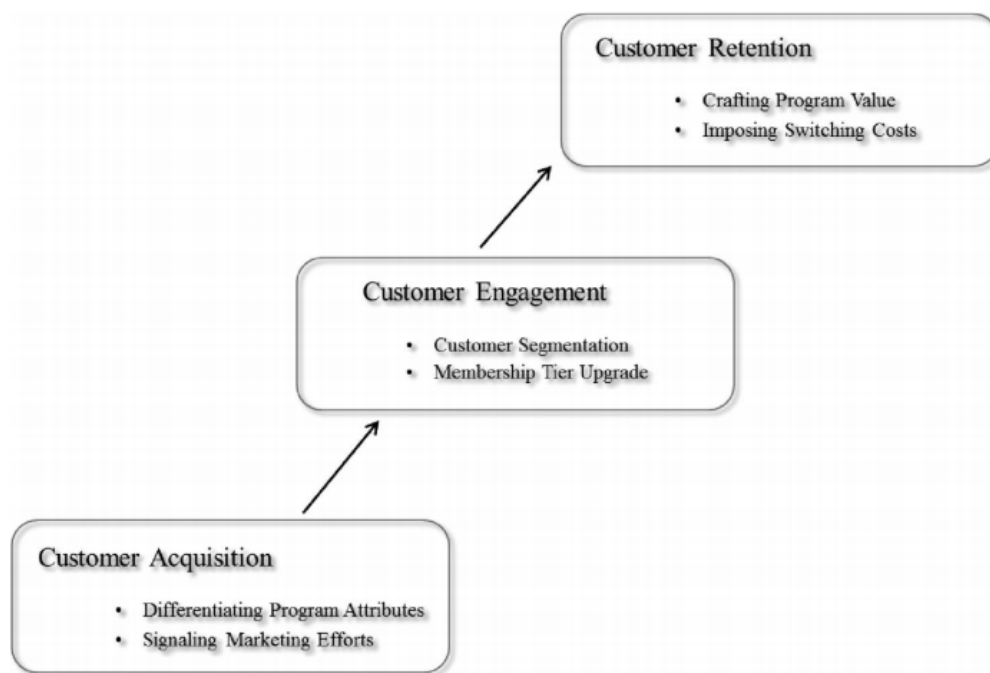


Illustration 2: Three phases of customer relationship management with managerial tactics (Xie & Chen 2013: 466)

They even suggest that future research could focus on a fourth stage, which would discuss which customers should be removed from the program and when.

5.2.1 Increase revenue

This is expectedly the main reason why companies introduce a customer loyalty program and is the easiest way to justify the investment costs. The methods to achieve this are manifold. Xie and Chen (2013: 470) summarize some of the effects a CLP can have that in turn increase the revenue:

- Increase customers' repeat-purchase intentions
- Boost customers' share of wallet
- Drive customers' willingness to pay more
- Encourage positive word-of-mouth

Berman (2006) explains that a firm is able to do this because it can do the following:

“cross-sell and up-sell by offering extended warranties after an item is purchased, suggesting accessories (such as batteries and spare parts), providing discounts on related purchases (such as additional brushes and tools for a vacuum cleaner), increasing the sale of multi-packs to frequent buyers or users with histories of large purchases, or encouraging single-channel consumers to use additional channels (such as stimulating store-based buyers to use the firm’s web site)” Berman (2006: 130).

One of the major reasons, this is possible are more targeted promotions and advertisements, which I will go into more detail later. However, one has to be careful with the extent to which this is actually effective. Leenheer et al. (2007: 42) found out that “that loyalty programs are generally effective in enhancing share-of-wallet, but that the effects are easily overstated”.

“IHG found that its average Priority Club member spends 57 percent more at IHG properties after enrolling in its loyalty program. IHG’s break-even point is about a 6 percent increase. In addition, IHG members pay a 7 percent to 10 percent higher rate and tend to book via the company web site, the firm’s lowest cost channel” (Berman 2006: 139).

5.2.2 Protecting market shares

It is five times more expensive to attract new customers, than retaining an existing one (Reichheld & Sasser 1990; Barsky 1995). It is suggested that in contrast to acquiring new customers “loyalty programs can help retain existing customers” (Xie & Chen 2013: 471). Dowling and Uncles (1997: 72) argue similarly that the “most common objective is to retain existing customers and in so doing: (1) maintain sales levels, margins, and profits (a defensive outcome to protect the existing customer base), (2) increase the loyalty and potential value of existing customers (an offensive outcome to provide incremental increases in sales, margins, and profits), and (3) induce cross-product buying by existing customers (defensive or offensive)” (Dowling & Uncles 1997: 72).

A CLP can offer information on whether a business is losing customers, compared to only seeing total sales revenue declining, which could have multiple reasons. This effect can then be counteracted.

5.2.3 Brand Differentiation

In industries where services are very comparable, such as hotels and airlines, brand differentiation plays a big role. Therefore “two important goals of loyalty programs are to differentiate a parity brand that provides similar products and services and to pre-empt the entry of a new brand” Xie and Chen (2013: 471).

5.2.4 Database Marketing

The previously mentioned reasons are closely tied to the main yield of loyalty programs: depending on the loyalty program implementation, it can generate a lot of data. This starts with the customers profile (e.g. name, age and address) and is enriched by usage data (e.g. purchase history). Some forms of loyalty program generate little to no data (e.g. stamp cards) whereas others track vast amounts of data (e.g. App-based loyalty programs which can even have location data). Typically the more complex a loyalty program is, the more data is generated. In 5.5.1 Types of loyalty programs I elaborate more on the complexity of those.

The data alone, is not really worth a lot. It has to be used and maybe analyzed before that is possible. A lot of the benefits intertwine with those of other marketing efforts. Netflix for example uses data to know which movies they should produce next³. This is not considered a customer loyalty program, but shares many of the aspects of digital loyalty programs.

Some uses of the data:

- Selling the data to third parties
- Statistical analysis
- Information about the demography of the customers
- Usage of the customer loyalty program
- Purchase behaviour (Berman 2006: 125):

Typical data that can be collected: purchases, repurchases, related

3 <https://bgr.com/2018/05/17/netflix-tv-big-data-develop-popular-hit-shows/>

purchases, usage of multiple channels, and time between repurchase, payment method, store

- Feedback about the product and the company
- Evaluate the effectiveness of special promotions and other marketing efforts (e.g. advertisements) (Berman 2006: 126)

The chairman of Tesco said this about loyalty programs in an article of The Independent: “What scares me about this, is that you know more about my customers in three months than I know in 30 years” (Mesure 2003) Tesco themselves used its database to stop customers from leaving to a competitor after they were purchased by Wal-Mart by identifying “300 items that these price-sensitive shoppers bought regularly” (Rohwedder 2006) and lowering their prices.

Contrary to traditional market research, a loyalty program allows, if done right, to collect large samples and transactional data and does not need self-reported data (Berman 2006: 129)

Targeted promotions

Database marketing allows to segment customers based on different criteria and send promotions only to a certain segment. Some of the benefits of this are:

- Compensate for seasonality
- Make advertisements more relevant and considered less spam

Rohwedder (2006) reports that while “industry adage says that only 1% or 2% of all coupons ever get redeemed, about 15% to 20% of all Tesco coupons are redeemed” because they are better targeted

- Target only most profitable customers

Dorothy Lane Markets (a supermarket chain), found out, that traditional newspaper ads resulted in a lot of “cherry pickers” which were only interested in the special offers. With the segmentation possibilities gained through their Club DLM they now send out customized newsletters with different coupons depending on the customers purchase history Berman (2006: 131)

Dowling and Uncles (1997: 80) came to the conclusion that “a major reason for the launch of many customer loyalty schemes is competition. Companies may want to preempt a competitor (and possibly secure first-mover advantages) or respond to a competitor's scheme (as in most of the frequent-flyer clubs)”. They also suggest, that in most cases a loyalty program costs money, but only benefits the customer without really increasing profitability. In some cases it might be a better idea to lower prices instead of giving a reward that will can be eventually received at a later point.

In the end they came to the conclusion, that a lot of programs did not bring the desired benefit which underlines the assumption of this thesis that a customer loyalty program needs to be monitored and adapted from time to time in order to give a positive return on investment.

5.3 Drawbacks of customer loyalty programs

A customer loyalty program obviously does not only have advantages, but also drawbacks. Xie and Chen (2013: 471-473) summarize them as follows:

- Low Levels of Consumer Commitment

It is not a given, that loyal customers always pay more. Sometimes they even expect price discounts compared to other customers.

- Cost Concern

Profitability should always be kept in mind. A custom loyalty program can incur significant costs which are partially listed below:

“There are establishment costs (often including new advertising and promotional activity), enrollment costs, IT hardware, database creation and maintenance costs, servicing costs, management costs editorial and production costs of loyalty magazines, the direct costs of rewards, and the opportunity costs of spending money on a loyalty program instead of on other marketing initiatives (e.g. new product development)” (Uncles et al. 2003: 306-307).

- Customer Frustration

The influence of user experience of the loyalty program itself should not be underestimated. A bad experience can result in a low adoption rate or a high dropout rate. Reasons could be difficulty of access, impossibility of claiming the reward, low value of the reward and high redemption costs (Stauss, Schmidt & Schoeler 2005: 247).

- Erosion in Market Saturation

In markets where customer loyalty programs are very common, it may be difficult to distinguish them properly because rewards and mechanics are similar. Hence, the gains of the program can quickly be gone.

5.4 What makes a loyalty program successful?

The question that is asked here is not “how to make a loyalty program successful?” but rather what constitutes as a successful program. As touched on earlier, there are different reasons why to implement a loyalty program in the first place. Therefore it seems natural, that criteria which judge whether it is successful vary from company to company or program to program.

Dowling and Uncles (1997: 71) say that “research suggests that most schemes do not fundamentally alter market structure” and therefore “many senior managers now ask their marketing departments to measure the potential contribution of any program developed to implement loyalty marketing” (ibid.).

They also name some of marketing manager’s beliefs about customer loyalty:

- “Many customers want an involving relationship with the brands they buy.
- A proportion of these buyers are loyal to the core and buy only one brand.
- The hard-core, loyal buyers are a profitable group because there are many of them and they are heavy or frequent buyers.
- It should be possible to reinforce these buyers' loyalty and encourage them to be even more loyal.

- With database technology, marketers can establish personalized dialogues with customers, resulting in more loyalty.” (Dowling & Uncles 1997: 71)

To evaluate a program's success Berman (2006: 127) lists a few criteria:

- impact of loyalty programs on consumers' likelihood to shop at a particular store or use a given brand
- continuation in a membership program
- increased store/brand usage
- higher market share
- increased sales
- higher profitability

Every company has to find out for itself what it deems a successful program, which is usually derived from the objectives of the whole program (see 5.2 Reasons to implement a loyalty program). This is important because, metrics that measure the performance of the program can be directly taken from those criteria.

