## CREATING HABIT-FORMING DIGITAL PRODUCTS

Enhancing retention for online grocer picnic



Master thesis Willem Evers August 2019

## **COLOPHON**

**Creating habit-forming digital products** Enhancing retention for online grocer Picnic

#### **Master thesis**

MSc Strategic Product Design Faculty of Industrial Design Engineering Delft University of Technology

#### Author

Willem Evers whl.evers@gmail.com

#### Supervisory team

Chair - Prof. Ir. D.N. Nas Mentor - Ir. J. Coelen Company mentor - J. Beekhuis

#### August, 2019

## PREFACE

In front of you is the final deliverable of my graduation project of the MSc Strategic Product Design at the Delft University of Technology, in collaboration with Picnic. It is a result of a fivemonth research and design project.

This project enabled me to combine my interest in digital products and user behaviour. Having the opportunity to analyze data to substantiate qualitative insights was a very satisfying experience. It reinforced my belief that designers should collaborate more closely with business stakeholders, and embrace ways to quantify good design.

In addition to exploring these interests, I learned a great deal about organizations, teams and individuals which has helped me become a more complete strategic designer. Finally, combining theoretical concepts from fields such as psychology, innovation management and design was a very informative experience.

Thanks Deborah for helping me see the bigger picture, and make tough choices. Your sharp mind and logical thinking were invaluable in this often complex project.

Thanks Jeroen for the support, inspiration and critical feedback. Our frequent calls helped me get unstuck more than I would like to admit.

Thanks Jelten for your insightful feedback and for making the time to provide help where needed. Our chats helped me to understand all the dynamics involved in product development far better.

Thanks to the entire Picnic organization, that presented me with a very interesting graduation topic and access to all people and resources needed to make this thesis a success.

A special thanks to all the people participating in the interviews, workshops and casual coffee chats. Additionally, I could not have done this project without the feedback of my friends, fellow students and Picnic interns who shared valuable feedback and insights.

I am excited to share what I have learned over the past 5 months. Enjoy the read!

Willim Even

# EXECUTIVE SUMMARY

The aim of this thesis is to increase retention for Picnic by creating a habit-forming store. Currently, conversion rates are suboptimal. In areas where Picnic is active roughly half of all households downloads the app and registers. However, the conversion of this group to active customers is suboptimal, meaning that not all users are retained.

Sub-optimal retention rates hurt companies, as they miss opportunities for business growth, increasing their profitability and cost savings. This effects also holds true for Picnic where it takes three orders to break-even on that specific customer.

## **Project context**

This thesis focusses on the Dutch market, as this is where Picnic as its strongest presence. In addition to that, the Dutch online grocery market is the most advanced in Europe.

This thesis focusses mainly on the competition with physical supermarkets, because the growth of the online groceries segment stems from consumers switching from physical supermarkets to online grocers.

Increasing the retention rates has a positive impact on the users of Picnic and society as a whole: It increases the amount of free time for users, helps them save money, and it reduces food waste and emissions.

## Theoretical foundation Retention

Retention is driven by the perceived utility on one hand and switching costs on the other. Both these dimensions are influenced by the habits of users. Perceived utility increases as the users gain more experience with the product, leading to a faster and more pleasant experience. Switching costs are influenced by the investments a user makes in a product, and by uncertainty about whether other companies can provide similar value. Groceries are eminently a habitual consumption:

- They are high-frequency purchases.
- Groceries have a limited variability over time.
- Grocery shopping is a behaviour that is learned over long period of time.

Therefore, the challenge of this thesis is to help more users successfully form a habit around using Picnic, thereby converting into active customers.

### Habits

Habits are formed when both frequency and perceived utility are high enough. A habit has four elements: The trigger, action, reward and investment. Currently, most customers fail in the action element of the habit loop. This is due to either a lack of ability or a lack of motivation. This theory on habits and its connection is visualized

in the figure below.



The theoretical framework

## **User research**

The theoretical framework was combined with extensive user research to define what type of users currently are able to form a Picnic habit. The qualitative user research consisted of a combination of interviews, workshops, user testing sessions, surveys and concierge tests. The quantitative user research consisted of analyses of in-app user behaviour data, purchase data, demographic analysis and market size estimations.

