Pricing in Theory and Practice. Combined Application of Price Discrimination and Prospect Theory Compared to an Example in Practice.

BACHELOR'S THESIS

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Management Summary

A carefully considered pricing can effectively influence the success of almost any business. However, entrepreneurs who lack the necessary knowhow often structure pricings in a more intuitive manner. This thesis aims to compare a pricing established under these circumstances to a specifically designed theory-based pricing, working out differences and reflect on missed business potential. Furthermore, it is discussed if the applied method is applicable in practice.

In order to find out, first an explicit pricing structure is successively created based on the principles of the price discrimination theory and the prospect theory. To reduce the complexity and facilitate objectivity a sequential approach is applied so the reader can follow the investigative procedure step by step. Secondly, the pricing based on theory is presented and compared to an example in practice. The identified differences are critically discussed to answer the formulated research questions. Consequentially, the pricing of a technology-based start-up is used for comparison to exemplify the situation of inexperienced entrepreneurs.

The analysis results in a pricing consisting of a menu of two-part tariffs targeting high and low demand customers. The dynamic pricing aspect of the two-part tariff allows the start-up to not only differentiate and discriminate between the two customer groups but also among individual customers within the respective group. However, as customers can choose the product bundles themselves, the pricing components are designed with a focus on preventing demand transferability. Considering both theories, three product bundles are suggested accompanied by additional measures, which make use of anchoring and framing effects.

The final comparison reveals, that even though the start-up is already successfully price discriminating the current pricing is too complex and lacks a variable aspect linked to the usage of the core product. This can potentially lead to missed profit through demand transferability, lost customer orders or the inability to detect the maximum willingness to pay. Currently, the start-up depends only on the ability of their sales representatives to prevent the mentioned failures from happening. This causes higher costs in terms of

staff training as well as a higher dependability on certain employees. Accordingly, the overall potential scalability of the business suffers.

The chosen approach shows on one hand that a pricing designed in practice did not lead to an optimal pricing scheme. Hence, theory can help to better structure and optimize the pricing in practice. On the other hand however the attempt to only focus on theory and not implement a practical perspective would be not optimal either. Contradictions among the chosen theories limit a mere theoretical approach. However, the combination of theory and practice, how it is presented in this thesis, can lead to worthwhile outcomes and could be used as an example for other entrepreneurs.

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List of Abbreviations

SME   Small and Medium sized Enterprise

CAC   Customer Acquisition Cost

p.a.   per annum / per year

CHF   Confederatio Helvetica Franc / Swiss franc

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1. Introduction

The introductory chapter presents the topic, the research questions, the method as well as the underlying case analysed in this work. It marks the drivers behind the research questions and shortly states reasons for the choice of the theoretical frameworks. Even though these aspects are highlighted the applied method (discussed in chapter 1.2.) implies that certain components of the theory and additional containments reveal it selves as soon as the respective context in the analytical process requests it.

1.1. Topic introduction and research questions

A carefully considered pricing model can be of high value as it can effectively and sustainably influence the success of almost every business in a positive way. At the same time, it represents a challenging task as the approaches for structuring a pricing are numerous and no single right way exists. Especially young entrepreneurs who lack experience in business could run into difficulties when facing this task. This increases the risk of mistakes, which could result in missed profit. However, one option for creating an optimal pricing model would be through a scientifically based analysis. In day-to-day business however the time and resources for such an in-depth analysis are scarcely ever available. Thus, pricings in practice are created and optimized through a rather intuitive and iterative process. *This raises a twofold question: First what differences can be identified between a theory-based and a practical pricing and second can missed business potential be detected when reflecting on the appearing differences*. When answering these questions it furthermore allows to generate insights on how the optimal pricing according to the theory would look and how feasible the method of creating an exclusively theory-based pricing is.

In order to find out, a pricing based on two economic theories is step by step constructed and then compared to an already existing pricing in practice. Furthermore, for exemplifying the situation of young entrepreneurs using a rather intuitive pricing process, it will be a pricing structure of a start-up being used for comparison. Consequentially, the applied theories are related to the market situation and business needs of the start-up: First, the theory of price discrimination will be used as the start-up does posses a dominating market position and second, the prospect theory complementing the former through its practical insights in purchasing decision situations.

1.2. Research method and limitations

After describing the case of the start-up Poinz GmbH (hereinafter called 'poinz') in 1.3. the theoretical base of the price discrimination theory will be introduced at the beginning of the second chapter. It will mainly be formed by the work of Arthur C. Pigou (1920), J. Robinson (1969). and J. Tirole (1988). The defined borders and key implications then guide the definition of a first potential pricing structure in 2.1.3. In chapter 2.2. the procedure of introducing the theory first and applying it thereafter will be repeated with implications of the prospect theory outlined by Kahneman and Tversky (1979). The main focus will be laid on the concepts of 'Anchoring' and 'Framing'. Generally, reasons and justifications for the choice of each concept as well as the mentioning of limitations will be further discussed in the respective chapters 2.1 and 2.2. However, both analyses will first be undertaken independently of each other and with no further reference to the existing pricing model of the start-up. Nonetheless, after working out the implications of both theories, the results will be combined in chapter 2.3. and one pricing model suggested. This final pricing will then be compared to the status quo of the start-up in chapter 2.4. In a next step, appearing differences as well as similarities will be worked out and critically discussed, especially if, from the perspective of poinz, business potential was missed. Finally, in the discussion in chapter 3, a critical reflection on the applied method as well as a final assessment of poinz regarding the missed business potential will be formulated.

By focusing on each theory independently the analytical process is transparently revealed and prevents certain biases from influencing the analysis. The sequential approach additionally helps to reduce complexity and aims for objectivity as the reader can follow the analytical procedure step by step. The need for transparency and objectivity gains further importance as the analyst of this work is engaged as Chief Operating Officer and shareholder of poinz.

Furthermore, the method of creating a full pricing as a basis for comparison is assumed to yield more meaningful results than a more abstract approach. Mainly, because pricings often relate to singularities of the respective business and therefore differ from case to case. Hence, a specially made pricing enables a more precise comparison.

Nevertheless, it is not the goal of this paper to consider the whole scope of pricing research and question them from a theoretical point of view. The chances rather lay in

the comprehensible use of pricing theories for a practical application. Overcoming contradictions between the two theories, which are limited to the theoretical space only, can therefore be justified if it does not reasonably interfere with the goals of the start-up in practice. However, it will be in the last part of the thesis where the limitations and the chances of the chosen approach are further discussed.

1.3. Case introduction - the start-up poinz

The following chapter helps to understand the main drivers behind the pricing model of poinz and its overall business environment. The information displayed before introducing the pricing structure will support the understanding of the specific pricing design and certain assumptions made in the subsequent second chapter.

Founded in 2012 in Zurich, as of March 2017 poinz has employed ten full time employees and two technical experts. Because of the innovative nature of the product and the foundation in 2012 poinz is considered to be an innovation driven start-up (Eidgenössische Steuerverwaltung ESTV, 2013). Poinz developed a free smartphone application (hereinafter called 'App') for private individuals (hereinafter called 'user/s') as well as a web tool and business services for its business customers (hereinafter called 'customer/s'). The App helps users to store loyalty cards of local businesses on their smartphone. Such loyalty cards are mainly seen in restaurants or cinemas where businesses give one free unit after consumers have bought a certain number of units (e.g. buy ten menus, get the eleventh for free). The App helps users to increase convenience by lowering the amount of paper loyalty cards in their briefcase as well as saving money by receiving discounts and coupons (Poinz GmbH, 2016). Customers on the other hand can retain consumers (users) more effectively, can send messages and promotions to the users' smartphone and measure the success of the marketing campaign through an analytical web tool (Poinz GmbH, 2016).

Business model

As a platform, which hosts multiple loyalty campaigns for different local businesses, poinz faces users of the App on one side and their customers (businesses) on the other side. Poinz is therefore regarded to be a so-called 'two sided business'. Despite the fact that both parties are crucial for the start-ups' success the users are not charged with any

fee. However the customers are charged a yearly recurring fee for using poinz as their customer retention platform. The business model further relies on the promotion activities of the business customers. As every business customer has an incentive to promote its own loyalty campaign, poinz gains reputation from the generated downloads of the App used to store the loyalty cards. The business model of poinz is further strengthened through a 'lock in' effect for users and customers alike. The more loyalty cards a user stores on his smartphone the lower the probability that he or she stops using the App and the more user a customer of poinz has the more unlikely it becomes that he leaves the poinz platform.

Market situation

As of March 2017 poinz defines its target customer as a small or medium sized (hereinafter called 'SME') retail, service or gastronomy-company in an area of high population density in the German speaking part of Switzerland. The target customer has preferably a product with a high degree of substitutability, which is sold at relatively high frequency (e.g. cinema ticket, lunch menu, low priced fashion goods etc.). Poinz acts as a specialised company in a niche market with a clear focus on loyalty services on mobile phones in Switzerland. This specialization led to the actual market leader position with its 250'000 Users and 1200 Partner locations (Poinz GmbH, 2016). As a result of the strong customer network with nationwide, famous brands, the barriers to still successfully enter this specific market are high. The more partner sign up to the platform the more user benefit from it and the more user are requesting the app, the more partner want to sign up. This self-reinforcing structure fosters the market leader position even further. The only main competitor, the post finance subsidiary 'Profit App', went out of business as per end of 2016. As a result, poinz is now considered to be an effective monopoly. This aspect will be referred to and discussed in more detail in the analysis in chapter 2.1.1. where the role of a monopoly is further introduced.

Cost drivers

The fragmented structure of the SME-market in Switzerland is the driving force behind the cost structure of poinz. As small retail, service or gastronomy-companies do not have a single point to reach out to, every business partner has to be acquired separately. Additonally, the entrepreneurs behind the business are often faced with time constraints when it comes to marketing activities because of the requesting task of leading a small business in a competitive environment. As a result, the acquisition, initialisation and relationship management of the single business is a time and people intense task for poinz. The main fix costs poinz faces are therefore related to its human capital. The fix costs occur independently of the size of the acquired partner or the specific service package bought (see next chapter for more information on pricing). The importance of customer acquisition leads poinz to focus on the key cost indicator 'CAC' (customer acquisition cost), which shows what the acquisition of a customer costs. It is calculated by dividing all direct sales and marketing expenses in one specific period by the number of customers acquired in this specific period. The estimated CAC for poinz in 2017 is CHF 550. The CAC will also be referred to as 'the marginal cost' of poinz and will be further outlined in chapter two. For the analysis later in this work it is further assumed that the overall cost structure is given and stable.

1.3.1. Existing pricing strategy of poinz

The following introduction to the pricing model helps to further understand the business practices of poinz and represents the base for the comparison in the last part of this work. However, the existing pricing structure (also referred to as 'status quo') does not further influence or connect to the separate analysis based on the price discrimination theory or prospect theory in chapter two.