5.5 How to make a loyalty program successful?

In a lot of sectors, having a CLP is almost a given as Meyer-Waarden (2007: 223) explains:

“For example, the grocery retailer E. Leclerc in France devotes approximately €18 million of its annual marketing expenditures to managing its program. Other retailers, such as Safeway, have decided to give up their loyalty schemes to save \$75 million.”

Knowing whether a loyalty program is successful or not is the first step in managing one. But what if a program is not successful? In order to know what to do with an unsuccessful loyalty program it is also important to understand some of the mechanics. However, this should not be a universal guide on how to create a successful loyalty program.

5.5.1 Types of loyalty programs

Berman (2006: 124-127) tries to classify loyalty programs into 4 types (see Illustration 3). Type 1 and 2 are basically open to all customers. They do not take any purchasing history into account, compared to Type 3 and 4. All of them are potentially able to generate data for analysis, although the first 2 are probably more likely to be misused due to their nature. He points out, that “Type 1 programs are often conducted by small firms that do not have the managerial commitment or resources to conduct a Type 2, Type 3, or Type 4 activity” Berman (2006: 125) and that the others are basically quantity discounts (on varying levels of complexity).

One could argue, that the complexity and managerial efforts increase from Type 1 to Type 4. Berman (2006: 127) even suggests, that companies can transition from Type 1 up to Type 4 incrementally, depending on their current marketing needs.

Program Type	Characteristics of Program	Example
Type 1: Members receive additional discount at register	<ul style="list-style-type: none"> • Membership open to all customers • Clerk will swipe discount card if member forgets or does not have card • Each member receives the same discount regardless of purchase history • Firm has no information base on customer name, demographics, or purchase history • There is no targeted communications directed at members 	Supermarket programs
Type 2: Members receive 1 free when they purchase n units	<ul style="list-style-type: none"> • Membership open to all customers • Firm does not maintain a customer database linking purchases to specific customers 	Local car wash, nail salon, SuperCuts, Airport FastPark, PETCO
Type 3: Members receive rebates or points based on cumulative purchases	<ul style="list-style-type: none"> • Seeks to get members to spend enough to receive qualifying discount 	Airlines, hotels, credit card programs, Staples, Office Depot
Type 4: Members receive targeted offers and mailings	<ul style="list-style-type: none"> • Members are divided into segments based on their purchase history • Requires a comprehensive customer database of customer demographics and purchase history 	Tesco, Dorothy Lane Markets, Wakefern's ShopRite, Giant Eagle Supermarkets, Harris Teeter, Winn-Dixie, Harrah's, Hallmark

Illustration 3: A Typology of Loyalty Program Types (Berman 2006: 125)

5.5.2 Types of reward schemes

As the loyalty programs were grouped into 4 different types, Dowling and Uncles (1997) tried to classify the reward schemes by two dimensions (see Illustration 4): timing of reward (immediate or delayed) and type of reward (direct or indirect). The schemes with immediate rewards and direct link to the product are the most preferable ones. So a program from section 4 is the least desirable one, but is still the most common one because they tend to be of lower cost.

		Timing of Reward	
		Immediate	Delayed
Type of Reward	Directly Supports the Product's Value Proposition	¹ Retailer/Brand Manufacturer Promotions (Price Promotions)	² Airline Frequent-Flyer Clubs, Coupons, and Tokens (GM card)
	Other Indirect Types of Reward	³ Competitions and Lotteries (Instant Scratches)	⁴ Multiproduct Frequent-Buyer Clubs (Fly Buys)

Illustration 4: Types of Reward Schemes (Dowling & Uncles 1997: 77)

5.5.3 Types of customers

Xie and Chen (2013: 467-469) try to categorize a loyalty program's customers as following: repeat customers, deal seekers, inactive customers and switchers. Repeat customers are the most desirable ones. Deal seekers and inactive customers usually not.

Steinhoff and Palmatier (2016: 89) make a different distinction:

- Target customers:
Loyalty program members who receive rewards
- Bystander customers:
Members or non-members of the loyalty program which do not receive rewards themselves, but observe others getting rewarded

It is important to note that “researchers and managers often ignore how loyalty programs targeted at one customer simultaneously and perhaps unintentionally influence other customers” (Steinhoff & Palmatier 2016: 89). An example which they name is cutting the line as a frequent flyer when boarding a plane, which has a positive effect on the program member (the target customer), but a detrimental effect on the others (the bystander customer).

In order to model this they suggest the following:

- psychological mediating mechanisms: gratitude, status, unfairness
- loyalty program’s delivery characteristics: rule clarity, reward exclusivity, reward visibility

One conclusion they came up with is that the psychological mediating mechanisms “serve as rich sources of customer insights and deserve greater attention in customer relationship evaluations” (Steinhoff & Palmatier 2016: 103) and believe that “managers should understand the psychology of loyalty programs, evaluating their programs on the basis of their ability to stimulate gratitude and status among targets while still preventing status demotion or unfairness perceptions among bystanders” (Steinhoff & Palmatier 2016: 103).

Another important one is, that reward delivery is an important factor of a loyalty programs’ effectiveness. The various delivery characteristics influence the comparison mechanisms in different ways.

Customer Type	Comparison Mechanism	Rule Clarity (Study 1)		Reward Exclusivity (Study 1)		Reward Visibility (Study 2)		Ideal Delivery Profile
		High	Low	High	Low	High	Low	
Target	Customer gratitude	↓	↑	○	○	○	○	Low rule clarity
	Customer status	○	○	○	○	↑	↓	High reward visibility
Bystander	Customer status	○	○	↑	↓	↓	↑	High reward exclusivity and low reward visibility
	Customer unfairness	↓	↑	↓	↑	↑	↓	High rule clarity, high reward exclusivity, and low reward visibility

↑ increase, ↓ decrease, ○ no impact

Illustration 5: Combined effects of different loyalty program delivery configurations (Steinhoff & Palmatier 2016: 104)

Illustration 5 shows the various effects that rule clarity, reward exclusivity and reward visibility have on customer gratitude, status and unfairness for each customer type. Interestingly a high rule clarity has a negative effect on customer

gratitude for the target customer, because they feel entitled after a while. The bystander on the other hand feels treated unfairly because he/she does not receive the rewards. (Steinhoff & Palmatier 2016: 94)

Scope of the program

A loyalty program is typically provided by one company. However, there are also programs that span over multiple companies and act more like a platform, such as Cashback World by Lyoness. They usually offer an easy way to implement it, but keep a lot of the control, including the data that is gathered. This means that there are often competing companies on the same platform and the individualization is very limited.

5.5.4 Taking corrective actions

In order to understand in which phases of the loyalty program lifecycle monitoring can help, I want to build upon a framework proposed by Berman (2006) (see Illustration 6).

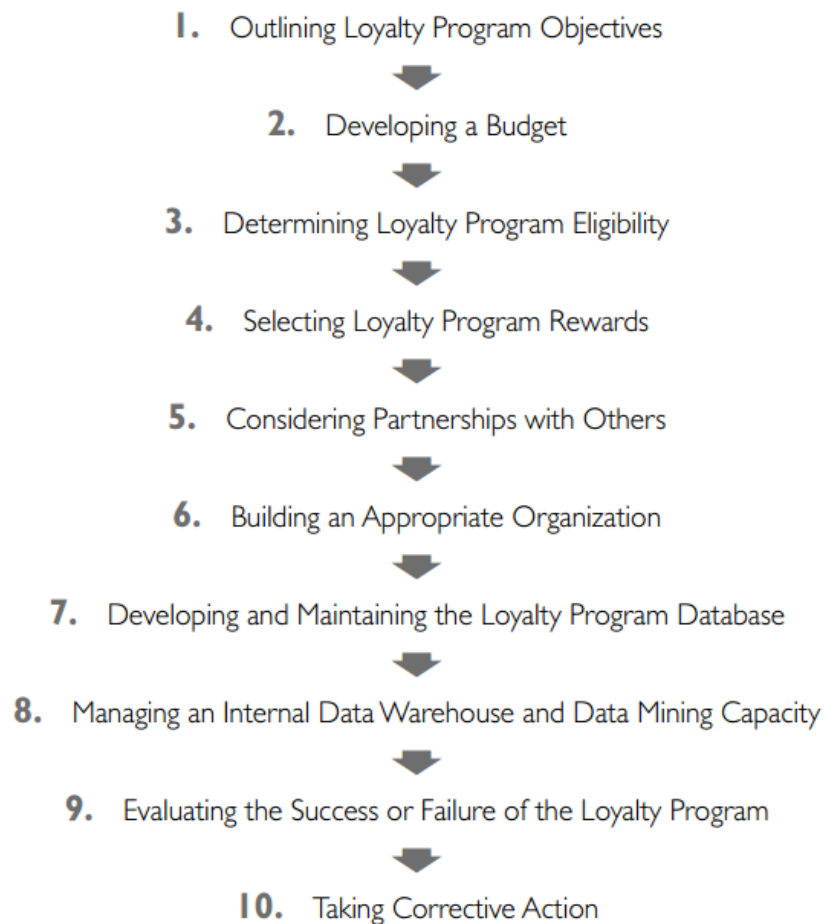


Illustration 6: Steps in Developing, Implementing and Controlling an Effective Loyalty Program (Berman 2006: 133)

In the context of this thesis I want to focus on the steps “Developing and Maintaining the Loyalty Program Database”, “Managing an Internal Data Warehouse and Data Mining Capacity”, “Evaluating the Success or Failure of the Loyalty Program” and “Taking Corrective Action”.

Steps 7, 8 and 9 should ideally yield reports which identify which objectives are not met. Hence, corrective actions should be taken.

In Illustration 7 and Illustration 8 (Berman 2006) lists a number of possible actions, depending on the objective. It is important to know what type of loyalty program is used to determine if the actions are applicable.

**Increasing
Member
Gross Profit**

- Limit enrollment to members with a large and profitable transaction history (Type 3 and 4 programs).
- Provide tiered memberships so that heavy users receive greater benefits (Type 3 and 4 programs).
- Charge a nominal fee to discourage inactive or small activity accounts (Type 3 and 4 programs).
- Enable members to easily track activity, points, and award shipment through the Web (Type 3 and 4 programs).
- Restrict membership to a firm's most profitable customers (Type 3 and 4 programs).
- Drop out unprofitable members or members with low purchase activity over a given time period (Type 3 and 4 programs).
- Develop a differential point structure for closeouts, overstocks, and end-of-season merchandise. This strategy can be used to reduce the markdown levels needed to clear this merchandise (Type 3 and 4 programs).