### Early market

Users that successfully form a Picnic habit, and thereby form Picnic's early market have both high motivation and high ability to use the service. The high motivation results from the users being time-constrained, having physical limitations, and experience going to the supermarket negatively. This group's high ability is a result of their high ability to plan, their relatively predictable life, and the guidance in food they receive from recipes and diets. The majority of this group are families, which are also the most profitable customers for Picnic.

## **Product strategies**

By combining the insights from user research with the theoretical framework, three product strategies were proposed that help more users form a strong Picnic habit.

First more different types of users are enabled to place orders by their increasing their motivation and ability. Once these users are enabled to order at Picnic, their frequency of interaction is increased. Finally, when these users are interacting with this app frequently, users remain engaged by an app that improves with each usage-cycle. This happens through both user- and Picnic- driven personalization.



The three product strategies

## Implementation of product strategies

These strategies must be embedded in the store team and Picnic organization in order to be effective. In order to do so, three organizational challenges must be overcome:

- Challenges in aligning teams across the organization,
- Challenges in creating buy-in for customer focused projects
- Challenges in autonomous decision making, due to large dependencies between teams.

## **Product design framework**

To deal with these organizational challenges, the strategies are translated into a product design framework.



### Product design framework

This framework provides the team with clear guidance and inspiration, while being concise and measurable for the rest of the organization. This leads to companywide buy-in.

## Validation

The framework was validated in two steps in a session with customers and in an internal session. The results of these validation steps indicate that the framework is likely to be successful, but it can only truly be proven by implementing it and putting it to the test.

## Implementation

To achieve successful implementation, the framework must be clearly communicated and embedded in the daily work of the team. The latter should happen in both creative activities and evaluative activities.

## Conclusion

The framework helps the store team to set a course for a longer period of time. It helps the team focus on solving the right problems for its users, by providing a way to visualize these problems and the effect the solutions should have. The vision and strategies provide the team with direction and help stakeholders across the organization align. The framework is not a definitive 'how-to guide' on building a habit-forming store, and its implementation and the subsequent execution are crucial for its success.

## **READING GUIDE**



"Throughout the project, quotes of experts, users and teammembers are indicated by this color"

## GLOSSARY

<b>REGISTRATIONS</b> -	People who downloaded the app and filled out their personal details.
DIRECT INVITE -	The moment where the user is removed from waiting-list and is able to use Picnic
USERS -	People who use the app
CUSTOMER -	Users who have made a purchase with Picnic
ACTIVE CUSTOMER -	Customers who have ordered at least 5 times with Picnic
CHURNED CUSTOMER -	Customers who have ordered with Picnic at least once, and haven't placed a second order for the last 3 months
IN-ACTIVE CUSTOMER -	People who have ordered with Picnic at least once, and haven't placed a second order for the last 4 weeks
CONSUMER -	All people buying groceries
ITEMS -	Grocery item
SKU -	Stock keeping unit, indicating a unique item

## **TABLE OF CONTENT**

#### PREFACE EXECUTIVE SUMMARY READING GUIDE

#### **CHAPTER 1. PROJECT CONTEXT**

1.1 Introduction 1.2 Company context 1.3 Product context 1.4 Scope of project 1.5 Problem statement

#### **CHAPTER 2. THEORETICAL FOUNDATION**

2.1 Retention 2.2 Relation of habit and retention 2.3 Habit formation

#### CHAPTER 3. USER RESEARCH

3.1 Early market 3.2 Focus on families 3.3 Segmentation basedd on desired outcomes

### **CHAPTER 4. PRODUCT STRATEGIES**

4.1 Overview of product strategies 4.2 Strategy I. Enable different types of users to place orders 4.3 Strategy 2. Increase the frequency of interaction 4.4 Strategy 3. Grow personal connection with each usage cycle 4.5 Conclusion

### **CHAPTER 5. IMPLEMENTATION OF PRODUCT STRATEGIES**

5.1. Organizational analysis 5.2. Analysis of previous strategic efforts 5.3. Conditions for successful implementation 5.4. Proposed solution