The pricing consists of recurring yearly fees. To simplify the decision-making process four predefined packages (see Table 1 belwo) suggest possible product bundles to the potential customer. The packages do not specifically target a certain industry but are linked to considerations on different budget constraints of potential customers. Prices are charged per sales location and discounted by 10% for customers with more than two sales locations and by 20% with more than five sales locations. Besides small discounts

incentivising a fast decision of the potential customer no further permanent discounts are installed. Currently, the following product bundles are available:

Budget	Light	Standard	Pro
One Loyalty campaign No statistics	Unlimited loyalty campaigns Campaign statistics	Unlimited loyalty campaigns Campaign statistics Limited Communication function (up to 3000 messages)	Unlimited loyalty campaigns Campaign statistics Unlimited Communication function Consulting mandate
CHF 390 p.a.	CHF 780 p.a.	CHF 1200 p.a.	CHF 2000 p.a.

Table 1: The current pricing of poinz consisting of four product bundles with functionalities acting as differentiator.

Even though the fix yearly fees do vary in price significantly it does not cost poinz more to add or leave out certain product features. The digital nature of the product allows for differentiation between customers and scalability at no further costs. Especially the communication function is differing the lower priced bundles 'Budget' and 'Light' from the higher pried bundles 'Standard' and 'Pro. An exception marks the consulting mandate in the 'Pro' package requesting further human resources to be served hence higher costs.

On the Website poinz does only display the lowest price (Budget, see Table 2) broken down to the monthly amount (Poinz GmbH, 2016) and preferably visits their customers on site to discuss the suitable product bundle. The intention of this practice is to first draw the interest of any potential customers to then identify and sell the highest possible bundle for each customer on site and thus maximize revenue.

Furthermore, poinz stated that an initial market research was undertaken when the company was founded to approximate a certain price level. However, no consultations of scientific approaches prior to the design of the pricing were undertaken. Changes in prices were mainly considered based on an iterative process guided by qualitative feedback of sales representatives. However, no fundamental changes were undertaken since the pricing was installed in 2012. The reflection on the pricing structure and the underlying drivers will be discussed in chapter 2.3., 2.4. ('pricing comparison') and 3 ('Discussion').

2. Methods and results - Creating a theory-based pricing and compare it to an example in practice

The analysis undertaken in this chapter represents the core aspect of the work. While the first part will focus on the price discrimination theory, the second part will cover the implications of prospect theory for a pricing model for poinz. The respective sub-chapters 2.1. and 2.2. will always introduce the reader to the theoretical aspects of the chosen theories first and apply it to the pricing model thereafter. The theoretical parts should help to set a common understanding of the theories and not deepen or question them fundamentally. Furthermore, as mentioned in the introduction, it is important to note that the existing pricing structure of poinz should not further influence the structuring of the theory-based pricing. It is assumed that no current pricing exists and demand structures of potential customers are not known in advance. This set pre-condition helps to realistically simulate the situation entrepreneurs find themselves in when designing a pricing. However, in chapter 2.3., the pricing structure based on price discrimination theory from 2.1. will be combined with the insights gained from the prospect theory in chapter 2.2. The last part contains the final results in form of a comparison between the current pricing of poinz and the established pricing structure from 2.3.

2.1. Creating a pricing through price discrimination theory

The goal of this chapter is to introduce the price discrimination theory, state the necessary boundaries related to the goal of this work and applying it to design a pricing for poinz. However, before introducing the reader to the core theory of price

discrimination, underlying additional concepts are explained, enabling a better understanding of the core framework thereafter. The final application of the theory will be undertaken in chapter 2.1.3 followed by additional remarks on certain boundaries and assumptions effecting the pricing in practice.

2.1.1. Additional concepts underlying the price discrimination theory

The interpretation and understanding of the standard economic model, the willingness to pay and the definition of monopolies must be understood before introducing the price discrimination theory. The following chapters thus highlight some theoretical aspects as well as insights on how they should be linked to the start-ups' situation and the pricing design thereafter. It also represents the foundation for the understanding of why and when price discrimination could be applied in practice. However, possible critique and reflections on the suitability of certain assumptions are not further outlined in this part but taken on in the 'Discussion' in chapter 3.

Standard economic model and willingness to pay

The standard economic model constructs the situation of economic agents (hereinafter referred to as 'customers' of poinz) facing purchase decision situations. The model constitutes that every customer tries to maximize the utility under the constraint of the available budget. In the case of poinz, utility is referred to the satisfaction customers derive from buying a certain product bundle. It therefore represents a subjective value limited by the financial possibilities of the customer. It is assumed that in every decision making situation the customer acts rational and therefore chooses the optimal combination between the perceived satisfaction and the amount spent (Mankiw & Taylor, 2014, p. 102). However, every buyer facing this trade off has to think of a concrete price he is willing to pay for the product. The monetary value (the price) of the utility (subjective value of the good) represents the customers 'willingness to pay' (Mankiw & Taylor, 2014, p. 102f.). Hence, poinz has to always consider what perceived value their products trigger, what financial constraints the customers face and thus what price the customers are willing to pay. The concept of the 'willingness to pay' will play an important role in the following chapters on price discrimination as well as prospect theory in chapter 2.2.

Poinz as an effective monopoly

The definition of a monopoly is diametrically opposed by the construct of a company in perfect competition. It is referred to a company with the market power to dictate prices to the consumers' and not forced to adapt prices because of competitive forces. Poinz does not face competing products or services, which consumers could use as substitution. Furthermore, the self-reinforcing mechanism of their business model, explained in the introduction, enables high entry barriers. As a result, 'price giving' powers can be assumed and poinz therefore considered an effective monopoly (Mankiw & Taylor, 2014, p. 290). However, it is not clear if products in other markets could influence the demand structure of the market. To simplify the analytical process it is assumed that other markets do not influence demand.

Under these circumstances poinz can by definition maximize its profits by dictating a price, which allows absorbing remaining consumer surplus. The latter is referred to be the sum of the positive differences between a price paid for an economic good and the customers' actual willingness to pay (see 'A' in figure 1). Hence, if poinz is able to charge the exact price every single consumer is willing to pay, a maximization of profits would be achieved (in Figure 1 'A' + 'B' + 'C').
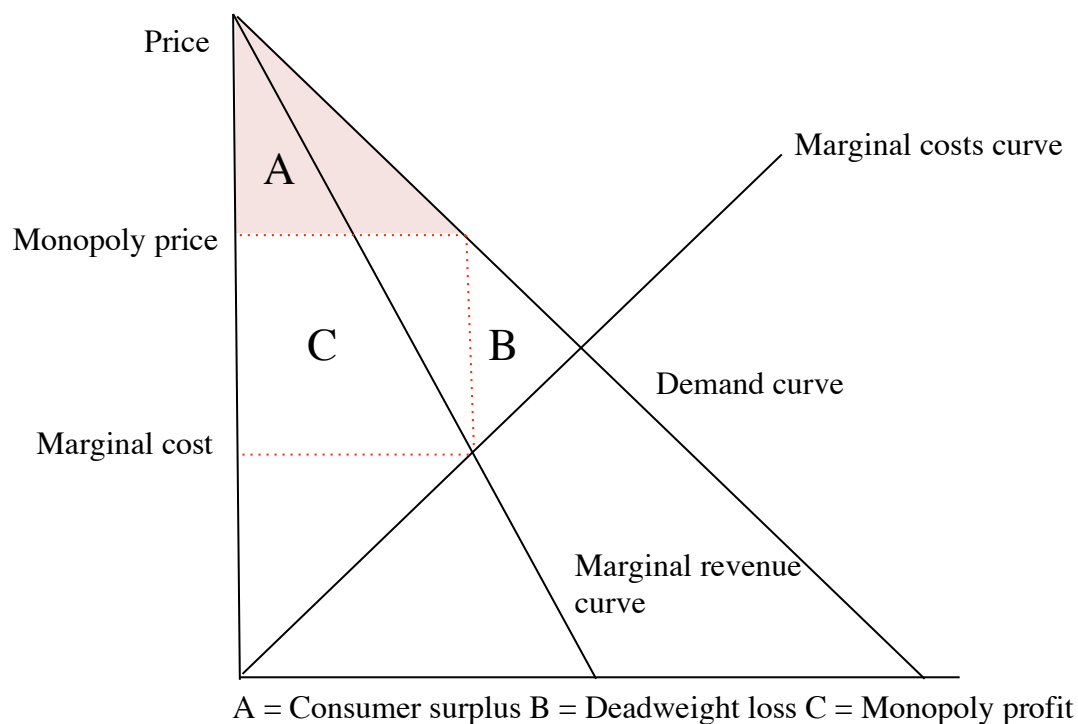

A = Consumer surplus B = Deadweight loss C = Monopoly profit

Figure 1: Illustration of monopolistic market situation.

2.1.2. Theoretical framework of the price discrimination theory for poinz

By definition, a company engages in price discrimination if it is able to charge different prices for the same economic good (Tirole, 1988, p. 133). It is core to note that differences in prices expressing differences in costs are not considered price discriminating (Tirole, 1988, p. 133f). However, the differentiation of products (e.g. first and second class tickets in trains) resulting in different prices can be used as an instrument to discriminate between consumers (Robinson, 1969, p. 180). Consequentially, it is a compulsory requirement that a company that wants to engage in price discrimination is able to dictate prices and does not have to adapt to prices of the competition (Robinson, 1969, p. 179). Poinz is not only considered to be an effective monopoly but has also the chance to discriminate successfully because of its favourable cost structure and the digital nature of the product. The former is, among others, expressed by the customer acquisition cost of CHF 550 representing the 'marginal cost' of the monopolist (see figure 2). The latter aspect by the fact that product variations do not ultimately yield higher costs for the start-up and therefore enables effective discrimination. However, making use of this favourable position is linked to certain difficulties. Incomplete information about customers demand structures as well as the possibility that market participants optimize the suggested product bundles (risk of transferability see below) complicate price discrimination (Tirole, 1988, p. 134f.). These difficulties lead to different strategies on how to design a pricing in an optimal way. In the following sections the difficulties alongside with suggested strategies will be further explained.

Possibility of commodity and demand transferability

As stated above the success of price discrimination is hindered by the possibility of consumers escaping the price dictation of a monopolists pricing model (Tirole, 1988, p. 134). In theory, escaping the price dictation is referred to as 'transferability' or 'arbitrage' (Tirole, 1988, p. 134). The higher the amount of arbitrage possibilities, the more difficult it becomes for the monopolist to discriminate. Hence, as the conditions for poinz to price discriminate are given, arbitrage must be circumvented (Pigou, 1920, p. 240). The following two sub-chapters highlight the two main arbitrage possibilities and reflect on their possible impact on the pricing design of poinz.

Transferability of commodity

Where a physical good is involved the risk for the monopolist that consumers optimize prices between each other exists. Commodity arbitrage happens when a customer buys at a low price and resells it to another consumer, which would pay a higher price when buying from the monopolist directly (Tirole, 1988, p. 134). However, digital products as well as services can hardly be bought and resold (Robinson, 1969, p. 180). This fact prevents this sort of arbitrage from happening in the case of poinz. Therefore, the risk of commodity arbitrage is not further considered in.

Transferability of demand

In the absence of physical goods however consumers are able to escape discrimination by choosing a cheaper product bundle or service package compared to their willingness to pay (Tirole, 1988, p. 134f.). If poinz would create product bundles to charge different prices the risk is intact that certain customers choose a cheaper package not designed for them in the first place (Tirole, 1988, p. 135). If this happens poinz fails to charge the maximum price the customer would be willing to pay and misses out on possible profit. Compared to the transferability of commodity the risk for demand transferability is intact and must be considered in pricing design for poinz. Theory suggests a highly effective segmentation (linked to a large amount of information about customer demand) or customers self-selecting their product bundle as a counter measure (Tirole, 1988, p. 135). These aspects will be further discussed in pricing design in chapter 2.1.3.