**Increasing
the Return
on Loyalty
Program
Investment**

- Consider outsourcing loyalty member functions such as fulfillment or award selection where other firms can fulfill these functions more efficiently (Type 3 and 4 programs).
- Evaluate the loyalty program on a continuous basis (Type 1, 2, 3, and 4 programs).
- Sell aggregate data to suppliers (Type 4 programs).
- Sell points to partners (Type 3 and 4 programs).
- Sell points to customers (Type 2, 3, and 4 programs).
- Evaluate the alternative return on investment on other programs that build and maintain customer loyalty (Type 1, 2, 3, and 4 programs).

**Increasing
the Quality
of Market
Research
Data**

- Outsource database construction, maintenance, and data mining to firms that specialize in these services (Type 4 programs).
- Use market research and information systems personnel in loyalty program design and implementation (Type 3 and 4 programs).
- Change from a Type 3 to a Type 4 program (Type 3 programs).

*Illustration 7: Corrective Actions to Meet Specific Loyalty Program Objectives
(Berman 2006: 141)*

A more fundamental correction is necessary if the wrong type of program is used in the first place. Different variables influence the decision, such as size of the firm, degree of managerial commitment to a loyalty program and resource levels of the company. Other typical pitfalls are Focusing only on monetary or gift rewards or using of loyalty programs as a cover-up of ineffective marketing (Berman 2006: 143-144).

Increasing the Number of Loyalty Program Members	<ul style="list-style-type: none"> • Partner with other brands and retailers to make it easier for members to accumulate points. This strategy also increases the value of the reward to some members (Type 3 and 4 programs). • Provide free points or additional discounts for initial membership (Type 2, 3, and 4 programs). • Recognize that open programs have more members than closed programs (Type 1, 2, 3, and 4 programs). • Increase the attractiveness of rewards (Type 3 and 4 programs). • Make rewards easier to obtain (Type 2, 3, and 4 programs). • Assure members that specific data on their purchasing behavior will be kept in the strictest of confidence and not be sold or shared (Type 3 and 4 programs).
Reducing Member Attrition	<ul style="list-style-type: none"> • Reduce the number of points needed to receive a reward (Type 2, 3, and 4 programs). • Increase the number of reward options (Type 2, 3, and 4 programs). • Make the program easier to use (Type 3 and 4 programs). • Allow members to purchase points to facilitate getting rewards (Type 2, 3, and 4 programs). • Tailor rewards and communication based on a member's purchase history (Type 3 and 4 programs). • Track member usage and contact profitable customers who have not recently made a purchase (Type 3 and 4 programs). • Partner with other brands and retailers to make it easier for members to accumulate points. This strategy also increases the value of the reward (Type 2, 3, and 4 programs). • Enable members to more easily track points on the Web (Type 3 and 4 programs). • Combine free goods and services and rewards with special services (such as special customer support access, invitations to trunk shows, personal shoppers, etc.) (Type 3 and 4 programs).
Increasing Purchases by Members	<ul style="list-style-type: none"> • Implement a tier system to provide additional points for purchases above a given level (Type 3 and 4 programs). • Develop a differential point structure to reward heavy users (Type 3 and 4 programs). • Provide additional points for related-item purchases (Type 3 and 4 programs). • Develop a differential point structure for closeouts, overstocks, and end-of-season merchandise (Type 3 and 4 programs). • Cross-sell goods and services with partners (Type 3 and 4 programs). • Tailor rewards and communication to a member's purchase history (Type 3 and 4 programs). • E-mail special offers to members (Type 3 and 4 programs).

Illustration 8: Corrective Actions to Meet Specific Loyalty Program Objectives (continued) (Berman 2006: 142)

Berman (2006: 128) highlights that an often cited problem is that members are dropping out of the program, around 40% according to a Maritz poll. The top reasons were not being rewarded properly, the difficulty in redeeming awards, and changes in loyalty program rules. Some of the counter measures could be reducing the number of points needed to receive a reward or enabling members to more easily track points on the web. (Berman 2006: 128)

5.6 Metrics used

As Ambler and Roberts (2008: 745) concluded: there is no single “silver metric” that can be used to monitor and evaluate any marketing performance. It is a combination of multiple different metrics that can paint a bigger picture. The data that is being generated by the CLP can be used to influence the decision making in a more objective way.

“Based on the 2011 COLLOQUY Loyalty Census, the average U.S. household has enrolled in more than 18 programs. Out of the 2.089 billion U.S. loyalty program memberships, the number of active members is less than half the total (Hlavinka & Sullivan, 2011). Such results indicate there is room to improve and monitor current loyalty programs” (Xie & Chen 2013: 464).

A real-world example is American Express which uses the metrics increased customer retention, increased purchases, and lower acquisition costs for new customers (O'Brien & Jones 1995).

Berman (2006: 139) points out, that “loyalty program’s profitability can also vary significantly by market segment”. The time horizon also plays an important role, as some loyalty programs only start to bring benefits after a certain amount of time, whereas others are more short-term oriented and increase sales based on very isolated promotions (for example a sweepstake).

Illustration 9 shows a screenshot of the analytics dashboard, the company “hello again” provides to its customers (companies that have a customer loyalty program) to view the tracked metrics. In addition to some overall metrics like total registrations, a timeline is shown which can signal changes over time. This shows that there are various ways of presenting the metrics, which can have a significant effect on the readability. However, the different visualisations are not part of this thesis.

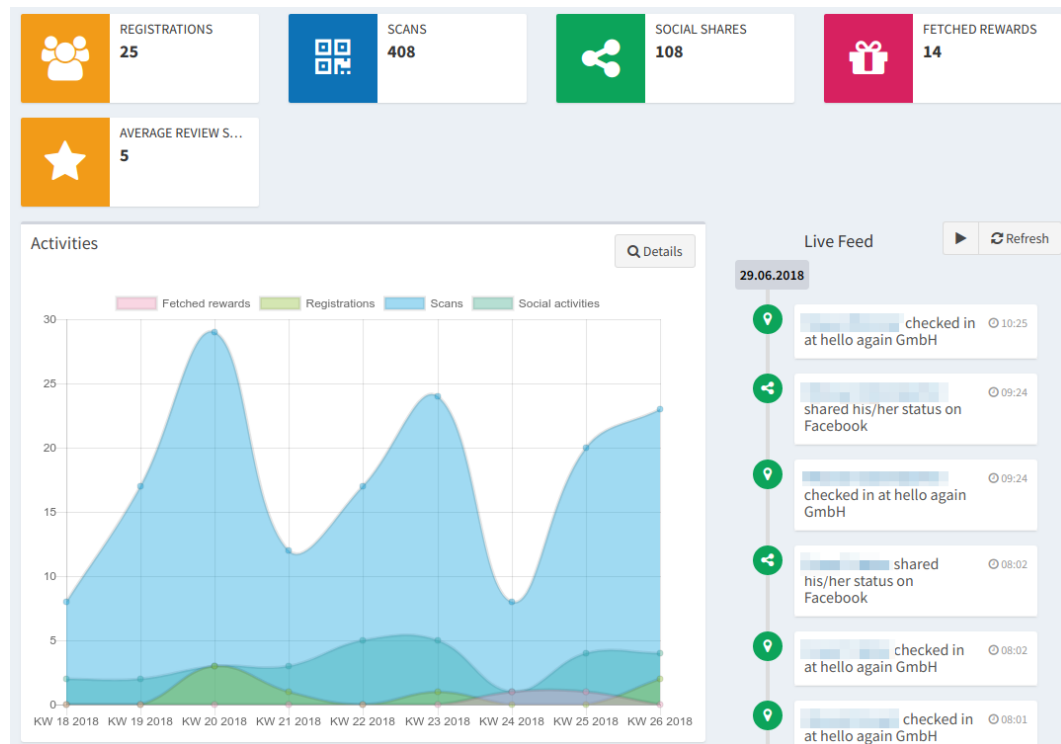


Illustration 9: Analytics dashboard of loyalty program by hello again

To be able to reliably determine the effectiveness of the program, a company would need a control group, which might not always be possible.

The metrics in 5.6.1 Company level and 5.6.2 Customer level are collected from the following sources: (Fuchs 2010: 17-19), (Hong & Wang 2011), (Ambler & Roberts 2008). This list is far from complete, but should give an overview, so we can later form categories that are used in the survey (see 7 Methods).

5.6.1 Company level

On the company level, these metrics are mostly an aggregation of individual metrics on customer level, usually mean (e.g. average customer satisfaction) and sum (e.g. total revenue generated).

- ROI of customer loyalty program
- Customer satisfaction (e.g. star ratings)
- App usage:
 - Retention time: how long does the user stay in the App

- Adoption rate which can be hindered by technology anxiety (Hong & Wang 2011: 196-197)
- Dropout rate: Why are people dropping out of the program? This can be seen as an indicator to take counter measures
- Crash rate: Does the App work properly or are frequent App crashes lowering the user experience?
- Community power: If the CLP offers some sort of social component, such as inviting friends, certain metrics can indicate how well the users are connected. Metrics such as the clustering factor could indicate a strong network effect
- Location based:
 - Dwell time: How long are customers staying in a shop?
 - Visit frequency: How often do customers come to the shop?

5.6.2 Customer level

For some metrics it is useful to not only know the average over all customers on a company level, but in more detail for each customer. Those metrics can be used to segment the customers for various purposes. For example, a customer that shows true loyalty could receive special promotions, which a customer that is only cherry-picking should not (Berman 2006: 125).

- Customer lifetime value: How much profit does the user generate over the full relationship time span, also in the future.
- Profitability: How much profit did the user generate so far
- Share-of-wallet
- Purchase frequency
- True loyalty: this should indicate if a customer actually shows attitudinal loyalty compared to only behavioral loyalty because it is convenient

5.6.3 How good are the metrics?

The reason to calculate a certain metric should be to take corrective actions in order to meet a certain goal, in case the metric indicates it. Some metrics are more suited than others to achieve this goal.

Neely, Adams and Kennerley (2002) defined a set of tests that should help with identifying the quality of a measure:

Truth test	Are we really measuring what we set out to measure?
Focus test	Are we only measuring what we set out to measure?
Relevancy test	Is it the right measure of the performance we want to track?
Consistency test	Will the data always be collected in the same way whoever measures it?
Access test	Is it easy to locate and capture the data needed to make the measurement?
Clarity test	Is any ambiguity possible in interpreting the results?
So what test	Can and will the reported data be acted upon?
Timeliness test	Can the data be accessed rapidly and frequently enough for action?
Cost test	Is the measure worth the cost of measurement?
Gaming test	Is the measure likely to encourage undesirable or inappropriate behaviours?