#### **CHAPTER 6. PRODUCT DESIGN FRAMEWORK**

6.1. Overview of framework 6.2. Vision 6.3. Product strategies 6.4. Key results 6.5. Principles

### CHAPTER 7. VALIDATION

7.1 Validation with customers 7.2 Internal validation

**CHAPTER 8. IMPLEMENTATION** 8.1 Implementation

### CHAPTER 9. CONCLUSION

9.1 Conclusion 9.2 Limitations, implications and recommendations 9.3 Personal reflection

BIBLIOGRAPHY APPENDICES

1 2 4
<b>6</b> 8 9 13 16 18
<b>20</b> 22 25 26
<b>32</b> 34 39 42
<b>48</b> 50 52 64 70 73
<b>74</b> 76 79 80 82
<b>84</b> 86 89 92 93 96
<b>98</b> 100 103
<b>104</b> 105
<b>108</b> 110 112 113
116 122

# CHAPTER 1 PROJECT CONTEXT

## 1.0

This chapter introduces the project and its context. A structured overview of the company, the product and their influence on the scope of this project. The chapter will be concluded with the problem statement.

#### In this chapter:

- 1.1 Introduction
   1.2 Company context
   1.3 Product context
- 1.4 Scope of project
- 1.5 Problem statement

# 1.1 INTRODUCTION

In this chapter the company and the assignment on which this thesis focusses is introduced.

Picnic is an online supermarket with an app-only strategy. This means that the only way for the customers to shop is through the Picnic app. Picnic's customer friendly service<sup>1</sup> and its free deliveries have led to an increase in the volume of online grocery shopping in the Netherlands (Bos 2018), referred to as "the Picnic effect" in national newspapers. Since the founding of Picnic 4 years ago, the company has acquired a substantial share<sup>2</sup> of the fast-growing online grocery market.

Picnic is highly effective at acquiring new customers, with roughly half of all households registering for the service in cities where Picnic is launched. This is mainly due to their unique value proposition of high-quality groceries, delivered for free, with a minimum order value of just €25. Somehow, the value proposition that moves users to download the app and register does not suffice to convert them into active customers. In order to run a profitable business, Picnic needs to achieve this conversion. This process is referred to in literature as retaining customers. In this thesis, retention is defined as the conversion from registered users into active customers, meaning these customers have placed at least five orders with Picnic.

The aim of this thesis is to develop and implement the optimal design strategy for Picnic's store to increase retention. This assignment consists of both the conception of the optimal strategy as well as the plan for its implementation.



Figure 1 - The Picnic store

1. Research by the Consumentenbond (2019) defined Picnic as the most customer friendly online grocer

2. Picnic is market leader in online groceries in the areas where the company is active (GFK, 2019)

# 1.2 COMPANY CONTEXT

This chapter looks at the context of the company that influences the customer experience and the team dynamics.

## **Overview**

In the 4 years since its existence, Picnic has acquired a 17% share (www.agf.nl) of the rapidly growing online grocery market (37% for 2018 (foodmagazine. nl)). Picnic's share of the overall Dutch grocery market is 0,7%, while it is only active in 70 cities. In these cities, Picnic can potentially reach 2,8 million people. In the areas where the company is active, it has an estimated 3,7% share of the total grocery market. Due to its unique value proposition described in the introduction, Picnic manages to acquire new customers (from now on referred to as registrations) at relatively low cost. This first mover advantage is not about being the first to offer online groceries, but the first to offer it with free deliveries and with a minimum order amount of only €25, as compared to market leader Albert Heijn's €75 (AH.nl). This has opened the market for online groceries for a much larger part of the Dutch population (FD).

## Logistical operation

The logistical operation is important to the customer, as it determines when and for which price the customer can receive his groceries. Picnic connects producers with customers via an efficient logistical operation, visualized in figure 2.



Figure 2 - Distribution model of Picnic

- 1. See appendix G.1 for the calculation of Picnic's relative market share.
- 2. A hub is a last-mile distribution center located in the outskirts of the city.

Picnic mainly operates in the Netherlands, where it has 5 warehouses and 29 hubs to cater for the 70 cities it operates in. These cities are spread out in the west, middle and south of the Netherlands. Orders have to be placed before 22:00, in order to receive them the next afternoon or evening. On average there is a period of 18 hours in between ordering and receiving your groceries. The orders are collected in the fulfilment centres and then packed in crates. Each crate is destined for one unique customer. This means that when an order is packed in the warehouse, we already know for which city and customer it is. This allows Picnic to group orders and ship to the hubs efficiently.