Different levels of price discrimination

Following Pigou (1920), there are three main strategies to maximize the profit of the monopolist using price discrimination (Pigou, 1920, p. 240ff.). In accordance with the stated method in the introduction all three types are theoretically explained yet at the same time put into the context of designing a pricing for poinz in the chapter 2.1.3.

First-degree price discrimination

First-degree price discrimination is also referred to as 'perfect price discrimination' as the monopolist is theoretically able to absorb the entire customer surplus (Tirole, 1988, p. 135). For achieving this degree of discrimination a monopolist would have to charge n different prices to n different consumers with n different demand curves (Robinson,

1969, p. 186). Even though Pigou (1920) states that this type of discrimination is "scarcely ever practicable" (Pigou, 1920, p. 245) the start-up poinz would have to consider engaging in this type of discrimination at least to a certain extent. Mainly because Pigou (1920) complements his remarks by stating that perfect discrimination could be possible if "detailed separate bargaining with every separate customer" would or could be undertaken (Pigou, 1920, p. 245). As a start-up, poinz enjoys a certain amount of flexibility and agility and thus could be able to engage in such a strategy. However, the costs of it in terms of coordination and administration should not be underestimated and be taken into account. Furthermore, Tirole (1988) outlines an additional problem poinz would have to deal with when implementing a prefect price discrimination strategy: The incomplete information about the effective individual willingness to pay poinz possesses in practice (Tirole, 1988, p. 135). How these aspects should be approached will be further outlined in the concrete analysis in chapter 2.1.3.

Second-degree price discrimination

One possibility for tackling incomplete information on customers' willingness to pay is letting them self-select a pre-set of product bundles themselves (Tirole, 1988, p. 143). In a more abstract way, Pigou (1920) formulates the optimal price / product bundle under the second type of discrimination as an offering where consumers who are willing to pay a price higher than *X*, self-select price *X* and all other consumers only willing to pay less than *X*, but more than *Y*, choose price *Y* (Pigou, 1920, p. 244). The challenge of this method is the division of the market into optimal sub-markets for the creation of optimal product bundles. It has to be taken into account that if the attempt of segmenting customers and create optimal product bundles accordingly fails, customers will be able to transfer themselves in "wrong" product bundles not created for them in the first place (Robinson, 1969, p. 187). However, for the pricing design this sort of discrimination strategy must be considered, as poinz will not be able to gain perfect information about customer demand in advance. Nevertheless, as demand transferability is possible, measures preventing it must be applied when designing the pricing structure.

Third-degree price discrimination

Third-degree price discrimination is differing itself from the second degree by using a direct signal regarding the demand of the customer to create product bundles matching each specified customer group. Whilst the second degree is relying on the self-selecting consumer the third degree anticipates certain factors like age, occupation or location of the customer to segment and charge different prices (Tirole, 1988, p. 135). As a result, the optimal combination of markets would be a combination where missed consumer surplus is minimized through an infinite range of precise sub-markets where the lowest demand price of the highest segment exceeds the highest demand price of the following one (Pigou, 1920, p. 246). However, as poinz can technically not split its market into infinite, distinct groups there will always be consumers in one group theoretically willing and able to pay for a more expensive product bundle designed for another customer group. Hence, poinz would miss out on consumer surplus. Further refining this sort of discrimination with *n* different customer groups for *n* different demand structures would at one point come close to the first degree in terms of complexity (Robinson, 1969, p. 186). As a result the third type will play a minor role in the following analysis as detailed information about customer groups are missing. Nonetheless, the possible combination of aspects assigned to the first, second and third type of discrimination will be further considered in the subsequent chapters. In the latter case it will be using exogenous signals to further define certain product bundles when information about demand structures are missing.

2.1.3 Application of the price discrimination theory for a pricing in practice

While the preceding chapters established the theoretical framework, this chapter will apply it and create a pricing structure for poinz. The first part constitutes the analytical frame for the pricing. Separate aspects that have to be considered in the concrete pricing design later on are labelled with numbers 1 to 6 in brackets and then summarized at the end of the section. This further structures and thus objectivizes the underlying analytical process. After the summary of the analytical frame the concrete pricing will be constructed and calculated. In the end additional limitations will be highlighted, concluding the already made assumptions.

Structural analysis of the price discrimination theory for the pricing of poinz

Based on the explanation in the preceding chapter poinz should try to apply certain aspects of perfect price discrimination. The goal would be to gain a maximum amount of information about the customers' willingness to pay and to prevent demand transferability by influencing the customers' choice when meeting in person. As stated in the introductory chapter 1.3. poinz preferably visits every customer in person and does not display any further information on the pricing structure online. Hence, customers do not have the possibility to pre-select a price or discuss prices prior to the sales meeting, which supports the suggested approach (1). Nonetheless, it also limits the possibilities for dynamic online pricing, where dynamic prices are transparently shown online, which thus is not further considered. However, charging n different prices in n different bargaining situations would hardly be practicable on a large scale (Pigou, 1920, p. 245). This statement is applicable to poinz as for example the training, incentivization and coordination of the sales team becomes more complex and expensive the larger it gets. Additionally, despite sophisticated sales trainings, no guarantee can be given that sales representatives are able to find out the exact willingness to pay when bargaining the individual price (Tirole, 1988, p. 134f.). In that context Pigou (1920) mentions the danger of bribery or other difficulties containing so many individual bargaining situations (Pigou, 1920, p. 245). As a result other pricing mechanisms must be put in place in the case of poinz.

The second type of price discrimination addresses this problem. The self-selecting mechanism of the pricing structure could help discriminate in a more scalable manner (Tirole, 1988, p. 135). More precisely, it would set clear borders for the poinz sales meetings and reduce complexity in coordination and training. Tirole (1988) suggests two-part tariffs as a widespread and "simple" instrument for discrimination of this type (Tirole, 1988, p. 143). Applying two-part tariffs consumers do not only choose between different price bundles according to their willingness to pay but also pay a dynamic price linked to the individual usage of the product. This is achieved by combining a lump sum fee 'T' and a varying price 'p' charged per variable aspect 'q' of the product (2). However, because customers can select product bundles themselves a special focus must still be laid on the minimization of demand arbitrage (Tirole, 1988, p. 143). The

focus when choosing T, q and p must therefore lie on successfully differentiating different customer groups in a way arbitrage does not occur (3).

According to Tirole (1988) different demand structures can be targeted better with a range than with just one tow-part tariff (Tirole, 1988, p. 148). To simplify the analytical process in regard to the limited time frame of this thesis and the limited information available on poinz customer groups it is assumed that only two customer segments are relevant: High and Low demand. In this case two price bundles 'T1 + (p x q)' (hereinafter called B1) and 'T2 + (p x q)' (hereinafter called B2) should be introduced (Tirole, 1988, p. 148) (4). The product bundle B1 would thus target the low, B2 the high demand customers. Furthermore, the lump-sum fee T1 attached to the product aspects in B1 must incorporate the lowest possible edge of the low-demand customers' requirements. This should firstly allow including as many (low-demand) customers as possible and second, in combination with the product features in B1, prevent the high demand customers from choosing the lower bundle (5) (Tirole, 1988, p. 148f.). Remaining consumer surplus should therefore be absorbed by p x q. However, what aspect should represent q and which price to charge for T or p depends on the customer groups demand structure. As in the context of this work it is assumed that no prior knowledge about the exact demand structure is available, the three variables T, q and p have to be approximated among others by available exogenous factors (6). In the context of this work the differentiation of low and high demand customers is therefore applied by combining product bundles based on the principles of the second type of discrimination and exogenous factors theoretically closer to the third type of price discrimination.

In conclusion, the structural analysis above has resulted in six aspects that need to be considered and further developed for a concrete pricing scheme for poinz.

Findings of structural analysis

Combining the six aspects in the previous section poinz should present the product and the respective prices to every customer individually to detect the willingness to pay and minimize the risk of demand transferability (1). However, poinz should do this within boundaries provided by a certain pricing structure to reduce complexity, errors and cost that could occur when facing *n* different bargaining situations. A menu of two-part tariffs based on a lump-sum fee (T) and a variable price (p x q) should set these

boundaries (2). The structure of the two-part tariff must be set in a way high and low demand customers can be differentiated and discriminated (T1, T2) (4). Additionally, the combination of a fix and a variable price offers a possibility to minimize the risk of missed consumer surplus (3, 5). Nonetheless, poinz has to pre-set T, p and q based on exogenous factors of the target market with a focus on hindering demand transferability (6).

Final pricing based on price discrimination theory

In this section the composition of the product bundles *B1* and *B2*, the corresponding lump sum fees *T1* and *T2* as well as the dynamic pricing aspect *p x q* are defined. The difficulty lies in designing the pricing without knowing the demand curve of high and low demand customers in advance. If such information would have been available (which however is mostly not the case in practice) one could have defined the willingness to pay of both customer groups and design a pricing accordingly. However, not knowing the demand curves yields certain problematic which must be targeted by an alternative approach: First, the product bundles *B1* and *B2* are composed to generate a general understanding of a low and high demand customers needs. The goal is to clearly differentiate a high- form a low-demand product bundle. Thereafter, the fixed tariffs *T1* and *T2* are established accordingly. Due to the missing information on customer demand the cost structure of poinz as well as exogenous signals indicating certain budget constraints help to calculate the final prices. In the last part the composition of the dynamic aspect p x q does therefor try to balance an approximated product usage with a price that must be able to absorb a remaining but unknown consumer surplus. The specific difficulties are further discussed when appearing in the respective section.

Bundle B1 and B2: Following the principles of price discrimination theory price differences between product bundles B1 and B2 should not be linked to additional cost for poinz yet justified by aspects of product differentiation. Robinson mentions the possibility of selling "a certain article which in fact is almost certainly alike (...) as different qualities under different names and labels (...)" to simply split up the market so "the monopolist can sell what is substantially the same thing at several prices" (Robinson, 1969, p. 181). Accordingly, poinz must add digital features not linked to higher costs and label the product bundles in ways demand transferability between high

and low demand customers becomes unlikely. Hence, the available product features must be combined in a way a high demand customer has no interest to buy the low demand bundle. Based on the information given on product functionalities one could suggest (and assume for further analysis) that following product bundles:

Bundle 1, B1: Representing a basic package for low demand customers it should cover product features delivering enough perceived utility for a buying decision but at the same time not enough for the high demand customers. The latter should still perceive it as unattractive despite a notable price discount. To draw a stereotype of such a low demand customer choosing B1, one could imagine a single store with rather less customer frequency and revenue as well as limited human or financial resources unable to engage in well-structured marketing campaigns. The success of multiple loyalty campaigns as well as the usage of the communication feature would thus play a minor role in his considerations. The main feature of this package should hence be limited to the core function, digitalization of one loyalty card, as well as the possibility to track campaign successes statistically. Therefore, it is assumed that high demand customers with less budget constraints are the opposite of the drawn stereo type and use poinz for its additional functionality, the communication function as well as multiple loyalty campaigns, and do not transfer themselves into B1 accordingly.