Table 1: The ten tests (Neely et al. 2002)

Ideally all tests should be passed to consider a metric to be tracked.

“One researcher found that one of the most common means used by managers to assess the success or failure of a loyalty program is the registration rate, the number of customers signing up with the program. Managers need to be aware that program registration statistics relate only to a loyalty program’s membership—not sales gains, program use, increased loyalty, or profitability.” (Berman 2006: 128)

As I have shown there are different granularity levels a metric can be calculated for. In addition to customer- and company-level a branch-level might make sense to compare the performance of different branches (e.g. average feedback). Depending on the granularity some previously mentioned tests could

yield different results for the same metric. This allows the assumption that companies might have different preferences for the granularity of the metrics. To prove this I want form the following hypothesis:

H₁: There are differences in how important the granularity levels of metrics (company, branch, customer) are for a company.

5.7 Specifics of App-based customer loyalty programs for SMEs

In this thesis I want to mainly focus on loyalty programs used by small- and medium-sized enterprises to highlight the specific hurdles they face in contrast to large companies. Closely related to this are mobile app based loyalty programs that offer more data with sometimes very little initial costs. This is why I will also incorporate the unique challenges and possibilities they bring.

5.7.1 App-based loyalty programs compared to traditional loyalty programs

When stamp cards have been the dominating form of loyalty programs in the late 20th century and loyalty cards have been in the early 2000s, it is looking more and more like mobile app based loyalty programs are becoming the newest dominant form, especially with younger audiences. Hong and Wang (2011: 189) also acknowledge, that the “knowledge exchange between consumers and firms grows to be substantial”, which could be supported by such a new technology as explained in more detail below.

As we have seen with the Berman (2006) types of loyalty programs, a more complex program usually goes hand in hand with more data being generated and individualization possibilities. The same is true for app based CLPs. Their very nature allows to potentially collect more data than ever before. At the same time, the complexity can vary within a short time frame. A program could be rolled out with a simple replacement of a stamp card and at a later stage, features can be added on demand, like a game that rewards points on completion.

A typical loyalty card of a retailer would typically give the company access to the following data:

- Customer's details: name, gender, age, address, phone number, e-mail address, birthday
- Purchase history: date and time, location of purchase, product including price, payment method
- Refund history: date and time, product, reason for refund
- Reward redemption history: date and time, chosen reward

Depending on the concrete implementation of the loyalty program and the App the company could potentially get access to the following data (the privacy concerns will be discussed in section Privacy issues):

- Detailed App usage:
 - How long did he/she look at specific screens?
 - How long was the App open?
 - Where did the user click in the App? Did the user respond to certain notifications?
- Location data:
 - Exact location profile over a long time (rather unlikely that such a fine-grained tracking is enabled)
 - Location where certain actions were recorded (e.g. where points were collected or a reward was redeemed)
 - How long did the user spend at a location. This could simply be how much time a customer spent in the shop and with recent advances in localization technologies, maybe even how much time a customer spent in front of a certain shelf.
- Mobile device information
- Customer Feedback/Satisfaction:
 - After a certain action (e.g. rate the restaurant after a visit)
 - In-App polls (e.g. which color of the new sports shoe looks better)

- Social media:
 - Account information of linked social media profiles (e.g. Facebook friends and likes)
 - Invites of other people and connections to them

In addition to the data that is provided the loyalty program allows for a more fine-grained location-based segmentation, two-way communication (e.g. via In-App chat) and many more which I don't want to elaborate here. The first two are also mentioned by Hong and Wang (2011: 189-190) as characteristics of ubiquitous technologies.

Nakajima (2002) categorizes these characteristics into three marketing approaches: context marketing (i.e. segmentation); benchmark marketing (i.e. measuring the effectiveness); and collaborative marketing (i.e. creating new ideas).

Deighton (1997: 348) also highlights the function of a company to incorporate knowledge and know-how gained from collaborative marketing, which Hong and Wang (2011: 190) say is "closely related to its interactivity".

This is just an excerpt of what is possible to track with such a new technology to illustrate the vast amount of data that needs to be processed and brought into a form so people can understand it. The challenges this brings especially for SMEs will be further explained in "5.7.2 Data Analytics and Decision Making in SMEs compared to enterprises".

Privacy issues

The technical possibility of gathering data is nowadays just a necessary condition and not a sufficient one anymore. The importance of data privacy is continuously growing, especially with the introduction of the GDPR in Europe. Now it has to be transparent what data is collected, where it is processed and who gets access. Due to the rule to only store the minimal amount of data, it is only legal to collect data which has a purpose at that moment, the user has agreed to. This is important if you want to gather data, you might need in the future and do not really have use right now.

In the context of this thesis, this topic is important as the decision whether a certain metric should be calculated/gathered is not a mere technical one. One has to factor in the costs in terms of potentially losing customers as they might not want this kind of data collected as well as legal costs for creating the legal framework to be allowed to collect it.

This topic would gain even more relevance if the data is also sold to other companies, but as I want to highlight the internal use of this data as a metric to improve and evaluate the CLP, it will not be discussed further.

5.7.2 Data Analytics and Decision Making in SMEs compared to enterprises

Blili and Raymond (1993: 439) acknowledge that “it is an accepted fact that these firms [SMEs] have fewer resources and expertise in terms of management of new technologies”. They also highlight the importance of information systems as a strategic tool and a way to get a competitive edge. Large companies might be the ones that lead the innovation in this sector. SMEs can still gain a lot from them as well.

B. Cragg, Caldeira and Ward (2011: 353) even argued, that “small businesses need a different type of organizational theory”, because a lot of the models applicable to large firms cannot be used for SMEs. They also noted that due to their limited resources and dependence on external resources they have to develop a different set of competencies.

Blili and Raymond (1993) name some differences which bring its own managerial challenges and are relevant in the context of this thesis:

- “They are often weak in terms of financing, planning, control, training and information systems, due to a chronic lack of resources” (Blili & Raymond 1993: 443).
- They tend to have “rapid implementation and execution of decisions, market proximity and their capacity for adaptation and short-term reorientation” instead of employing “management methods and techniques such as forecasting, financial analysis and project management” (Blili & Raymond 1993: 443)

- Owner-managers are prevalent which are often the “only ones in the enterprise with the authority, responsibility and access to the information needed to identify opportunities for using information technology for strategic or competitive purposes” (Blili & Raymond 1993: 445).

B. Cragg et al. (2011) adds the following:

- The decision process is more intuitive, rather than fact-based and their structure is usually more informal.
- “Many SMEs lack managerial IS skills and even technical IS skills” (B. Cragg et al. 2011: 354).
- When information systems are installed, they are often not used to its desired extent.

Information systems are of great importance here, because even though it is possible to have an analog CLP, such as a simple stamp card, you would need at least some kind of IS if you want to analyze its success.

The high level of environmental uncertainty they face is usually combined with limited knowledge and experience with new information systems. As Blili and Raymond (1993: 444) point out, SMEs

“usually do not have the capacity to develop and manage their own information systems, but must call on third parties (suppliers, consultants, specialized firms)” (Blili & Raymond 1993: 444).

This underpins the initial assumptions of this thesis, that it is important for the suppliers of these systems to know, what their customers need, as the resources to customize the solutions are limited. In the context of customer loyalty programs this means that the company cannot go through a lengthy process of implementing a highly individualized program that provides all kinds of metrics specific to the company. There should rather be an efficient selection process that results in a list of more or less standardized metrics that can be suitably gathered.

One could also conclude, that because the resources for controlling the program are limited, analyzing has to be effective with little distraction. This is

also a necessary IT competency of SMEs: “Deploy new/changed technology in the most cost effective mode to deliver application benefits” (B. Cragg et al. 2011: 362). Having less resources in general could mean that the time that is available for employees to analyze and monitor the loyalty program is also limited. To investigate this I construct the following hypothesis:

H₂: Employees of large companies (more than 250 employees) have more time to spend on customer loyalty program analytics, than employees of smaller companies (SMEs with less than 250 employees).

Gartner defines Business Intelligence as “an umbrella term that includes the applications, infrastructure and tools, and best practices that enable access to and analysis of information to improve and optimize decisions and performance.”⁴

Therefore you can see the analysis of customer loyalty programs and the resulting decision making process as a form of business intelligence.

Ziemba and Olszak (2012) looked at the critical success factors for implementing BI systems in SMEs. They identified that the price was the most important reason for choosing a certain system. The biggest barrier was found to be the lack of well-defined business problems. This underpins the need for cost-effective planning, monitoring and a fundamental reasoning which value the generated insights bring. They also conclude, that it BI system needs to be easy so the staff actually makes use of it. In the context of customer loyalty programs this could mean, that the metrics are not too complex and provide an insight to the user that helps with decision making.

Another deduction that can be made when considering the available time and different skill sets of employees is that they might consider different ways of receiving the information (information channels) that is gathered by the system. A weekly E-Mail report informs statically, but is usable by everyone who can receive E-Mails. A special App that gives access to the analytics part can be very detailed and comprehensive, but might be very costly. In order to see if companies prefer one over the other I create the following hypothesis:

4 <https://www.gartner.com/it-glossary/business-intelligence-bi/>

H₃: There are differences in how companies see the importance (mean rank) of the information channel.

6. Which metrics should be tracked?

The main question I want to answer with this thesis is: “What are the metrics, a company wants to have access to in order to build and maintain a successful customer loyalty program?”.

This question comes with a few limitations that need to be considered when answering it. The naive answer would be to say: “as many as possible with as much detail as possible”. However, different factors influence which metrics make sense to track:

- Characteristics of the CLP (like type, rewards)
- Available resources and capabilities
- Objectives
- Actions that can be taken to correct the CLP

Which actions are there that can be executed so the objective is more likely to be reached?

As different factors influence the decision which metrics should be used it stands to reason that companies have a different order of importance for the different metrics. This assumption can be formulated as a hypothesis which I will investigate further:

H₄: There is a metric category that companies deem more important (mean importance) than others.

Building upon the “Ten Tests” by Neely et al. (2002) I propose the following 3 questions that need to be answered to know before deciding which metrics to have in a CLP:

- Which metrics am I capable of calculating?
- Can I analyze/interpret the resulting data?
- What do I do with the gathered information?

6.1 Which metrics am I capable of calculating?

In order to be able to calculate the numbers the following requirements need to be fulfilled.