Despite its limited geographical reach (about 17% of the Dutch consumers), Picnic has acquired a market share of 0,7%. This means that in the area where Picnic is active, it has an average market share of 3,8%. In the first and thus most mature hub, Picnic has a market share of 6,3%.

arket share. skirts of the city.

# **1.2 COMPANY CONTEXT**

# 1.2 COMPANY CONTEXT

## **High-paced growth**

Picnic high-paced growth over the past years is impacting its organization, and should thus be considered for the purposes of this thesis. Due to steady capturing the market in existing hubs, and the opening of new hubs, Picnic has become one of the fastest growing companies in Europe (TNW 2018). The growth of Picnic has three drivers: (1) New cities, (2) new customers in existing cities, (3) more orders from existing customers. Since its inception in 2015, Picnic has roughly doubled its revenue annually. Currently, Picnic serves 250.000 registered customers, with another 70.000 people on the waiting list. The organization developed in line with the rapid expansion of customers and revenue. The total number of FTE's increased to around 250 at the headquarters, from just 10 FTE's in 2015.

Picnic expects the high growth of online groceries to continue and plans to become the market leader in this area. Experts estimate that from 2012 to 2020, the online grocery market will have grown by 800% (See figure 3).



Figure 3 - Estimated growth in share of online sales per category in the Netherlands

This means that on average the market grows by 30% annually. This vision is shared by the Picnic management. One of the founders, Michiel Muller states "I believe you will start doing a lot of things online. It (market share of online groceries) could easily go up to 20 or 30 percent, which is an enormous shift in such a huge market." (MarketingFacts 2019)

## Structure of the organization

The Picnic organization is structured in dedicated teams, supported by so-called platform teams. There are important dependencies throughout the organization, as Picnic handles all distribution and logistics themselves.

### Sketch of dependencies

The dependencies are best explained by a sketch of what happens when a customer places an order:

When a customer is shopping in the app, he only can order only the products that can certainly be shipped to him the next day. This means that the app has to talk to the backend and forecasting models about this availability. When the customer finishes the order, an employee in the warehouse will pick the right products, using dedicated Picnic warehouse software. The crate will then be sent to the hub, where a Picnic delivery man will take it to the customer. When the customer has complaints about his order, he will contact Customer Success via de store app. The app allows him to take a picture of products that have issues, such as fruit that is not ripe. The CS team will provide feedback to the relevant department about what should be improved.

The store team is part of the Tech team, that roughly encompasses all technology built by Picnic. The team reports to CEO Joris Beckers. Other important stakeholders for the store team are:

- Trading team
- Merchandising team
- Back-end team
- Data engineering team
- Growth team

The teams and interdependencies are visualized in figure 4 on the next page.



#### Figure 4 - Stakeholder map of Picnic's store team

## **Positive impact of Picnic**

In order to decide if this thesis contributes to the design for our future paradigm, the impact Picnic has on its users and society must be considered. Picnic has a positive impact in four ways:

- 1. Increasing the amount of free time Dutch people spend up to 5 hours a week (ING 2015) doing groceries. By using Picnic, customers can reduce the time they spend on grocery shopping, creating more spare time.
- 2. Saving money for customer Due to the low prices, and more deliberate shopping process that keeps users from making impulse purchases, customers save money by using Picnic.

## 3. Reducing food waste

Picnic knows what products its customers want the next day. Therefore, it does not have to hold stock, and products can thus not go past their expiry date. This reduces the food waste a Picnic customer generates with around 30% (Engelen R. 2018).

## 4. Reducing CO2 emissions

Picnic's electric distribution vehicles reduce CO2 and particulate matters emissions, as compared to customers shopping by car, or non-electric delivery vehicles.

Due to these reasons, a successful retention strategy will not only be worthwhile for Picnic, but also for its customers and society as a whole.

# 1.2 COMPANY CONTEXT

## **Picnic's brand**

The solution this thesis proposes must be in line with Picnic's brand image. Picnic is building the image of a friendly local milkman. When delivering groceries at home, it is of the utmost importance that your customers trust you. Therefore, the delivery vehicles are small and friendly looking. All communication to customers is informal and playful. The delivery boys and girls (from now on referred to as Runners) are recruited on good communication skills and a friendly appearance.