Bundle 2, B2: Consequentially, this bundle should be mainly differentiated by the communication function, which allows high demand customers to communicate with its loyal customer base. Additionally, the possibility of unlimited loyalty campaigns (e.g. one loyalty campaign on coffee and one on lunch menus) should be granted. As the resources (financial and human capital) of applying poinz successfully should be in place the loyalty program and the communication function should result in higher campaign success and thus further raise perceived utility hence willingness to pay.

Tariff T1 and T2: Not knowing the demand structure of each customer group complicates the calculation process, especially because instruments like conjoint modelling or contingent valuation method for identifying the willingness to pay are out of the scope of this work. However, the issue of missing information could partially be compensated by considering exogenous factors for approximating differences in

willingness to pay (see also point 6 in previous section). In the case of poinz the following factors are assumed viable to help differentiating low and high demand customers and calculate prices accordingly: The size of the customer (a) (the more sales locations, the higher the purchasing power), frequency of purchases at customers' location (b) (the higher de frequency, the more financial success and the higher the likelihood of a suitable product for loyalty cards hence higher willingness to pay), success of retention programs (c) (assuming suitable products for loyalty cards and well-done marketing execution hence higher willingness to pay) as well as the financial stability of the potential customer (d) (the higher the respective margins of certain customer groups, the lower the budget constraint, hence higher willingness to pay). Whilst the first aspect *a* will be covered separately, the factors *b* and *c* will be targeted by the dynamic pricing aspect p x q and described in the respective section below. However, as p x q is considered capable of absorbing an unknown amount of consumer surplus (see introduction of this chapter above), T1 and T2 could focus on the budgetary aspect *d*. In sum, poinz could differentiate high and low demand customers in regard to the available budget through *T* first and then further discriminate within the respective customer group based on actual usage of the product through p x q.

Tariff 1, T1: As stated in the previous sub-chapter (point 5 in the structural analysis), targeting financially limited customers by charging the lowest possible fix price is justifiable because a maximum amount of low demand customers could be included and consumer surplus absorbed through the dynamic pricing aspect. In the case of poinz the marginal cost of CHF 550 represents the lowest possible price. By setting T1 at CHF 550 poinz could acquire a maximum amount of low demand customers while still covering all acquisition costs and absorbing consumer surplus by p x q alone.

Tariff 2, T2: An optimal tariff T2 should be set slightly above the highest price a low-demand customer is willing to pay (T1 + p x q) but low enough so that a large amount of high demand customers considering B2 are able and willing to pay for it. To approximate budget limitations one could break down the target market in segments with the intention to find similarities in financial capability of each segment. Hence, considering the three relevant industries according to poinz (retail, service and gastronomy), an approximation of willingness to pay could be undertaken by comparing

the respective industry margins. Margins are considered suitable as it indicates the relative possibility of remaining financial resources irrespective of absolute differences linked to the respective industry (e.g. revenue, price level etc.). According to the SME report 2016 of the FHS St. Gallen the mentioned industries enjoy an approximated mean EBIT margin of 6.5% (retail), 7.5% (service) and 4% (gastronomy) respectively (FHS St. Gallen Institut für Unternehmensführung IFU - FHS, 2014). Even though these calculations have to be seen as approximations one can now derive relative differences in possible remaining budgets of each customer group: Among the relevant industries gastronomy seems to represent the segment with the highest budget constraints, followed by retail with a 62.5% higher margin (relative difference from 4% to 6.5%) and service industry with a 15% higher margin than retail (relative difference from 6.5% to 7.5%). Now assuming that gastronomy with the weakest financial pattern of all industries is likely to represent most of the customers matching the stereotype linked to B1 (see above), their lump sum fee would be set at CHF 550 (T1). As the next target industry after gastronomy is enjoying a substantially higher margin (retail) one could assume that a large part of the customers could afford T2 and because of the higher utility of the bundle also prefer B2 to B1. Consequentially, if customers with the lowest margins must be able to afford T1, poinz could assume that customers from the next higher industry act accordingly and raise T1 by 62.5% to set the fixed fee T2 at CHF 895.

However, this calculation should not indicate that the product bundle B1 is only designed for gastronomy and B2 only for service companies. It represents an approximation of customer groups with structurally higher or lower budget constraints. It is therefor also assumed that low performing service or retail companies (with lower profit margins) choose B1 or high performing gastronomy companies (with higher margins) choose B2. This is in line with the inability of the available product features within bundles B1 and B2, to specifically target certain industries. The product features could, as an example, not be adjusted so only gastronomy companies are justifiably allowed to use it. Hence, focusing on margins and not on specific industries when discriminating is considered to be the better instrument to prevent demand transferability and maximize profit among different customers. Consequentially, no separate tariff for service companies must be introduced as consumer surplus is absorbed by the additional fee 'p x q' without complicating the pricing structure any

further. In conclusion, the product bundle B2 with fixed tariff T2 is targeting customers of all industries with a structurally higher willingness to pay (lower budget constraint) starting at CHF 895 complemented with p x q for differences in demand within the high demand segment.

Quantity discount: As mentioned above, for T1 and T2 likewise, poinz can assume that the mere size of a company can further indicate a higher willingness to pay of potential customers (see factor '*a*' above). Hence, more sales locations equal a higher buying power. As it does not cost more to sign up an additional location of the same customer (digital product) poinz should charge prices (T1, T2) per location and not per contract signed (e.g. one customer with five sales locations pays five times the price). However, a quantity discount could be installed for incentivising customers signing up more locations at once, as commodity arbitrage is not possible.

Variable pricing aspect 'price x quantity': While the product bundles and the corresponding fees T1 and T2 should be able to target high and low demand customers based on their budgetary constraints and perceived utility of the product features. The variable pricing aspect p x q can further differentiate between high and low demand customers within the respective segment. When designing the dynamic pricing aspect the success of a loyalty campaign as well as the customer frequency could help to achieve a successful differentiation (see factors '*b*' and '*c*' above).

quantity: The success of a loyalty campaign ('*c*') as well as customer frequency ('*b*') could both be covered by charging a price per 'redeemed loyalty cards'. It represents a quantitative aspect linked to the basic core function of the product (the more consumers/users applying for the loyalty program, the more cards redeemed) and a certain factor of quality and success at the same time (the more consumers/users redeem their cards, the more revenue was generated). Accordingly, it is assumed that high demand customers' willingness to pay correlates with the number of redeemed loyalty cards. Consequentially, smaller shops, with less customer frequency representing low demand customers, do also pay less in absolute terms because not as many loyalty cards will be redeemed.

price: As stated above, a price multiplied by the sum of all redeemed loyalty cards must be able to absorb the remaining consumer surplus (on top of T1 or T2) for both customer groups. For the low-demand customer group it therefore has to be high enough so a high performing low-demand customer would theoretically spend CHF 894.90 at best and otherwise would switch in the higher product bundle B2 because it delivers higher utility. According to poinz in the top third of low demand customers 370 cards are redeemed on average. These customers are smaller shops with rather low customer frequency but performing better than average (top third). Hence, a rounded amount of CHF 0.90 per redeemed card should be charged ((CHF 894 - CHF 550) / 370 cards). As a result, one can derive a low demand pricing function of *p = 550 + (0.90 x redeemed card)* and a high demand function of *p = 895 + (0.90 x redeemed cards)*.

Illustration of the final pricing based on price discrimination theory

To illustrate a final pricing structure one has to further estimate the frequency of a high performing high-demand customer (top third). According to poinz it is fair to assume that at a top third high demand customers locations twice as much loyalty cards (740) could be redeemed on average. Resulting in the pricing illustration in Figure 2 below.
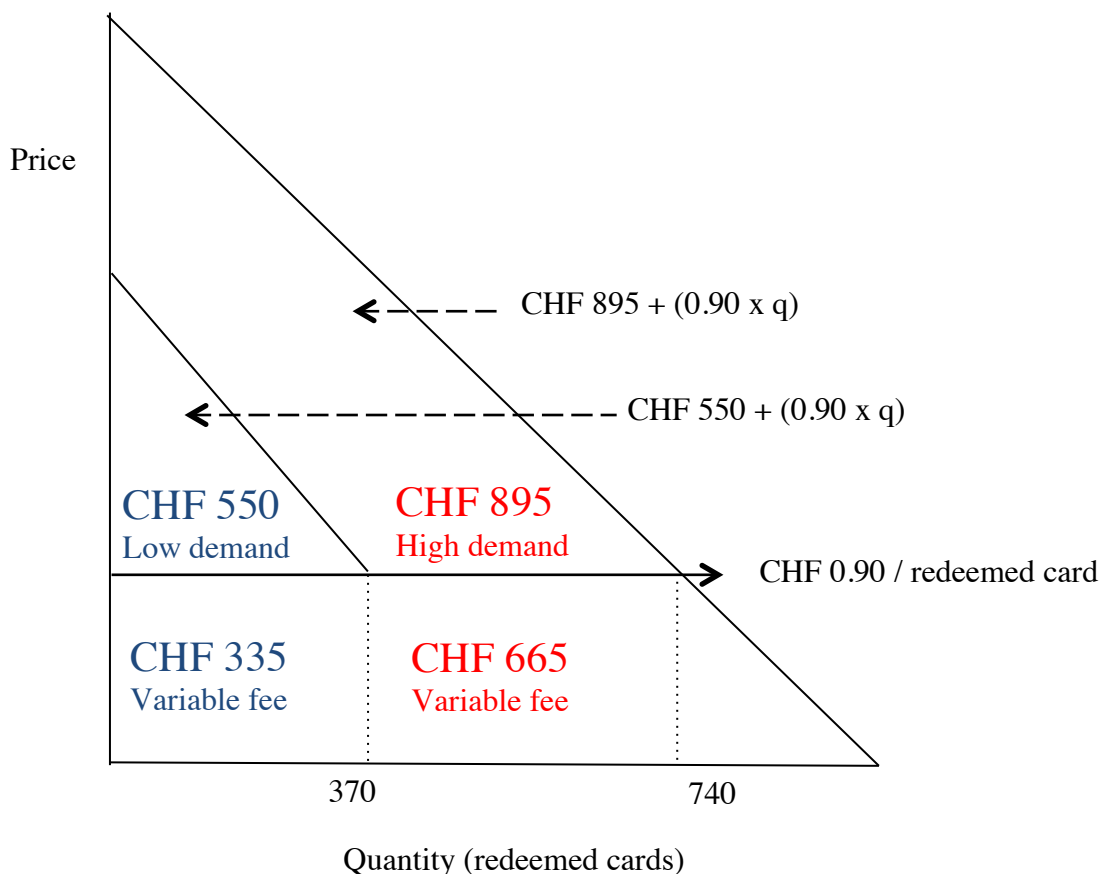

Figure 2: Illustration of possible pricing model for poinz.

This illustrative example of two customers both high demanding for their respective customer group would thus lead to a rounded price of CHF 885 (CHF 550 + CHF 335) for a low demand customer and CHF 1'560 (CHF 895 + CHF 665) for a high demand customer. While the fixed fees T1 and T2 are constant (in Figure 2 labelled as 'Low demand' and 'High demand') the 'Variable fee' changes in absolute price based on the 'Quantity' of redeemed cards and would be charged on top of it.