- The necessary data is collected:
This heavily relates to the type of loyalty program. As we have established earlier, typically the more complex a program is, the more data can be gathered. It is simply not possible to calculate the average profitability of a customer if you only have a CLP with stamp cards. This question relates to the truth, focus and relevance test by Neely et al. (2002).
- The company has the permission to use this data for that purpose (see chapter Privacy issues)
- The algorithms to calculate the data are available and implemented:
Obviously those metrics need to be calculated. This is rather trivial if you think of metrics like “total number of users”. More complex ones, like “likelihood of purchasing an upgrade”, take more know-how and time to implement. This can almost directly be converted to cost, which is depending on the budget, a very critical factor.

6.2 Can I analyze/interpret the resulting data?

Having metrics available (e.g. “average dwell time of customers in the shop”), is one thing. Being able to get insights out of them is the other one. Davenport (2013: 4) highlights in the last step of his six key steps to analytics-based decision making, that it is important to present the results in a way that decision makers can understand them. This question relates to the access and clarity test of Neely et al. (2002).

I propose the following sub-questions that need to be answered:

- Does the company have the infrastructure, so the right people get the right data?
- Do people have the necessary time, to look at them?
- Do they have the know-how to comprehend it?

These questions are important to avoid having metrics, that look interesting at first, but might not be the right ones in practice.

Firstly, the data has to reach the people that can process them. A marketing department might be the one, that is in charge of the customer loyalty program, but is not the one that should handle metrics about product quality issues. In order to make this data useful, processes and systems have to be in place, so they get forwarded correctly.

Secondly, the people might not have the necessary resources (especially time) to look at those metrics. Depending on the amount of metrics that are generated and the detail, it is possible that they overwhelm the recipient.

Thirdly, the target audience also needs a certain know-how to be able to process the metrics. Again, simple metrics, like “total number of users” are easy to comprehend. More complex ones, like the “average group clustering coefficient”, require very specific knowledge about the domain or analytical know-how.

6.3 What do I do with the gathered information?

The final step, without all of the previous ones do not have any right to exist, is that you have to translate the generated insights into actions. Otherwise there is no point in gathering data and looking at the results, because the outcome would have been the same.

This step relates to the “So what test” and “timeliness test” by Neely et al. (2002) as well as the initial objectives that have been set for the loyalty program and is touched upon in 5.5.4 Taking corrective actions.

This step is something that is often forgotten or undervalued when planning a CLP. People get excited when they hear what information they could gather with such a new system, but do not really think about what they would do for example if they find out that the “average retention time” is declining. They might understand that it is bad, but not necessarily which action could correct this.

In other words: “Does this metric allow me to give directives which help me reach my objectives?”

6.4 Costs

These aspects are crucial when designing/maintaining a CLP and should therefore influence the decision of a company which metrics to gather. However, as most people will not have the knowledge to judge how difficult and costly it is to get a certain metric, this was intentionally left out of the questions. So, in order to be able to say which metrics should be made available both the following questions need to be taken into account: “What do I want to know?” and “How much does it cost?”.

The costs for introducing a single metric are among others:

- Cost to gather data: this includes cost for development, as well as for computing power, reduced usability and maybe manual data entry
- Cost to calculate: this includes the cost to develop the algorithm as well as computing power
- Cost of reduced privacy: The more data I need to collect the more customers might not want to give this away and are refusing to participate in the program
- Cost of analyzing: this is mostly the labor involved that needs to make sense of the metrics and take appropriate actions

If you isolate the decision whether to introduce a single metric or not, you can do a cost-benefit analysis, which should help you make an educated choice, which would be similar to the cost test by Neely et al. (2002).

6.5 Example

To illustrate this I want to give an example of a metrics that seems like a nice fit, but lacks at least one on of the previously mentioned requirements:

A hair dresser chain with 100 employees could have the objective to increase customer satisfaction. As a metric it would be possible to get feedback from the customers after every haircut with a 5-star rating and use this to improve the service. Let's assume, that the customer loyalty App has a functionality to ask for this and the analytics dashboard can only be accessed via the an account that is managed by the marketing team. The question if the right people would get the

data would probably be answered with a no, because it is not feasible that the marketing department looks through a few hundred ratings every day and forwards it to the hair dressers, so they can react accordingly. An alternative would be to create an App for the employees where they get an individual report at the end of the day about their performance. However, this might incur additional development costs.

7. Methods

Acknowledging that these are very theoretical and maybe abstract constructs, I want to find out what decision makers actually think.

A qualitative approach like interviews would have been a possibility to find out what employees of individual companies think. It would be difficult to create generalized statements because the sample size would be too small. In order to be able to ascertain if there are significant differences in how people see the importance of certain metrics as well as show any correlation with the company size a quantitative research method seemed more fitting (see 7.1 Population and sample for calculations).

Therefore I created a survey to answer the following main question: How can the designer of a customer loyalty program monitor and analyze the program to make it more successful, considering that resources are limited?

Here, a *designer of a customer loyalty program* does not necessarily mean the company itself, as there could be different parties involved. It could certainly be the company itself (e.g. the marketing department), but also a third party company that specializes in customer loyalty programs or a consultant. In this case, the *customer* is the company that commissions the CLP, to benefit from it (e.g. a retailer).

The addition that *resources are limited* should emphasize, that resources (usually time and money) are consumed, not only for the initial roll out, but also during the maintenance of the program.

7.1 Population and sample

As I am mostly interested in SMEs, I could choose those as the population, but because I want to see if the company size has an effect on the answers I instead included companies of all sizes. I am also not narrowing down companies to certain branches as it is not easy to judge where a CLP makes sense or does not. Therefore I define the population as companies in Germany which produces a total of 3,476,193⁵.

⁵ <https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/UnternehmenHandwerk/Unternehmensregister/Tabellen/UnternehmenBeschaeftigteUmsatzWZ08.html>

With a confidence level of 95% and a margin of error of 5% the desired sample size should be 385. However, due to the limited resources and very low response rate of the survey only 100 responses could be reached. This results in a margin of error of 10% with a confidence level of 95%. This is also explained in “9.3 Research limitations and future research”.

For the sample I only targeted employees of companies that either already have a customer loyalty program or would in theory be interested in having one. This should at least partially target companies that are in an industry where a customer loyalty program makes sense, instead of industries like mining.

Pollfish allows to set certain criteria for survey participants. Now that the audience is narrowed down to relevant companies I want to make sure that the participants have any contact with the loyalty program within the company. As I was not able to select the department within the company which would typically be marketing for customer loyalty programs I could select the “employment status” and set it to “self-employed” so decision makers were targeted.

As country I set it to “Germany” as it has a similar distribution of SMEs to Austria with a bigger total population, which increases the chance of getting enough responses. Lastly I only want to allow responses from participants which are at least 18 years old.

Because I did not want to have companies in my sample, that have no experience with customer loyalty programs or have at least thought about it I created a screen question to filter those out:

Screening question: Do you have a customer loyalty program in your company (e.g. App or loyalty card)?

Answers:

1. Yes
2. No, but I can imagine, that it can be useful for us
3. No, I have no interest

Only if answers 1 or 2 were selected the participant was redirected to the next questions and accepted in the sample.

7.2 Measures

When designing the survey, a focus was put on the ease of answering so a large number of respondents would finish it. This means that the initial number of questions was reduced from 30 to 5 and some answers were changed from a metric input to an ordinal input. One example is the number of employees in the company. Because it might be a hurdle to enter the exact number, a range was given (1-15, 51-250, etc.) which makes it easier to select. The same approach was used for Question 1 (see 12.1 Survey questions). Although this is beneficial for the dropout rate, it makes analyzing the data more difficult, which is discussed in “9.3 Research limitations and future research”. The full survey questions and answers can be found in the Appendix (12.1 Survey questions).

To find out how important certain metrics are for a company a possibility would have been to create a long list of metrics and ask the respondent if he/she would be interested in it. However, this list would never be exhaustive and it has the limitation, that a lot of the metrics would be very specific to a certain industry or company size and therefore irrelevant.

Instead I decided to include a list of metrics categories that are more universal (not so industry specific) and linked to the reasons why to implement a CLP:

- *App Usage (e.g. monthly active users, average usage time):*

I added App usage because user experience is an important factor to drive adoption rate and reduce the dropout rate (see “Customer Frustration” in chapter 5.3). In the case of App-based CLPs the App is the main interaction interface, so monitoring the usage data could give valuable information.

- *What value does the program bring (e.g. ROI, increased revenue):*

This should describe what difference the CLP makes. Increased revenue (chapter 5.2.1) and protecting market shares (chapter 5.2.2) can be monitored with these metrics.

- *Customer satisfaction (e.g. Feedback):*

I decided to put it as a separate category, although it was listed as part of

“5.2.4 Database Marketing” because it can not only be used for segmentation, but also as a tool to identify quality issues.

- *Demography of customers (e.g. age, gender):*

This category should summarize metrics related to database marketing (chapter 5.2.4).

Participants could then say for each individually how much they would want to have access to it by using a behaviour intention scale, which is a widely used tool. The possible answers were: Crucial, important, not so important and not important at all. An even number of answers was chosen deliberately to avoid neutral answers. I included some examples for each category, but it still possible that respondents, especially the ones without a lot of experience with CLPs, did not fully understand what they mean. This is a drawback of the limited space that is available on the survey and somewhat intended when designing a quick survey.

Another question that was asked is how granular these metrics should be. Specifically I asked if metrics in general should be made available on a company level (e.g. revenue delivered through the CLP), per store/branch (i.e. to compare the numbers between them) or very detailed per customer (e.g. how much revenue this specific customer generates). The same likert-like scale as with the previous question was chosen.

Then I wanted to know how they would like to consume these metrics and how much time they can spend on analyzing them. To make answering simple and quick I categorized the answers into 4 groups: up to 10 minutes, up to 1 hour, up to 1 day and more than a day per month. In retrospective, a metric measure would have been a better choice to make the statistical analysis easier.

Additionally I requested the number of employees in the company, so I could see if there is a correlation between company size and the previously mentioned answers. The questions and answers were not randomized.

7.3 Data collection

The initial idea to distribute the survey was to send it via E-Mail to several companies. I queried the Orbis company database to find relevant companies.

For those I did a random sampling of 1000 companies and gathered the E-Mail addresses that were available in the database. Afterwards those companies were contacted via E-Mail and a standard text. Additionally 35 existing customers of the company “hello again” were contacted the same way and the link to the survey was spread via Facebook. Of all of these a total of 16 responses were gathered, which was insufficient. Because mixing all those different groups was not good and unlikely to reach the desired response number of 100, I chose to distribute the survey with pollfish instead.

Because the survey was done through the pollfish⁶ platform I would receive a total of 100 survey responses, which I requested. This took 4 days to complete. Because some participants might not have any meaningful insights I decided to filter out respondents that have no knowledge or experience with customer loyalty programs which was done via the Screening question.