Figure 5 - A friendly Picnic runner delivering groceries



Figure 6 - The friendly looking EPV

# 1.3 PRODUCT CONTEXT

As mentioned before, Picnic is an online-only grocer. This means that groceries can only be bought via the smartphone app, which is called the Store. This store is the product this thesis focusses on.

## Navigating the store

The store consists of four main elements shown in figure 7: (1) the storefront, (2) the search section with a vertical tree of all categories, (3) the shopping basket and (4) the customer's personal profile.



Storefront

Search

Figure 7 - The four elements of the Picnic store

The storefront is divided into theme pages, mostly organized around product type. In this way navigating Picnic resembles the aisles of a physical supermarket.

These theme pages are called L1 pages. Apart from distinctions on product type, there are also level 1 pages such as promotions ("Acties"), previously purchased page ("Besteld") and pages for specific events or holidays such as Easter. One level of detail deeper into the L1, there are L2 and L3 categories as shown in figure 8. These are used to group products into more specific set.



Figure 8 - The flow to the detail page of bananas



# **1.3 PRODUCT CONTEXT**

## Usage patterns of store

Picnic defines two main types of purchases users make in the app:

- Basics: Products a customer buys regularly, these will show up in his purchases ("besteld") page.
- **Outliers:** Products a customer buys less often. These can be products the user knows he needs (explicit need), or products he doesn't know he needs or wants (latent needs).

The basics and outliers are purchased via different ways, corresponding to the elements mentioned before. This distinction is visualised in Figure 9:



#### Figure 9 - Type of purchase per element in the store

Products for which the user has an explicit, but ill-defined need are purchased mostly via the category tree. However, this tree always leads to the L3/L1 categories. Therefore, it currently cannot be measured separately. The four ways of shopping, and the percentage of products that is added through these ways is visualized in the figure 10. These percentages are the average for 5th orders in 2018.



Figure 10 - Visualization of how products are added to the user's basket

# 1.3 PRODUCT CONTEXT

## **Customer journey**

In the customer journey of Picnic, six major steps are used in Picnic's working definition.

## 1. Start

The awareness about Picnic triggers the user to start searching for the Picnic app. Either online or via the Appstore

## 2. Download:

The app is downloaded by the user; He needs to fill out his personal details. Then he will get a spot on the waiting list, see next definition.

## 3. Waiting list:

Picnic has this step to ensure quality of service and predict and influence demand better. During the time on the waiting list, the user will get so called "wachtverzachters". These are free products offered as a compensation for having to wait.

#### 4. Invite:

After a while, the user is invited to the guestlist. This invite is a message telling the user that he can now shop in the Picnic app. The "wacht-verzachters" will stay in the basket of the newly invited customer for four weeks.



Figure 11 - The Picnic customer journey

## 5. Shopping

After receiving the invite the user can turn to the store and start shopping for groceries. Generally, users need about 8 sessions to compile their order. A session is defined as the process of opening the app and interacting with it, before closing it again. The order needs to be placed before 22:00 to receive the groceries the next day.

## 6. Receiving groceries

Somewhere in the next few days, according to the delivery slot choice of the user, the groceries will be delivered at the door of the customer. This happens within a 20-minute timeframe, with an on-time delivery rate of roughly 90%.

The high-level customer journey of a Picnic customer is visualized below (Figure 11).

This is an ideal journey, known as the "happy flow". This means that in this journey nothing goes wrong and the customer places a next order after going through the loop of the first order.

## SCOPE OF PROJECT 1.4

Increasing customer retention is an important business challenge for Picnic, involving multiple teams throughout the entire customer journey. In this thesis the challenge is tackled within a limited solution area. This area will be explored in this chapter.

## The Picnic Store

Although we will look at the entire context of the Picnic company, the focus of this thesis is the consumer facing app, or the "store" as it is called internally at Picnic. The store can be broken down in two components: The functionality, and the content. With functionality, we mean everything a user can do in the app. The content, on the other hand, are the products and promotions a user can find in the store. These two components form the basis of the customer experience in the app. Within Picnic, the store team is responsible for developing the functionality, whereas the content is provided by the trading and merchandising team. These teams work closely together.