However, even though this pricing structure enables poinz to differentiate between consumer groups in an effective way, by focusing on (marginal) costs as a base for T1 and T2, and not on an approximated minimal willingness to pay, the risk of excluding a certain customer group exists.

Example of a possible exclusion of a specific customer group

As an example, Shops introducing a loyalty card for a low priced product (e.g. 10 times coffee or croissant get the 11th for free) could be excluded because of the absolute amounts of the pricing (mainly T1 and p). More precisely, problems could occur if the costs for free products handed out (e.g. coffee or croissant), the full fee for redeemed loyalty cards (p x q) and the yearly fee (T1) exceed a possible profit made through poinz. To further clarify this issue the following terms are assumed:

- Revenue through poinz (R) = points distributed to customers (pd) x selling price of product (sp)
- Additional revenue through poinz in % (aR)
- Cost for free distributed products (fp) = cost price (*(selling price - gross margin)* x (*points distributed* x *share of redeemed cards in %*))
- Cost for redeemed cards = *0.9 x redeemed cards (q)*

One could assume a rational customer buys poinz when at least:
(R x aR) - T - fp - (0.9 x q) > 0 holds.

To state a calculatory example in the case of a bakery (which could be a low-demand customer according to low profit margins) the following variables are assumed constant:

pd = 2850[1], aR = 10%[2], rate of redeemed cards = 10%[2], q = 19, gross margin = 20%[3]

[1] Low-demand customer distributing every business day 15 points (coffees)

[2] Assumptions according to poinz

[3] (Schweizer Bäcker-Confiseurmeister-Verband, 2015)

It would lead to:

$(2850sp \times 0.1) - 550 - (sp \times (1 - 0.2) \times 285) - 257 > 0$ and $sp = CHF\ 5.10$.

Hence, one could conclude that if the price of the product (with the assumptions made) falls below CHF 5.10 poinz would have to either lower their prices to stay a rational choice for this customer group or decide not to serve it.

On the other hand, if the price of a product is held constant at CHF 3.50 (for example a coffee) and the customer is considered to be a high-demand / low- demand bakery with multiple sales locations the following assumptions:

sp= CHF 3.50 aR = 10%, rate of redeemed cards = 10%, q = 19, gross margin = 20%, discount for multiple sales locations = 20%

Which would lead to:

$(3.50pd \times 0.1) - 716$ or $440 - (3.5 \times (1 - 0.2) \times 0.1pd) - (0.9 \times 0.1pd) > 0$ and t $pd = 3977$ or 2444.

In this case, a high- demand customer offering low-priced products at CHF 3.50 need to sell at least 3'977 products per location (21 every business day) and the low-demand customer 2'444 (13 every business day) over poinz. As a consequence, poinz would not only have to decide if this specific low-demand customer group should be excluded but be aware that 'high-demand' customers with this campaign pattern (e.g. large bakeries) most probably choose the low-demand product bundle or no bundle at all if the frequency per location is low. For further analysis it is assumed that this customer group plays a minor role (small shop and low priced products as well as large shop with not enough customer frequency) as it does not seem attractive for poinz neither in terms of profitability nor regarding the generated downloads to serve it.

Theoretical limitations and note on the possibility of three-part tariffs

Certain limiting factors as well as additional boundaries applied above are highlighted in this section. However, a deeper investigation and reflexion regarding the impact or origin of the limitations will be undertaken in the last chapter of this work.

Firstly, classical price discrimination theory seems not to consider any strategic time bound aspects. The pricing of a start-up for example could be influenced by the attempt to further expand internationally or foster the monopolistic market position for anticipating new start-ups or products. However, insights from the theory of dynamic pricing or discrimination under oligopolistic market situations were not further considered, as it would have gone beyond the scope of this work.

Secondly, two-part tariffs are not the only option to make use of discrimination of the second degree. Especially the option of 'three-part tariffs' is being discussed in recent research and directly compared to two-tariff systems (Lambrecht, Seim, & Skiera, 2007). Multiple sources show that under certain circumstances 'three-part tariffs' can result in an optimized pricing structure compared to two part tariffs (Ascarza, Lambrecht, & Vilcassim, 2012). The implications of these results were however not further considered in this work, as the scientific consensus, compared to the theory of two part tariffs, seems not yet to be fully established. Comparing differing opinions about the two options, in different scientific context and linking it to the pricing of poinz, would represent a topic on its own and therefore go beyond the goal of this work.

Lastly, the basic assumption of rationality of the standard economic theory underlying price discrimination could have a limiting impact. It is assumed that every customer has a pre-set price level based on a pure rational analysis (willingness to pay), which cannot be further expanded. Especially in the case of poinz where further discrimination could be applied by visiting customers separately, a price increase beyond the willingness to pay could yield opportunities. However, the prospect theory, chosen to complement this pricing, is attaching to this problem set.

2.2. Creating a pricing through prospect theory

First, to fully understand the application in this chapter it is important to note that the prospect theory should not be considered a mere theory for 'pricing strategies'. However, its findings changed the perception in purchasing decision situations sustainably. Where the price discrimination theory in the former chapter helped to structure a pricing framework, the prospect theory will rather reflect on how the perception of the set prices and products could influence a customers' choice. For that reason, the subsequent analysis is intended to be rather complementing and not opposing to the pricing stated in chapter 2.1.3. Therefore, after drawing the scope of the theory, the pricing form 2.1.3 will directly be used as a base and optimized through prospect theory in chapter 2.2.3. However, after defining the theoretical boundaries of the prospect theory in 2.2.1, a selection of derived sub-concepts, namely 'Framing' and 'Anchoring', is revealed in 2.2.2. and explained for further use. However, certain theoretical implications of the theory will question and directly oppose assumptions made in standard economics fundamentally (Kahnemann & Tversky, 1979, p. 263). Nevertheless, as the focus of this work explicitly lies in a possible practical application it is considered feasible to overcome certain contradictions.

2.2.1. Theoretical framework of the prospect theory in the context of pricing

The prospect theory presented by Kahneman and Tversky (1979) implies that consumer behave not as rational as the standard economic theory assumed they would. When consumers face choices they seem to prefer security to risk, weight losses compared to perceived gains and focus in decision situations on certain aspects more then on others and hence have different preferences when choices are presented in varied forms (Kahnemann & Tversky, 1979, p. 263). However, this contradicts with the assumption of the standard economic model where decisions assumed to be made considering all necessary information for maximizing the own utility (Mankiw & Taylor, 2014, p. 126). For poinz this implies that certain instruments could be applied to raise the customers' willingness to pay and maximize profit beyond pre assumed levels. These aspects are theoretically contradictory to the hypothesis applied under 2.1.3. but however do not limit a further pricing optimization in practice.
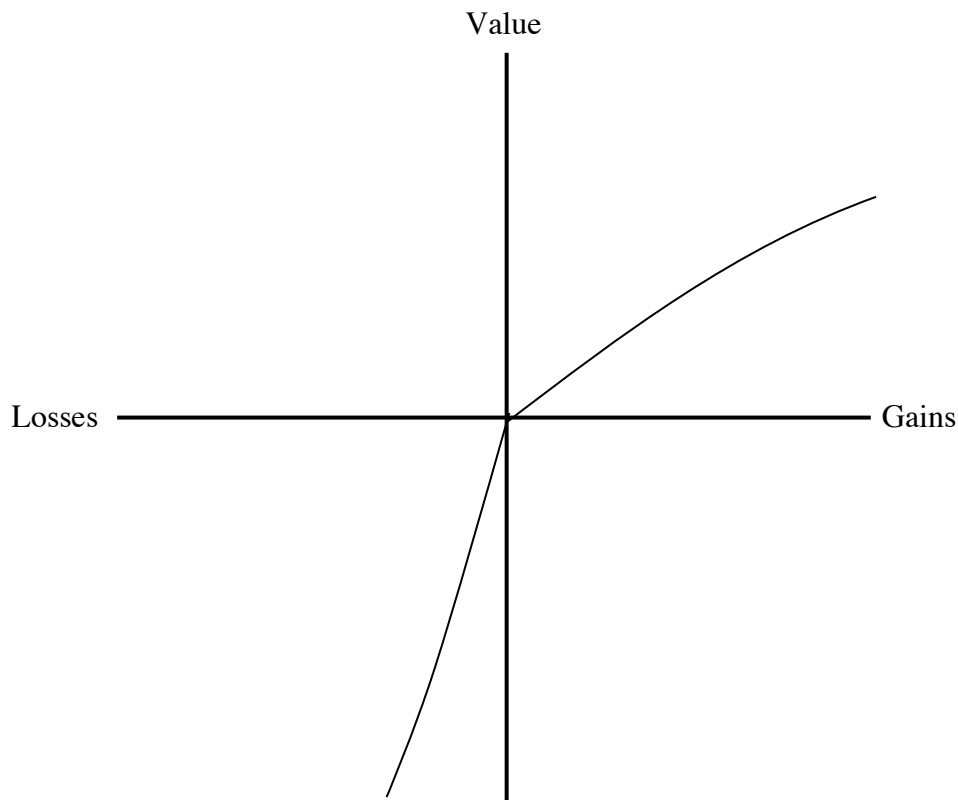
Figure 3: A hypothetical value function (Tversky & Kahneman, 1981, p. 454)

For structuring a pricing for poinz in a way it could influence the willingness to pay of its customers, the role of the 'reference point' in prospect theory must be understood and thus described. According to Kahneman and Tversky the starting point of a customers decision is a subjective reference point from which gains and losses of the to be taken decision are evaluated (the reference point is where the x-axis and the y-axis intersect in Figure 3) (Tversky & Kahneman, 1981, p. 453f). As mentioned in the introduction it is important to note that losses are perceived stronger then possible gains. This is expressed by the steep, convex curve (loss), compared to the flatter, concave curve (gain) in figure 3. The concavity entails risk-aversion and convexity risk-seeking respectively (Kahneman & Tversky, 1983, p. 342). The understanding of this aspect is the theoretical base for the selection and application of derived sub-theories hereafter.

2.2.2. Selection of sub-theories and definition of the respective theoretical scope

The prospect theory gave rise to additional concepts, which can influence pricing design. Accordingly, the selection of sub-theories for this work is mainly related to their practicability for pricing models. Why it is considered to be practicable will be stated in the respective section below. Each theory will shortly be explained and the boundaries

for the application for poinz will be shown. The two selected theories will be analysed separately from each other because of potential interrelationships that would otherwise not be visible to the reader. Therefore, the translation of the insights into specific pricing optimizations for poinz follows, after a short summery, in the next chapter where prospect theory and price discrimination will be combined.

Framing

The scope of the scientific research concerning the psychological elements of framing is too broad to be fully considered in this work. Furthermore, applying an interpretation of certain psychological elements of the theory on to the pricing of poinz could not be considered a scientific approach, as the margin of interpretation is too large. The focus is thus mainly laid on concrete insights linked to pricing and discount policy found in research. On one hand the insights presented by Kahneman & Tversky in the position paper 'Choices, Values and Frames' in 1983 will be analysed (Kahneman & Tversky, 1983) and a short description of the theory alongside with a list of practical insights will be stated below. On the other hand, in the section thereafter, findings based on the same practical focus but from complementary research papers will be listed to extend the insights from Kahneman & Tversky.