The way pollfish panels work is, that App developers can include pollfish surveys into their App. From time to time a survey appears (similar to an Ad) which can be answered by the App user (participant). App developers get paid for completed surveys and can potentially incentivize the App users. This could potentially be a problem for the quality of the responses and is further discussed in “9.3 Research limitations and future research”.

6 “Pollfish is a survey platform that delivers surveys online and via mobile apps on a global scale” - pollfish.com

8. Results

A total of 116 responses have been collected, where 16 were from group A and 100 from group B. In group B the gender ratio was 45% female and 55% male and all participants identified as self-employed.

Out of group B, 5 participants are of age from 14 to 17 which as mentioned earlier does not satisfy the age limit and those responses will be filtered out. Because the responses in group A are not enough to be statistically relevant, they were filtered out. This means a total of 95 responses were analyzed.

8.1 Company size

The hypothesis is, that the company size has an influence on the available time to spend on analyzing a CLPs data.

76% of the participants worked in a company with maximum 250 employees which is the limit for SMEs in Austria and Germany⁷. For comparison, in Germany 60,7% of all employees work in companies of this size⁸. 24% of the participants work in large companies, whereas this number is 39,3% across Germany.

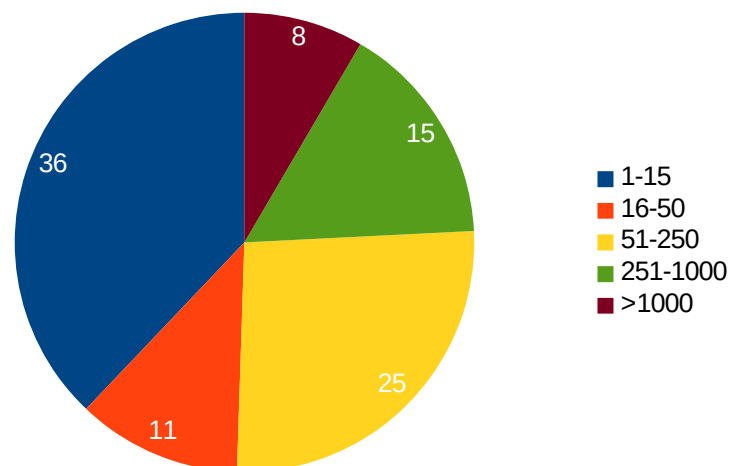


Illustration 10: Number of employees in the company

⁷ https://www.bmdw.gv.at/Unternehmen/UnternehmensUndKMU-Politik/Seiten/KleineundmittlereUnternehmeninOesterreich_FactsandFeatures.aspx

⁸ <https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/UnternehmenHandwerk/KleineMittlereUnternehmenMittelstand/Tabellen/Insgesamt.html>

8.2 Preferred information channel

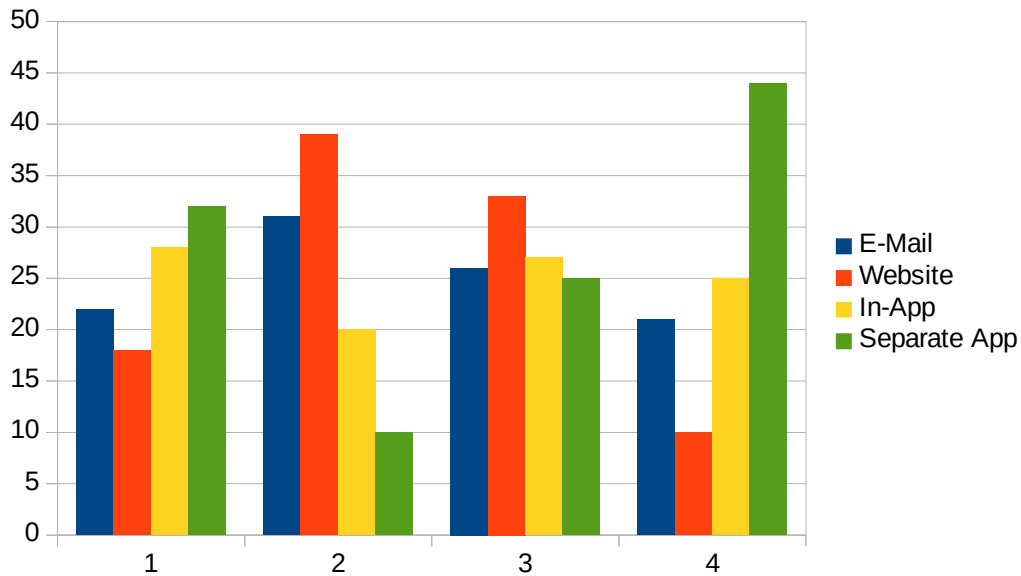


Illustration 11: Ranking of information channels

Each of the 4 information channels was ranked by their preference. Illustration 11 shows how often each information channel was ranked on a certain spot. It shows for example, that A4 was ranked #4 43 times (also seen in Table 2) whereas A2 only 10 times. The mean rank indicates, that the website is preferred to a separate App.

To confirm this suspicion, I did a Friedman test with the information channel as the independent variable and the rank as the dependent variable. The p-value of 0.16663 is not significant enough to reject the null-hypothesis H_{30} , that there is no difference. This means I cannot accept the hypothesis H_3 .

	#1	#2	#3	#4	Mean
E-Mail (A1)	22	29	26	18	2.4
Website (A2)	18	37	30	10	2.3
In-App (A3)	26	19	26	24	2.5
Separate App (A4)	29	10	13	43	2.7

Table 2: Preferred Information channels rank count and mean rank

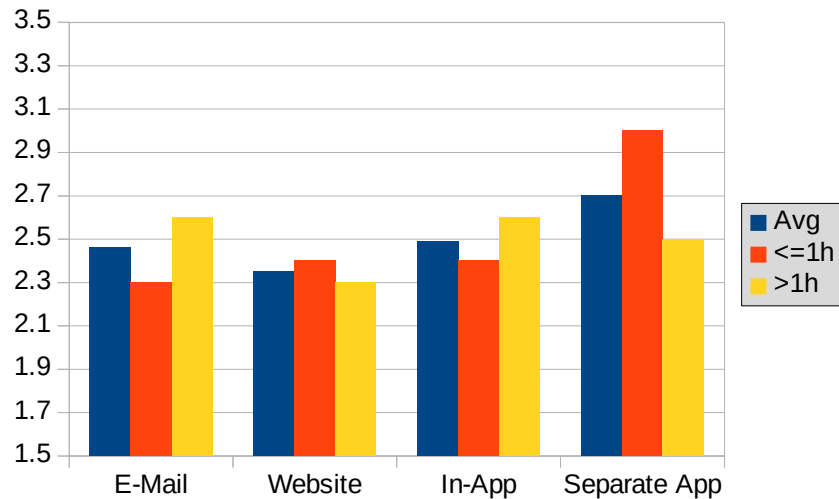


Illustration 12: Mean rank grouped by available time

Over the whole sample, the differences are not significant enough to be able to make any recommendation. However, if we group the sample by Q1 (available time): up to 1h available time (Group A) and more than 1h available time (Group B) a bigger difference can be seen. I did a Friedman test on group A which resulted in a p-value of 0.02503 ($\alpha=0.05$) which shows a significant difference. Although no clear recommendation can be made about the highest rated information channel, the separate App can be seen as the least ranked answer.

8.3 Granularity

The metrics in general can be aggregated on different levels. For customer loyalty programs it could make sense to see the same metric averaged for each customer, for each branch or for the whole company.

The hypothesis H_1 says, that there is a difference in the level of detail that companies want to see (rated by importance). From a first look, this is not the case as seen in Illustration 13. A chi-square test shows, that there is no significant difference ($\alpha=0.05$) between the granularity levels. This means that the null-hypothesis H_0 cannot be rejected and we cannot accept the hypothesis H_1 .

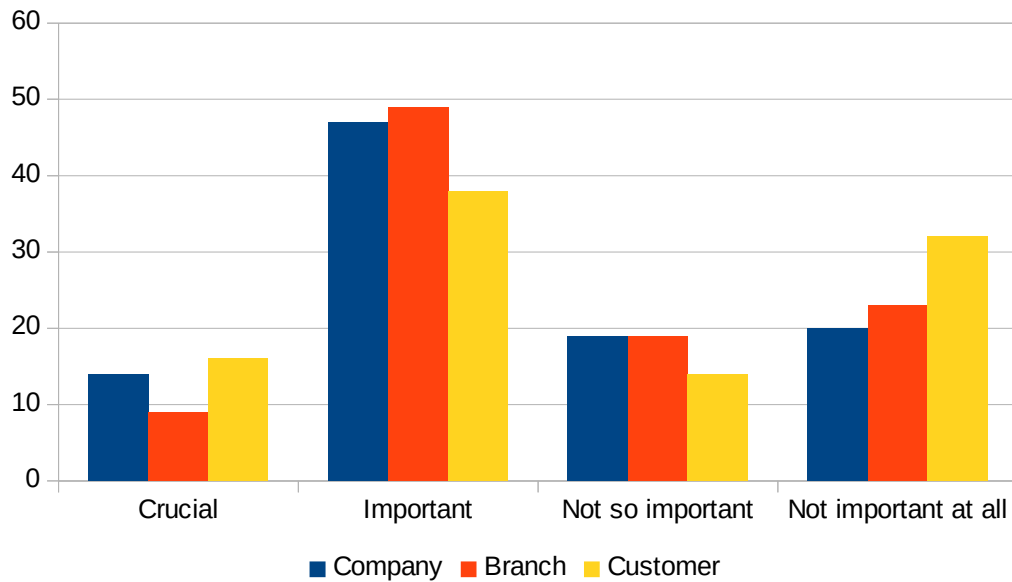


Illustration 13: Importance of the granularity levels of metrics

If the company size is taken into account this is still mostly true. Grouping the companies into group A (up to 50 employees, 47 respondents) and group B (more than 50 employees, 48 respondents) thereby comparing each granularity level individually, there is no significant difference for company-level and customer-level.