## Focus on specific part of the customer journey

This project will focus on converting the users who first open the app, into active customers. This part of the customer journey is the domain of the store team and is most relevant for increasing conversion levels. We define active customers as users that have placed 5 orders or more with Picnic, as these customers are highly likely to keep ordering. Therefore, we do not focus on customers that have placed more than five orders.



Figure 12 - Focus area in user journey

## Focus on the Dutch market

This project will focus on the Dutch market, as this is the market in which Picnic realizes most of its revenue. In addition to that, the Dutch market is the most advanced for online groceries in Europe (FD 2019). Focussing on one geographical market is essential, as there are significant differences in grocery preferences and attitudes towards online shopping and data sharing across countries (Dijksterhuis et al 2005)

## SCOPE OF PROJECT 14

## Focus on competition with physical supermarkets

New customers of Picnic mostly come from physical supermarkets, rather than other online grocers. This is mainly due to the fact that online shopping has only been available since recently. This finding is supported by the trends in our mature hubs. In an interview, CEO J. Beckers stated that: "When we started [in Amersfoort], the online market was only 1% of the total grocery market. Now we have a 5% market share. That is five times the size of the market before we got started!".

This remark was confirmed recently by GFK, that states that in Picnic's delivery areas, the online grocery market is substantially bigger than the nation-wide average (GFK 2019).



Figure 13 -Share of online groceries in areas where Picnic delivers. and areas where Picnic does not deliver

This means that Picnic most important competition are not necessarily online grocers, but rather the normal supermarket around the corner. Picnic's challenge is to create a market for online groceries rather than beating other players in that market. Although this thesis will take online competitors into account, the main focus will be on converting customers from physical supermarkets.



## 1.5 **PROBLEM STATEMENT**

The main challenge for Picnic on the customer-facing side is to increase the conversion from registrations into loyal customers. Loyal customers are called active customers internally. An active customer is defined as someone who has placed at least five orders with Picnic.

## High percentage of households is interested in Picnic's value proposition

In areas where Picnic is active, roughly half of the households downloads the app, and registers for Picnic service<sup>1</sup>. This indicates that a large percentage of potential users are interested in Picnic, or at least curious. The high percentage of households that registers with Picnic provides the company with an interesting business opportunity.

## Sub-optimal conversion

In order to reap the rewards of this competitive advantage, and to run a profitable business, these registrations have to be converted into active customers. In 2018, 14% of registrations converts to an active customers within 10 weeks. This means that 86% is not converted to active customers, and thus not retained as user.

## Reasons for sub-optimal conversion to active users

A high number of potential customers is thus interested in Picnic's service, but most of them somehow do not change their way of grocery shopping. This thesis aims to find out why, and how to overcome these challenges by building a better Store.

Insights that already lived in the company, preliminary desk research on grocery shopping, and informal interviews revealed the main problem of the challenge: Grocery shopping is a habitual consumption, and Picnic's way of doing groceries shakes up that habit. Although this new way of grocery shopping might be more efficient and pleasant, it is still very challenging for humans to change behaviour.

### Groceries are a habitual consumption

Purchasing groceries has become one of the most habitual types of consumption in the western world. This is due to three key characteristics of grocery shopping.

- 1. Groceries are a high frequency purchases With an average frequency of between two and four times per week (ING 2015), groceries are one of the highest frequency purchases.
- 2. Grocery purchases have limited variability over time

The products in the average grocery basket are relatively similar over time.

3. The behaviour of grocery shopping is trained over a long period of time

Most people have experienced the process of doing groceries ever since they were young. They went shopping for groceries together with their parents, and after some time start doing groceries themselves. Most Dutch people have years of experience in doing groceries.

Due to the combination of high frequency, limited variability, and extensive experience, doing groceries often requires minimal conscious thought for most people. This means it is a very habitual purchase, which is defined as: "An automatic behavioural response triggered by a situational stimulus without being preceded by a cognitive analysis process." (Aarts et al 1998). Or put more simply; automatic behaviour that occurs with little cognitive thought.

## 1.5 PROBLEM STATEMENT

#### Habits are hard to change

There are good reasons why habits are formed. It allows the brain to automate some process and dedicate the energy that frees up to new, more cognitively demanding tasks (Kahneman 2011), of which it can take on only one at the time, and a limited number during a day. There are, however, big downsides to this system. It prevents us from forming better habits, as our brains are set on maintaining the old ones.