Furthermore, it is important to note that the theory of framing partially contradicts with the theoretical assumptions of purely rational agents in the standard economic theory as well (Tversky & Kahneman, 1981, p. 453). A note on the difficulties with theoretical contradictions when focusing on theory only will be stated in the discussion in the last chapter.

The concept of frames initially formulated by Kahneman and Tversky showed that choices vary when presentation or display (the frame) of the to be made choice changes (Tversky & Kahneman, 1981, p. 453). The reason why choices differ when frames change is related to the non-linear relationship between losses and gains shown in figure 3 and the mental process underlying it. Among others, framing can be applied to influence the willingness to pay through changing wordings on package labels, changing locations of price displays or switching between absolute and relative discounts. However, as poinz is not selling any physical product in retail or directly online the insights will be mainly used for reflecting on how to bundle different pricing aspects, how to present it in sales presentations and how to apply it in discount policy.

Following Tversky & Kahneman (1983) four aspects, which could impact the pricing design or discount policy of poinz, have been worked out. A short linkage to a possible use for poinz in practice follows each aspect. However, it will be in chapter 2.2.3 and 2.3. where specific measures for the pricing are formulated.

1. People rather consider price discounts in relative terms (comparing the price of the good to the discounted amount) than in absolute terms. This implies that an absolute discount on a large price has less of an effect then the same discounted amount on a lower price (Tversky & Kahneman, 1981, p. 459).

Poinz should consider differing their discount policy depending on the price level of each product bundle.

2. Making decisions people consider a transaction utility representing the difference between the offered price of the product and a pre-set reference price (Thaler, 1999, p. 188; Tversky & Kahneman, 1981, p. 456). The higher the transaction utility the better the customers' evaluation of the deal.

The frame of the pricing should be in line with a reference price poinz would want to pre-set. However, the whole scientific discussion on what influences the reference point cannot be fully considered here. The focus is therefore mainly laid on anchors. The concept of 'anchors' will be further explained in the subsequent section 'Anchoring'.

3. As losses are perceived worse than gains calculated from the previously adapted reference point people rather forego a discount than pay a surcharge on top of the price (Tversky & Kahneman, 1981, p. 456).

Instead of discounts alone poinz should consider framing it as costs if a certain customer behaviour should be promoted (for example a fast decision).

4. People can oversee favourable options if the choice is framed as two separate choices (when considering X also getting Y) compared to an alternative option where no additional mental effort is needed (getting Z = (X-Y)) (Tversky & Kahneman, 1981, p. 455).

If poinz is investing in discounts and/or special bundle prices simplicity should be preferred to rather complex and large constructs with multiple discounts.

Even though, it is stated above that certain aspects of framing were left out when lacking a direct link to pricing, depriving the 'endowment effect' needs further explanation. Mainly because the endowment effect is assumed to yield customers considering sunk costs and thus could have been considered for the pricing of poinz (for example to implement trial periods for the product, to trigger perceived sunk costs). However, according to Kahneman (2012) the endowment effect mainly applies to goods linked to leisure or personal enjoyment (Kahneman, 2012, p. 294). Poinz is not assumed to be such a product and hence not necessarily exposed to the effect.

Listed below a selection of additional suggestions for price and discounting frames based on current research, which could be used for pricing optimization:

5. Savings on a product bundle with less items (compared to more items) and a shown deal in percentage (compared to absolute terms) have a high impact on perceived savings (Krishna, Briesch, Lehmann R., & Yuan, 2002, p. 106).

Referring to this study poinz could implement bundles with little complexity and could display percentage deals in the product presentation from time to time. Furthermore, it is in line with point number 1 and 4 in the previous section.

6. Higher priced products should be discounted in percentage and lower priced products in absolute values (Chen, Monroe, & Lou, 1998, p. 369f.).

If poinz can differ between a rather high and rather low priced product offering this aspect has to be considered. Furthermore it is consistent with point 1 in the previous section.

7. Drip pricing (where the full price sequentially unfolds) seems to lead to higher paid prices as well as time bound offerings (price is valid until date X) (Fletcher, Huck, & Wallace, 2010, p. 78f).

Poinz could adapt to these strategies and combine them. Going through the pricing step by step could simulate the drip pricing. The time-bound limitation of the offer could be used complementary when limiting the validity of an offer. Furthermore, it finds support in point 4 in the previous section.

The listed aspects 1 to 7 will be reflected on and combined with findings from section 'Anchoring' in the summary at the end of this chapter to present a more integrated picture.

Anchoring

Similar to the previous section the theory of 'Anchoring' is placed in the intersection between economics and psychology. The practical focus of this work however let the considered sources be rather focused on research related to anchoring in pricing and not further considering the behavioural aspects behind it. However, as an introduction to this section it helps to understand the psychological framework behind the effects introduced by Kahneman & Tversky (1974). After the introduction, the findings from mentioned practical research will be listed and linked to the respective goal to design and optimize a pricing in chapter 2.3.

The concept of anchors is loosely described as the consideration "of a particular value for an unknown quantity before estimating that quantity" while the number estimated then stays "close to the number people considered" in the first place (Kahneman, 2012, p. 119). Hence, the considered number acts as an 'anchor' for the guessed number. The interesting aspect for economics and pricing in particular is the fact that, and the way in which, an anchor can influence a customers reference point (Tversky & Kahneman, 1974, p. 1128) (see point 2 in the list in sub-chapter 'Framing'). An experiment showed that a group of real estate specialists with the task to estimate a price of a house stated a 41% higher value when seeing a (fictitious) high asking price compared to the group seeing a (fictitious) low asking price before estimating it. No one of the experiment group however realized that they were influenced by the fictitious price when evaluating the value of the house (Kahneman, 2012, p. 124). This experiment exemplifies well where the potential for poinz would lie. If the reference point of an evaluation can be influenced beforehand the chance to increase the overall willingness to pay exists and poinz could consequently charge higher prices exists.

To apply anchoring for the pricing of poinz, empirical research was consulted to identify effective anchoring possibilities. The intention was therefore not to balance scientific arguments on similar anchor possibilities but on selecting a variety of

different anchors to apply in the pricing design for poinz. Based on this approach five anchors were worked out to consider for further use:

8. A price, which is displayed before presenting the actual price-level to a prospect, can influence his evaluation (Tversky & Kahneman, 1974, p. 1128).

Price as anchor - poinz could work a product / price comparison into the presentation to set anchors before showing the pricing. This could happen for example in form of a comparison between similar products in the marketplace (of which prices would of course be higher than poinz).

9. A random number (e.g. writing down a social security number) influenced the willingness to pay of a customer significantly (Ariely, Loewenstein, & Prelec, 2003, p. 75f.)

Random number as anchor - Poinz could consider using random numbers influencing the anchor of a potential client before the buying decision is made. This point is theoretically in line with point number one but related to random numbers and not price comparisons alone.

10. A 'fake' product bundle representing an anchor (with a high price) where potential customers deviate the evaluation of the other bundles from can influence the customers' choice significantly (Ariely D. , 2008, p. 1ff.).

Product bundle as anchor - If poinz would work a product bundle into the pricing only designed to set an anchor for customers to evaluate which bundle is suitable could bend the customers' choice towards a preferred option.

11. Customers evaluate bundles based on a product within the bundle, which is considered desirable to them (anchor). The evaluation of the product bundle is then undertaken in sequential order with the anchor product rated on top (Yadav, 1994, p. 346ff.)

Product within bundle as anchor - Using a certain product (or product feature in case of poinz) as an anchor could be done through focusing a sales presentation on influencing the customers' evaluation towards a certain feature and a more expensive bundle respectively.

12. Transgressive (or regressive) pricing shows a positive impact on willingness to pay by posting a moderate over- or under-pricing in respect to the willingness to pay. Here, the price itself acts as an anchor (Wathieu & Bertini, 2007, p. 120ff.).

Price of the product itself as anchor - Wathieu and Bertini suggest using transgressive (regressive) pricing when the product is linked to rather high (low) perceived quality and low (high) cost of thinking. The model suggest that differentiating firms should use "overpricing" (transgressive pricing) to trigger thoughts of customers in their favour and support the thought process with e.g. trial periods (low costs of thinking). The regressive pricing entails the opposite (cheap price, high cost of thinking) (Wathieu & Bertini, 2007, p. 120ff.). *Poinz could work with both customer groups targeting on one hand a high demand customer with a rather more expensive product bundle and on the other hand targeting a low demand customer with a price below his willingness to pay.*

2.2.3. Application of framing and anchoring for a pricing in practice

In this section the worked out aspects above are broken down, combined and listed in a sequential order based on a hypothetical sales meeting starting with the product presentation and ending with a possible discount policy simulating a practical situation where pricing matters (reference to related argument above in brackets):

Product presentation

The sales presentation should contain common anchors (random numbers and prices) to set a high reference point for pricing negotiations. The goal is to maximize the potential customers transaction utility and as a result increase the possibility for a higher willingness to pay (2, 9, 10). Additionally, the product feature, which represents the main selling point (which should therefore be part of the high demand product bundle), should be the main focus when presenting (12).

Pricing and composition of product bundles

In general, all product bundles should be created in a simple and easy to understand manner (4, 5). The only exception could be a slightly overpriced product bundle representing also higher costs to deliver (perceived quality) (13). It should state the highest value and should be shown first when unfolding the pricing of poinz (drip pricing) in sequential order (e.g. base price first + additional pricing aspects) (2, 8, 9,

10). It could be accompanied by a product bundle, which is slightly more expensive but with no significant added value. This 'fake' bundle could act as an anchor where customers adjust their choice from, guiding the selection towards the (second) expensive option. However, a rather simple (less items) and cheap bundle could target low-demand customers. The price set could lie right under their willingness to pay (4, 5, 11, 13).

Discount policy

Discounts could be linked to a certain time constraint (e.g. time for deciding if it should be bought or not) and granted in absolute values for low priced values (e.g. 100 CHF) and in percentage values for high priced products (1, 5, 7, 8). However, when the cheap product bundle does already mark the lowest possible price it could be framed as a 'now or never' price when offering it and 'surcharged' with a certain absolute value for an additional amount of time (e.g. week). Seasonal promotions in per cent on the higher priced products could be implemented from time to time to leverage sales (1, 3, 7, 8, 13).

The subsequent chapter will combine the here formulated results with the results from chapter 2.1.

2.3. Results - Combining price discrimination and prospect theory for a pricing in practice

The following chapters combine the results from the pricing structure created based on price discrimination theory, anchoring and framing. As the aspects of anchoring and framing also contain aspects linked to the pricing appearance the result is presented in form of a sales presentation. Further explanations are stated below the respective slide:

Figure 4: The communication feature is used as an anchor preluding the differentiation between high and low customer groups.