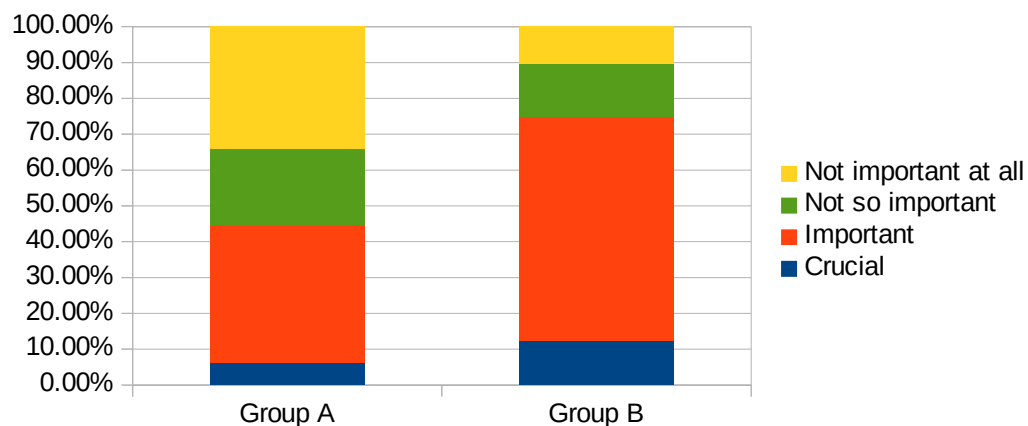


Illustration 14: Branch-level granularity preferences (in percent)

However, the t-test reveals, that there is a difference (p-value: 0.0016, $\alpha=0.05$) in

the mean importance on the branch-level between group A and B. This leads me to suspect, that it is more important to medium-sized and large companies to see the metrics for each branch. 75% of the respondents from group B say, that the branch-level is important or even crucial, compared to only ~45% in group A.

8.4 Metric categories

61 people (~64%) said, that the category “Benefit” and 58 (~61%) that “Satisfaction” are either important or crucial. The least important category is “Demography” with 45 people (47%) saying, it is not so important or even not important at all. However, an ANOVA analysis could find a significant difference ($\alpha=0.05$) in the results. H_4 said that there are differences in importance for the different categories for a company. As we cannot reject the null-hypothesis H_4 which says that all categories have the same mean, H_4 cannot be accepted.

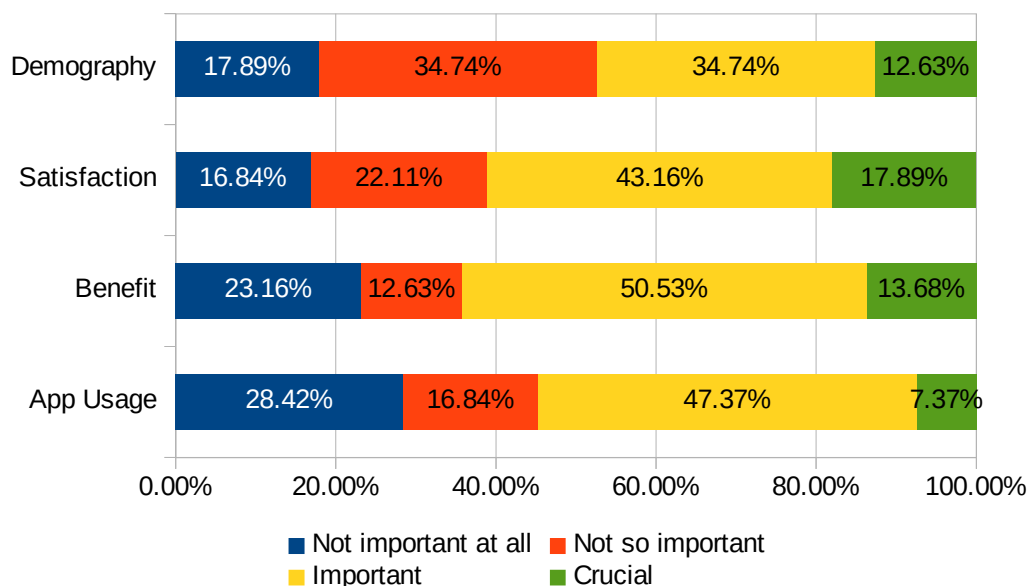


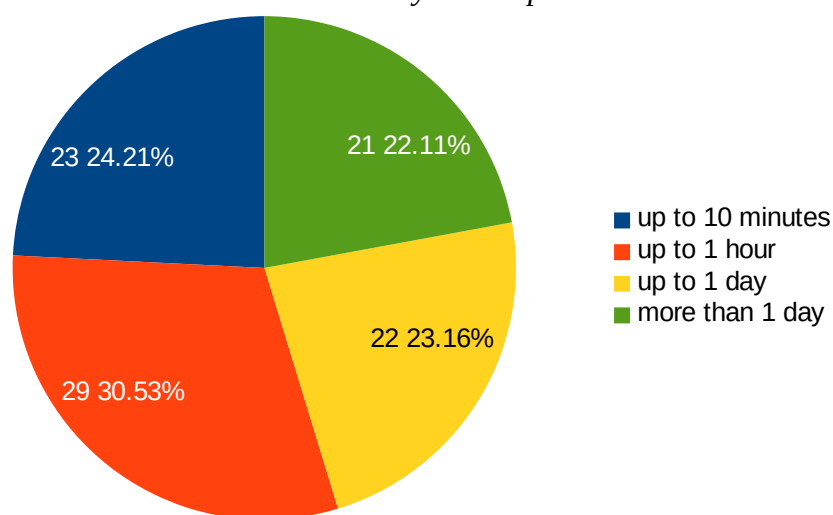
Illustration 15: Importance of metric categories

Even if we only look at responses from either only SMEs (up to 250 employees) or only large companies (more than 250 employees) there was no significant difference in the mean importance of the ANOVA analysis.

8.5 Available time to analyze customer loyalty program

The amount of time available to analyze the insights gained from a customer loyalty program varies greatly. Illustration 16 shows clearly, that there is a wide span from less than 10 minutes per month to more than a 100 times that amount of more than a day. This does not take into account the company size. Most of the respondents say, that they have between 10 minutes and 1 hour of time and a total of ~55% have less than 1 hour per month.

Illustration 16: Time available to analyze CLP per month



What if the company size is taken into account? In Illustration 17 I not only showed the available time for all companies (same data as Illustration 16), but also for companies with less than 50 employees (47 answers), between 50 and 250 employees (25 answers) and larger companies (23 answers).

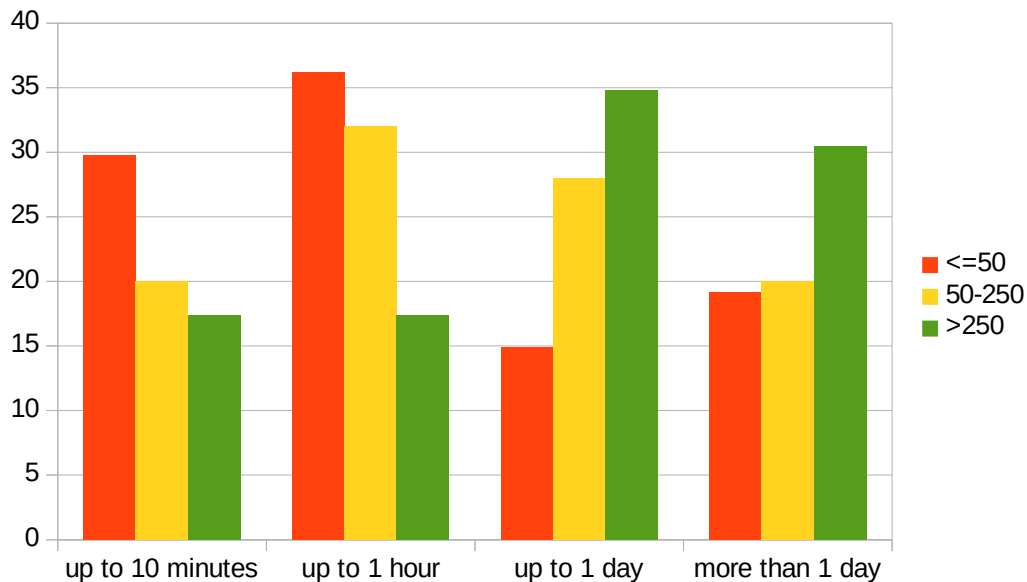


Illustration 17: Time available to analyze CLP per month by company size

Here you can clearly see, that very small companies (less than 50 employees) have predominantly less than 1 hour of time (~66%) and less than 20% have more than 1 day per month. The opposite is true for large companies (with more than 250 employees): ~66% have more than 1 hour of time available. Medium-sized companies as expected fall right in the middle where most answered with up to 1 hour followed by up to 1 day.

A chi-square test between the companies with less than 50 employees and more than 250 employees showed no significant difference (p-value: 0.079052, $\alpha=0.05$). Even less difference was revealed between companies with less than 250 employees and more.

To see if there is a correlation between the company size and the available time per month I used the company size as the independent variable by calculating the mean company size for each category (for the category ">1000" I set 3000). As the dependent variable I chose a binary value: 0 for companies with less than 1h (answers 1 and 2) and 1 for companies with more than 1h of time available (answers 3 and 4). The model could not be accepted because the p-value was 0.1184.

The null-hypothesis H_0 says that there is no difference in the available time between companies with up to 250 employees and companies with more than

250 employees. The statistical tests could not reject H_0 . Therefore I cannot accept H_2 , even though the Illustration 17 shows a big difference. However, probably due to the low number of data points and the way the answers were framed, difference is not significant.

9. Discussion

The results of the survey that were presented do not give a clear picture. Some results are inconclusive or not significant enough to give a clear recommendation without running in the pitfall that the differences simply were in the margin of error. In “9.1 How the available time influences the choice of metrics” and “9.2 Metric categories” I want to combine the information gathered from the literature review as well as the survey results and interpret what some of these numbers can mean. In “9.3 Research limitations and future research” I will briefly put the results and insights gained into perspective and show areas of the research process that could be improved in a further project to solidify some of the results.

9.1 How the available time influences the choice of metrics

In the objective I included, that the time a person has available to analyze the customer loyalty program should be considered. This is incredibly important because the information that is presented, the more time it takes to process it. A monitoring system that overwhelms the user with information either takes away resources from other important tasks or leaves the possibility that it is not used.

The range of the answers varies greatly. This means, that decision makers need to carefully consider who their target audience is for the analytics of the CLP. A person that has only 5 minutes a month, will most likely want the most critical information, because there is no time to investigate in more detail. This could mean they are informed via a regular newsletter that only shows a few high-level metrics. Another option is to only inform the user if something newsworthy happens. By defining certain thresholds (either manually or automatically) an event could trigger messages (e.g. the number of monthly active users drops by more than 3% in one month). However, these thresholds are not trivial to find out as they usually depend on the individual CLP (like type and phase). A program that has just started could have a lot more registrations than after it has been around for a year. Also seasonal properties can affect the

thresholds. Not setting the thresholds properly can lead to false-positives or missed notifications.

On the other hand, there companies that have more resources at hand have sometimes more than a day per month to spend on analyzing the KPIs of their loyalty program. This allows them to dig deep into data and look at it from different angles. This is related to the question “Can I analyze/interpret the resulting data?” in chapter 6.2.