Figure 4: The main focus of the presentation is laid on the product feature mainly differing high from low demand customers (communication function). It guides potential customers towards evaluating the attractiveness of the product bundle based on the communication function. As this function is available in the high demand bundle only a price markup of at least 62.5% becomes more reasonable for the potential customer.
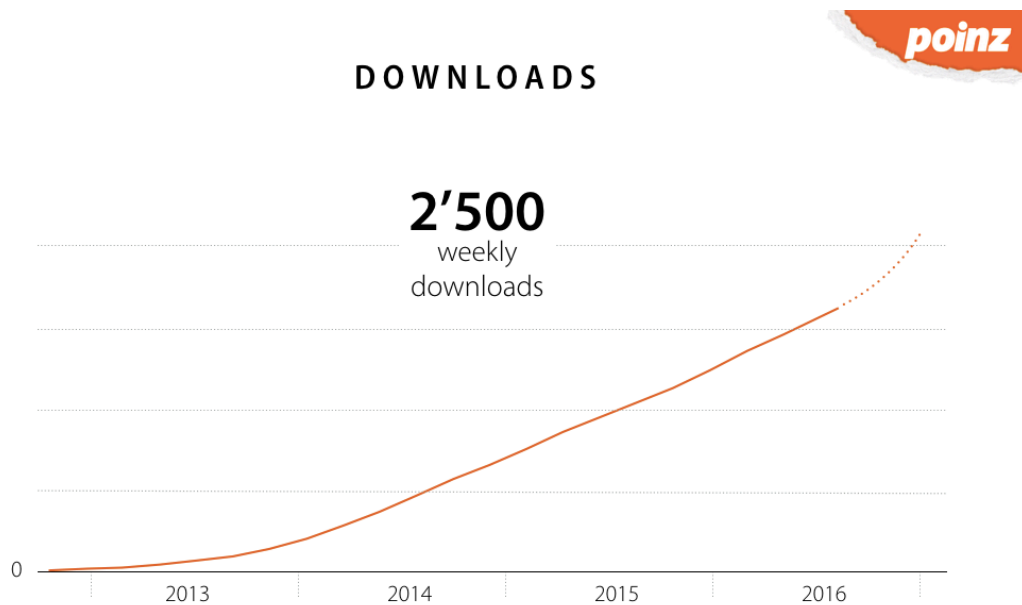
DOWNLOADS

Figure 5: Random numbers acting as an anchor setting a high reference number in the customers' perception.

Figure 5: The fact that random numbers influence the anchor of potential customers allows download figures (or other numbers) to pre-set anchors above for example CHF 2000. If the customer adopts this anchor subconsciously the transaction value, representing the difference between price paid and anchor, increases. This causes a rise in willingness to pay and maximizes the chance of customers choosing the highest product, hence reducing the risk of demand transferability.

COST COMPARISON

CHF 2'750
Online Advertisement (12 m.)
localsearch.ch

CHF 2'850
Traditional letter post
Schweizerische Post

CHF 2'970
Newspaper Advertisement
Der Landbote - Winterthur

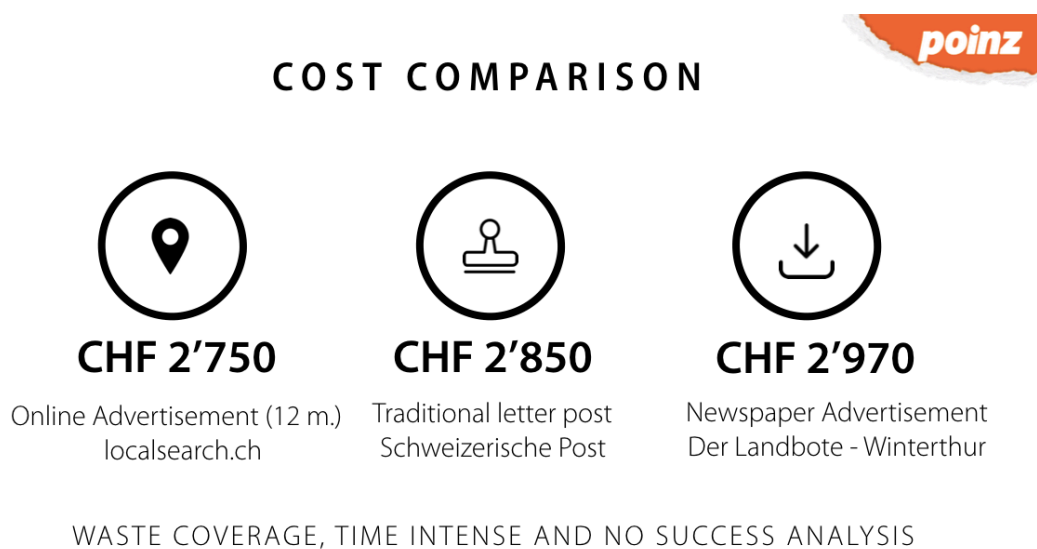WASTE COVERAGE, TIME INTENSE AND NO SUCCESS ANALYSIS

Figure 6: A price comparison acting as an anchor to set a high reference price in the customers' perception.

Figure 6: In addition to random numbers cost comparisons help to further set the potential customers reference point for example above CHF 2000.
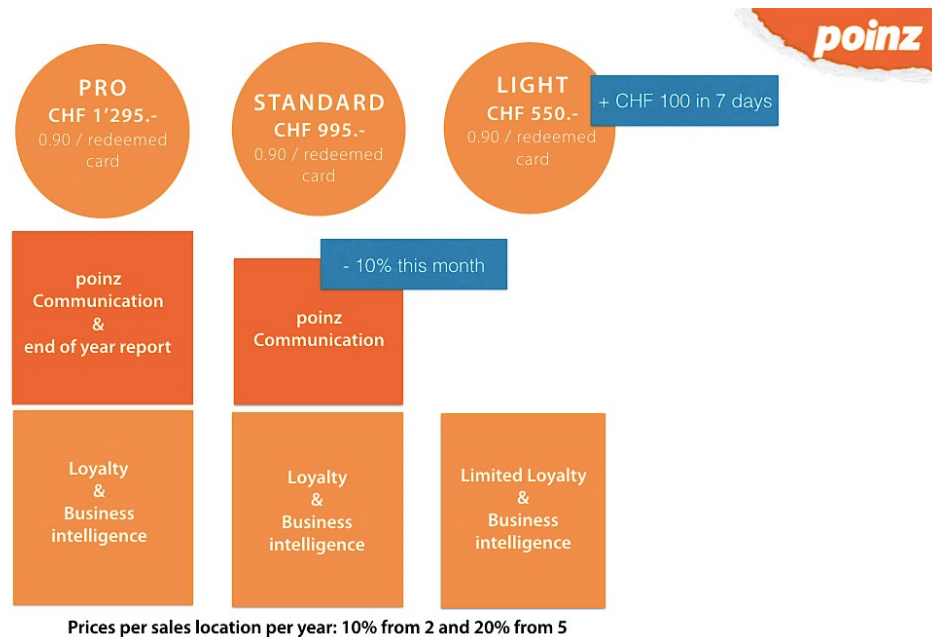
Figure 7: Final pricing suggestion based on price discrimination and prospect theory.

Figure 7: The two defined product bundles B1 and B2 and the respective prices T1 and T2 from chapter 2.1. are complemented with a third 'fictitious' package (CHF 1'295) acting as an anchor. This product bundle appears slightly more valuable because of an automated report (could be any non significantly value adding feature) but however costs notably more (could be any notable amount above T2). It is assumed that potential customers subconsciously use this anchor for comparison. Comparing the two high demand packages the 'standard' suddenly appears to be the obvious choice - which is exactly what poinz would want them to choose in the first place. A time bound discount in per cent further incentivises the customer for choosing that option. The time given is rather long (month) as the cost of thinking should not be raised any further. However, if the decision is not taken within the respective month the higher price (compared to CHF 895 in chapter 2.1.) counts, which would represent a slight overpricing. This induces a perceived quality aspect according to the principles of transgressive pricing. Furthermore the 'discount' on the low-demand package is not labelled as such but as a surcharge. If the customer does not decide within a week, he or she will pay an absolute surcharge of CHF 100 for a longer thinking period (CHF 650) aligning to the principles of regressive pricing. As poinz is intended to visit and negotiate with every customer the surcharge could be argued towards the customer as administrational expenses for poinz for unnecessary effort. However, in reality this charge is not linked to any real additional costs. According to the business model, the prices will be charged per year. In addition to that, prices are charged per sales location to absorb consumer surplus of

every existing location equally. However, quantity discounts in per cent are set to grant an attractive reduction when signing up multiple locations, which is applicable, as no commodity arbitrage is considered possible. Additional aspects like limiting messages or setting a smaller package for customers with low frequency and low-priced products (see chapter 2.1.) are not applied. On one hand because the customers decision-making process would become more complex and hence the evaluation of the attractiveness of different options become more difficult. And on the other hand because an even cheaper product bundle with no significant differentiation would increase the risk of demand transferability further (low-demand customers transferring into cheapest bundle).

According to the pricing stated above the customers would pay base fee only and the variable fee p x q would be charged at the end of the contract period. However, if at the point of the purchasing decision remaining willingness to pay can be detected (e.g. high perceived transaction value) the poinz sales representatives could use additional products for absorbing customer surplus (e.g. merchandise goods, consulting, service package etc.). However, as the focus of this work lies in the pricing structure and not in expanding the product portfolio this aspect will no longer be discussed but marked as a possibility.

2.4. Findings - Comparison between theory and practice

This chapter will highlight differences between the suggested pricing and the status quo of poinz. First, a table acts as a clear representation of the differences between both pricing structures. The comparison is undertaken based on pricing components worked out in chapter 2.1. and 2.2. Second, the main differences are further explained and split into 'similarities' and 'differences'. Furthermore, it is important to note that this comparison and the respective findings answer the research question stated in the introduction, asking for differences between the practical pricing and the theory based pricing. Furthermore, it is the base for detecting missed business potential and enabling a reflection on it in the discussion thereafter.

Comparison

Suggested pricing components based on theory	Current pricing poinz	Theoretical pricing
1. Price discrimination	✓	✓
1.1. First-degree price discrimination	✗	✗
1.2. Second-degree price discrimination	✓	✓
1.2.1 Two-part tariff	✗	✓
1.3 Third-degree price discrimination	✗	✗
1.4 Quantity discount	✓	✓
2. Prospect theory		
2.1. Combining relative and absolute discount	✗	✓
2.2. Using surcharges instead of discounts	✗	✓
2.3. Low complexity of pricing structure (few items)	✗	✓
2.4. Make use of 'drip pricing'	✗	✓
2.5. Make use of 'time bound offerings'	✓	✓
2.6. Anchoring with random numbers	✗	✓
2.7. Anchoring with price comparisons	✗	✓
2.8. Anchoring with 'fake' product bundle	✗	✓
2.9. Product within bundle as anchor	✓	✓
2.10. Transgressive pricing	✓	✓
2.11. Regressive pricing	✓	✗

Table 2: Comparison between the constructed pricing based on theory and the status quo in practice.

In the following comparison the numbers in brackets reference to the pricing aspect used in the table 1 to 2.11. The italic words indicate certain clusters, which help to structure the findings in the section thereafter.

Similarities

1. Poinz does engage in *price discrimination* with different prices set for packages with no differences in cost (1).

2. No pricing makes use of perfect price discrimination strategy charging n different prices of n different customers. However, both theory and practice suggest in this context to visit customers on site to better *detect the willingness to pay* and act on it for optimizing the discrimination strategy (1.1.).

3. *Both pricings make use of the second degree of price discrimination* constructing packages where consumers with a demand price higher than x buy for x and all with a demand price lower than x but higher than y buy y (1.2).

4. No pricing makes use of clear third degree price discrimination. Even though certain exogenous signals were used to construct the product bundles. It is not the case that for each customer group a new package is constructed and offered (1.3.).

5. Prices are charged per location with a quantity discount in per cent to *discriminate* and *differentiate high from low demand* customers (1.4.).

6. To incentivise customers for a fast decision poinz also applies time bound discounts (2.5.).

7. Poinz, equal to the pricing suggested based on theory, uses the 'communication feature' as anchor and primary *differentiator* between *low and high priced packages, hence low and high demand customers* (2.9.).

8. Both pricings set a product bundle with a high price compared to the lowest product bundle indicating a certain 'overpricing'. Especially the current pricing of poinz established a more expensive pricing with a 'communication mandate', which is not considered clear price discriminating, but could be seen as a quality component in line with suggestions of transgressive pricing. If however this product bundle is set too high or the composition of the product features is wrong *risk increases for demand transferability* (2.10).

Differences

1. Poinz does not make use of a two-part tariff. Hence, because the *dynamic pricing mechanism found in two part tariffs is missing,* they could miss out on consumer surplus. Furthermore, the only way for poinz to prevent demand transferability is either the sales representatives' ability to evaluate the willingness to pay correctly or the hope that customers make the rational right product choice.

Nonetheless, one variable aspect (p x q) for absorbing additional consumer surplus can be detected in the 'Standard' package when a customer exceeds the amount of 3000 messages. This could be considered a three-part tariff. However, even though the usage of messages by customers choosing this product bundle

does indicate certain willingness to pay it *does not clearly differentiate high from low demand customers* within that group. The marketing strategy of a high-demand customer could for example simply not further rely on the communication feature (but on E-Mail Marketing) and therefore *escape the discrimination*.

Additionally, the *dynamic pricing aspect* (p x q) present in the theory based pricing does also impact opportunities during the contract period. It helps to *discriminate customers automatically* without further action from poinz. However, with the current pricing of poinz the only chance compensating for it would be if poinz *acts proactively* recognizing additional willingness to pay or the customer is switching proactively from one package to another. The suggested composition of p x q linked to 'redeemed cards' could therefore *reduce cost and risk* for absorbing additional consumer surplus (1.2.1).

2. Poinz does only use discounts in per cent, which according to the theory loose attractiveness on their lower amount bundles ('light' & 'budget') (2.1.).

3. Only the theory based pricing uses the strategy of applying a surcharge instead of a discount to guide the customers' perception towards a buying decision (2.2.).

4. Comparing both pricings the theory based pricing is less complex with only three packages and three components (loyalty, communication, variable price). In comparison, the practical pricing has four packages with multiple product features within each bundle increasing the *complexity notably* for the customer when deciding on the different options. This increases the risk of *missing out on consumer surplus* by *demand transferability* or *no purchase decision* at all. Moreover, the rising complexity could be a sign of *intuitive adjustments of pricing* increasing complexity with every further aspect (2.3.).

5. Based on the information given in the introduction it seems poinz does not make use of 'drip pricing' (2.4.).

6. Based on the information given in the introduction it seems poinz does not make use of random numbers as anchors. *Missing out on the possibility to* establish a high transaction value and *increase the willingness to pay*, hence revenue (2.6.).

7. Based on the information given in the introduction it seems poinz does not make use of a 'price comparison' as anchor. *Missing out on the possibility to* establish

a high transaction value and *increase the willingness to pay*, hence revenue (2.7.).

8. It seems unclear if poinz also established certain bundles to only guide the customer towards a certain product. However, as every product contains multiple value adding features it does not seem to be the driver behind it. Therefore, poinz is considered to not make use of anchoring through 'fake' product bundles (2.8.).

9. Only poinz positions a product bundle, which is possibly below the customers' willingness to pay. Furthermore, it could include certain customer groups, which the suggested pricing excludes (e.g. low-priced products). When the mere acquisition of customer locations or App downloads attached to it enjoy a strategic importance this bundle could also be strategically justified. However, the price of CHF 390 is below the customer acquisition cost of poinz (CAC) thus unprofitable when selling at this price. Furthermore, the low price could additionally *increase the risk of demand transferability* ('light' customers transferring into 'budget') when no significant differentiation is apparent (2.11).

Findings

Poinz does successfully apply price discrimination to a certain degree differing between high and low demand customers through differentiated product bundles. Furthermore, discrimination is intensified by negotiating prices with customers directly. This means that the iterative process of pricing design led to an outcome which attempts to maximize profits by making use of the digital nature of the product and the agility of a small company. The different bundles target different customer segments based on experience and applied feedback. Therefore, without being aware of the theory, poinz intuitively applied aspects of the first (individual negotiation), second degree (customers self select bundles, three part tariff in the 'standard' package) and third degree price discrimination (different product bundles based on exogenous signals).

However, the iterative process raised the complexity of the pricing noticeably and in combination with a missing variable pricing aspect increases the risk of demand transferability and therefore missed consumer surplus. The attempt to absorb remaining consumer surplus by charging a price per message for the communication feature seems

not to be an effective instrument. The goal to successfully price discriminate is thus solely depending on the ability of the start-ups sales representatives at the point of sale or during the contract period. This issue raises costs, increases the dependability on their sales staff and hurts the scalability of the business. Furthermore, aspects of 'framing' and 'anchoring' are mostly not applied possibly missing out on additional revenue beyond the rational considerations of the customer.

3. Discussion

This last chapter reflects on the conducted research in chapter two partially from a more subjective point of view. The research question, asking for potentially missed business opportunities in practice, is considered to be answered best by poinz directly in chapter 3.1., putting the findings in 2.4. in the start-ups current business context. Thereafter, in chapter 3.2., the reflection on the applied method helps to further asses if the approach was considered suitable and if it could be applicable beyond this thesis. The last part describes possible opportunities attaching to the undertaken research.

3.1. Answering the research question from the perspective of poinz

We, as poinz, were not aware that we are actively engaging in price discrimination already to optimize our profit. The use of price discrimination practices was retrospectively mainly based on the nature of our business (digital product). However, as we were not aware of it we were also unable to leverage the insights of the strategy in our favour. Our pricing was, as described in the introduction, mainly created by a short market research in 2012 and hardly questioned ever since. The inability to adjust was also due to a rapidly growing customer base, which would have led to difficulties and higher costs when the pricing should have been adjusted fundamentally. The pricing structure was therefore, over time, only slightly adjusted by adding additional product bundles, raising or lowering prices marginally or shifting product features from one bundle to another. Changes were mainly based on the interpretation of feedback of our sales representatives and customers. This resulted among others, as detected in the findings, in increasing complexity of our pricing structure. In addition to that, demand transferability did take place. However, we were unable to identify it as such and link the problem to our pricing. Instead we connected it to the inability of our sales representatives to sell the right product bundle to the right customer. Furthermore, the

feedback process, initially meant to optimize the pricing, did also not bring out the awareness of the real issue, as customers seldom decline an offer revealing the true reason for the negative decision (e.g. budget constraints). It therefore led us to further invest in the training of our sales representatives, rather than questioning the pricing structure in general. As a result, if sales representatives were trained successfully, the risk of loosing their abilities to detect the maximum willingness to pay or sell the right product bundle (hence prevent demand transferability) became critical. This resulted in higher cost in terms of hiring, staff training and reduced the scalability of the business in general. Hence, the second part of the twofold research question formulated in the introduction in 1.1., specifically *if the identified differences could detect additional business potential for poinz,* can hereby be affirmed.

Adjusting our pricing to the suggested structure could reduce demand transferability, which helps us to potentially sell more often at higher prices. A dynamic pricing aspect would further reduce the dependability on our sales representatives and thus increase the scalability of our business while lowering staff expenditures.

Nevertheless, the topic of the work was the pricing structure and operational as well as strategic aspects (e.g. market expansion strategy, planned product development, actual market demand etc.) were mainly excluded. This triggers follow-up tasks for us when making use of the gained insights. Namely the adaptability of our customer base to a new pricing scheme, the monetary impact on the initial contractual sum and the influence on the overall business strategy.

3.2. Reflection on research method

The applied method was laid out on the goal to not only transparently reveal every analytical step but also to simulate pricing structuring in practice, not knowing much about the demand structure of its customers. However, this approach led to the difficulty to choose which information from existing demand to exclude and which to integrate. Including certain data from past sales numbers, may have led to a more sound estimation of demand structures. However, all (wrong) decisions and business practices poinz made in the past would have automatically been included too and the results diluted. The method did therefore bring along less calculative insights but enabled a more objective contrast to the status quo hence clearer insights. Nevertheless, if poinz would want to apply the worked out pricing, the numbers should be tested in practice,

existing data and sales numbers compared and other instruments like conjoint analysis for estimating the willingness to pay considered.

Furthermore, the chosen theories and defined boundaries did influence the outcome of the pricing itself notably. This aspect seems obvious but gains importance in the context of this work. The problematic of inexperience in pricing design does also apply to the choice of theories and respective boundaries to create pricing guidelines and a sound comparison. If the 'wrong' theories are chosen and the boundaries set at the 'wrong' places, the scientific approach does also not help to optimize the companies' business practices. For example, did the assumptions that poinz is an effective monopoly led to the choice of the price discrimination theory and hence influenced the pricing fundamentally. If a business assesses the overall situation wrong, the pricing would be created incorrect too. To prevent these mistakes the judgement of an expert could represent a starting point for a scientific pricing analysis in practice.

Furthermore, the approach of creating a pricing on theory alone must also be questioned. If the focus of this work had been laid on a theoretical exercise only, certain assumptions underlying the theories would have made it hard to continue. For example in the world of rational agents, underlying price discrimination theory, could consequentially the concepts of 'anchoring' or 'framing' not exist. Hence, the practical focus of this work did on one hand break with certain theoretical rules but on the other hand enabled both theories to influence a business in practice. It therefore can be concluded that strictly focusing on theory alone would also not have been an applicable path for entrepreneurs. In accordance with that insight, the pragmatic combination of a practical approach within clear theoretical boarders states a valid alternative. Hence, the method applied in this thesis can be seen as an applicable possibility to reflect and question pricings already established in practice. The existing pricing of poinz (or any other company) states a practical frame in which suitable theories, suggested by an expert, are able to challenge the structure fundamentally and unfold undetected business potential.

3.4. Follow-up

In terms of poinz, aspects of the created pricing structure will be tested and applied in practice to potentially optimize profit. Additionally, the insights will help to prevent future mistakes and / or detect structural wrong doings in future pricing design. However, the missing time for young entrepreneurs to engage in a scientific analysis of this scope as well as the unawareness of missed business potential is probably not limited to poinz alone. The insights gained in this thesis could therefore also have a sustainable impact on other businesses too. Hence, focusing on optimizing pricing structures could be seen as a potential business opportunity. Not only in terms of consulting services but also - if the analytical process could be further automated - served as a scalable software service. Recent developments in 'Artificial Intelligence' and 'Machine Learning' could level the way to such a scalable solution. However, to further consider such a venture research in terms of real market demand, potential market size and existing competition would have to be undertaken.

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