In chapter 5.7.2 I highlighted the limited resources of SMEs, which I expected to be visible in Q4. For companies with more resources, the answer to the question “Do people have the necessary time, to look at them?” will more likely be yes. This was expected and also shown in chapter 8.5, where especially small companies (up to 50 employees) had significantly less time available than large companies (more than 250 employees).

This information can be important for App agencies and consultants that develop customer loyalty programs for on behalf of a client. Instead of blindly calculating metrics that sound useful and interesting, they should carefully go through the questions in “6 Which metrics should be tracked?”.

Another finding that is related to the available time, is the information channel that companies want to use to get the information. In chapter 8.2 I explained that there was little evidence to say a specific information channel is preferred over another. The only exception was in the case of companies that have up to 1 hour of time that they ranked a separate Admin App lower on average than the others. This can be interpreted, that they do not want to have an additional App that has a lot of functionality that might not be used anyway. They seem to prefer other means of communication like E-Mail or if the analytics part is integrated into the customer loyalty App. This could be implemented as a separate tab that is only visible to users that have a certain permission or account type.

Also related to the time is, the granularity of the data. More fine-grained data gives more information, but takes longer to analyze. Interestingly there was no significant difference that could be found on how important the level of detail is to the companies. Only after looking at the data of small companies, it showed

that the branch-level is less important to them than customer-level and company-level. This can most likely be explained as companies with up to 50 employees tend to have less or only one branch and they do not need to compare the numbers across branches.

A more distinguished analysis could yield more insights. Maybe if we ask the same question for each metric category the results look different. For example, the ROI is mostly important on the company-level where as the customer feedback is interesting per branch. However, the current data set does not allow for this kind of analysis.

9.2 Metric categories

Which categories of metrics the companies are interested in is a major part of answering the question of what should be monitored in order to improve the customer loyalty program. In “5.2 Reasons to implement a loyalty program” I talked about why a company decides to implement a CLP in the first place or continues to maintain it. The literature for the most part gives theoretical suggestions about what metrics can and should be tracked. This was discussed in more detail in “5.6 Metrics used” and includes metrics such as Share-of-Wallet, ROI or true loyalty. Those certainly have their right to exist, but they do have shortcomings that should be neglected in practice. One of them is the difficulty to acquire the data in order to calculate them. Share-of-Wallet for example needs data about the purchase behaviour of competitors. This might be possible to do with other marketing instruments, but a customer loyalty program is most likely not the ideal way to do it. The ROI on the other hand is more likely to be calculated with this data. However, it is difficult to judge, as with most marketing instruments, if an increased revenue can actually be attributed to the introduction of the CLP.

The effects that the rewards have on bystander customers Steinhoff and Palmatier (2016) do not seem to be usually tracked in practice, from what I have found. Nevertheless, it should not be neglected and would be interesting to find out if it is worth to do so.

For those very reasons it was insightful to see if a probably more costly metric is justified by the higher interest of the company. In other words: do I really want to spend more money on gathering the necessary data and do I trust it enough to be able to make better decisions? As shown in “8.4 Metric categories”, differences in importance of the categories could not be reliably detected, which does not necessarily mean that no insights could be gained from this. That could mean, that a metric that is less costly to calculate, should be preferred over a more costly metric, as the company thinks they are equally important. However, I only looked at a metric category. There can still be differences between specific metrics within the category. Further research would be required to analyze those, which could be difficult as they might be very industry specific and was out of the scope of this thesis. The categories “Benefit” and “Satisfaction” show a tendency, that companies might be more interested in them, which could also be examined further. My interpretation is, that customer loyalty programs are an investment and therefore have to show a positive return on investment. Even though an objective of a lot of CLPs is to increase the attitudinal loyalty, it is something that is difficult to grasp and a ROI or the change in the Google rating is easier to comprehend. Most of the metrics mentioned in chapter 5.6 can be attributed the behavioral loyalty because they usually measure what the customer does instead of what he/she thinks. Still some, can be attributed towards attitudinal loyalty, like customer satisfaction and are therefore even more valuable as it can often be difficult to judge.

What kind of metrics should be tracked very much depends on properties of the customer loyalty program (e.g. type) and the objectives that should be reached. Other than the questions in chapter 6, I cannot give a general recommendation on what category of metric should be tracked on the basis of the gathered data.

9.3 Research limitations and future research

This master thesis has a few limitations that I want to point out so this can be considered when looking at the results. These are for the most part the unclear plan how to process the data when designing the survey questions, the questionable quality and the limited number of responses.

During the design phase of the survey, the research question was rather broadly defined. This was mostly intentional in order to get the most insights of the thesis as possible. Although the initial survey questions were narrowed down from around 30 to 5, too little thought was put into the actual question design. This led to issues when statistically analyzing some part of the data, because it was not metric and some tests could not be used for that reason. For example, the Question 4 (see 12.1 Survey questions) should have been asked with a Likert-scale answer.

Although choosing pollfish was a good approach to reach a larger number of responses than with the initial E-Mail survey, it came with its own issues. The platform claims to employ several techniques to make sure the responses are legitimate and that the quality was proven by Goel, Obeng and Rothschild (2015). It is still a rather new technology and because respondents are incentivized to complete the survey⁹, the quality can suffer. The screening question was intended to filter out non-relevant respondents, which is not guaranteed to work. In addition the sampling has the limitation that only respondents that use an App that has pollfish integrated can answer the survey and might not represent the whole population. For me, it was still a viable option in order to get insights which I would not have been able to with the limited resources I had available.

The number of responses that was initially targeted (~400), was not met and lower number resulted in a bigger margin of error. Some insights could not be reliably proven with statistical significance. This could very well be, because they are simply not true or more data would be needed to reduce the error. A survey with more respondents could show that some differences are significant, which is not possible with current set of data.

This thesis focused on which metrics should be calculated and how this information should be transported in order to make a customer loyalty program more successful. In addition to going into more detail on some of the questions, future research could target the issue of how to visualize the metrics that were brought up. The way they are presented could potentially affect not only how easy it is to comprehend the data, but also how to perform segmentation and

9 <https://www.pollfish.com/docs/rewarded-surveys>

compare results. Another aspect that could be investigated further is how to set reasonable metric targets. In order to benchmark a CLP certain thresholds need to be set to see if it performs well enough or trigger certain actions like informing someone about a drop in monthly active users.

10. Conclusion

Virtually every marketing instrument requires resources of some sort (e.g. money or time). The same is true for customer loyalty programs. In the course of this thesis I argued that customer loyalty programs can be an effective tool to reach certain company objectives like increasing revenue. On the other hand it also has its drawbacks like costs and potential privacy issues.

Monitoring certain metrics can help a company reach the goals it set for the loyalty program. If this is not done, a customer loyalty program can fail to meet its targets and cost more than its advantages. Even monitoring costs resources and should be thought about carefully. I showed that the time a company can spend on monitoring and analyzing the customer loyalty program varies a lot. This means that the level of granularity of the metrics need to be adjusted accordingly in order to show the most valuable information. To help with the question of which metrics should be implemented I proposed a set of questions that should determine if a certain metric should be used. This process can be done for each one individually. For small companies I could find that creating a special Administration App is not as important for most companies, that the other means information channels like E-Mail or Website.

The initial assumption, that there are differences in the importance of metric categories could not be confirmed. Also differences if the company size was taken into account were not significant. As said earlier, this does not mean there are no differences between single metrics, they were just not measured.

Another finding I want to highlight is to determine in advance what the objectives of the customer loyalty program are. Only if those are well defined, it makes sense to see how the monitoring can be done in order to make sure those objectives are reached. Not only should the objectives be monitored, but also metrics that could indirectly prevent the company's objectives. If the goal is to increase the revenue, the metric of "App crash rate" should be tracked, so customers do not dropout of the customer loyalty program which endangers the main goal.

None of the initially set hypotheses could be accepted, which does not mean that they were failures. Slightly changed hypotheses that account for the company size or some other variable could be accepted:

- H₁: not accepted but differences in branch-level if groups were partitioned by company size (less and more than 250 employees)
- H₂: not accepted.
- H₃: not accepted but differences could be proven when groups were partitioned by available time (less and more than 1h per month)
- H₄: not accepted

Other than that it is difficult to make generalized recommendations and findings, as so many factors play a role in determining which metrics are viable. This is why I created the guideline which can be applied to every company. A general approach can be applied where the company's goals define the customer loyalty program's objectives. They in turn should determine which metrics should be tracked given the company's capabilities and resources, but only if corrective actions can be taken.

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12. Appendix

12.1 Survey questions

- Screening Question 1: Haben Sie in ihrem Unternehmen ein Kundenbindungsprogramm (zB Kundenkarte oder App)?
 - Answer 1: Ja
 - Answer 2: Nein, aber ich kann mir vorstellen, dass es ev. Sinn macht
 - Answer 3: Nein, daran habe ich absolut kein Interesse
- Question 1: Wieviel Zeit können Sie monatlich für die Analyse des Kundenbindungsprogramm aufbringen?
 - Answer 1: bis 10 Minuten
 - Answer 2: bis 1 Stunde
 - Answer 3: bis 1 Tag
 - Answer 4: mehr als 1 Tag pro Monat
- Question 2: Wie wichtig sind Ihnen Kennzahlen der folgenden Kategorien?
 - Answer 1: Nutzung der App (Durchschnittliche Nutzungsdauer, Anzahl der im letzten Monat aktive Benutzer, Anzahl
 - Answer 2: Wieviel bringt mir das Kundenprogramm (zB zusätzlicher Umsatz, Kunden, Return on Investment)?
 - Answer 3: Kundenzufriedenheit (zB durch Feedback)
 - Answer 4: Demografie der Kunden/wer sind meine Kunden (zB Alter, Geschlecht)?
- Question 3: In welchem Detailgrad sollen diese Kennzahlen vorliegen?
 - Answer 1: Auf Unternehmensebene
 - Answer 2: Auf Filialebene
 - Answer 3: Auf Kundenebene

- Question 4: Wie möchten Sie sich über den Status das Kundenbindungsprogramms informieren? Reihen Sie die Antworten nach Ihrer Priorität (#1 als wichtigste Antwort)
 - Answer 1: Regelmäßige E-Mail updates (zB wöchentlich, monatlich)
 - Answer 2: Auf einer Website
 - Answer 3: In einem Adminbereich in der eigenen Kundenbindungs-App
 - Answer 4: In einer separaten mobilen App für Administratoren
- Question 5: Wieviele Mitarbeiter sind in Ihrem Unternehmen tätig?
 - Answer 1: 1-15
 - Answer 2: 16-50
 - Answer 3: 51-250
 - Answer 4: 251-1000
 - Answer 5: >1000