#### Main changes in grocery shopping process

Picnic hopes to change the grocery habits of registered users. Currently, online grocery shopping with Picnic is fundamentally different than the traditional way of grocery shopping<sup>1</sup>. The three main differences are:

1. New way of shopping

Picnic customers can only shop with an app, as explained in section 2.2. This means that they have limited overview of the assortment, miss spatial reminders, and have limited sensory feedback, such as smell.

2. Time difference

2.

Picnic's customers face a large time difference between the moment ordering their groceries and the delivery moment. On average this takes about 18 hours. This means that the customer must swith to a planned process.

3. New and smaller assortment

Picnic does not offer the exact same assortment as the dominant supermarkets in the Netherlands. The company also offers less SKU's. This means that customers might have to switch away from their favorite products to be able to shop at Picnic.

Retention is defined as the conversion from registered user into active customer (more than five orders)

Picnic data

## Design challenge

To successfully order groceries at Picnic customers need to learn a new grocery shopping habit. In order to form this habit, the customers need to adapt to a new way of shopping, with different products and other planning requirements.

Consequently, the design challenge of this thesis is :

To increase retention for Picnic by creating a habit-forming Picnic store.

<sup>1.</sup> See Appendix H.3 for a full comparison of customer journeys

# CHAPTER 2 THEORETICAL FOUNDATION

## 2.0

This chapter provides the theoretical foundation of this thesis. It focusses on retention and the dimension that drive retention. After this, the relation of habits and retention is explored. This chapter then defines how habits are formed.

In this chapter:

2.1 Retention2.2 Relation of habit and retention2.3 Habit formation

# 2.1 RETENTION

## Picnic's revenue growth is driven by three factors:

- 1. The number of new customers the company manages to attract,
- 2. The degree of retention of existing customers
- 3. The number of orders these customers place.

The number of customers Picnic manages to attract is not the problem, nor is it the focus of the store team. The retention however is.



Figure 14 - Customer life-time model (McClure, 2017)

## **Defining retention**

Retention is the rate at which customers keep using a product or service, and thereby remain part of the customer base. In this thesis, the retention rate is defined as the rate at which users keep ordering at Picnic over a 10 week period.

Chen and Hit (2005) define two drivers for retention:

1. Product quality:

The (perceived) utility of using a product.

2. Switching costs:

The (perceived) costs of switching to another product,

This means that a firm can be successful at retaining customers either because they offer a superior product (at least for a subset of consumers) or because they have high switching costs (also known as lock-in).

## Defining product quality

Product (or service) quality, or perceived utility, of the product is the other main driver of customer retention. There are four factors that influence the perception of a product's quality (Sweeney, Soutor 2001):

### 1. Quality

The product should be of high quality and is expected to perform consistently.

2. Emotional benefits

The product should lead to enjoyment for the user, it should make him feel good, safe and secure, and it should provide pleasure.

3. Price

The product should be reasonably priced and should provide good value for money.

4. Social benefits

The product should help the user feel accepted, improve the way the user is perceived by its peers and help him make a good impression. Other people should give the user social approval.

It must be stated that perceived utility is highly subjective and varies significantly between individuals.

# 2.1 RETENTION

## Defining switching cost

Switching costs are the real or perceived costs of changing the provider of a product or service. The online grocery market has relatively high acquisition costs and low contribution margin per order (McKinsey 2017 & internal Picnic data). Profitability in this market is therefore driven by the size of the customer base and customer retention, which is partly defined by switching costs. This means that it is essential for Picnic to transform customers switching from physical stores into loyal customers, as it is less likely customers will switch after becoming active customers at other online grocers.

## As Shapiro and Varian 1999 put it:

"You just cannot compete effectively in the information economy unless you know how to identify, measure and understand switching costs and map strategy accordingly."

Switching costs, in turn, can be driven by:

- Firm practices Such as loyalty programmes
- Customer loyalty
   Intrinsic customer characteristics, and the
   company's success in targeting loyal customers.
- The nature of the product Purchase frequency, learning involved, or customer complementary investment.

In conclusion, a firm can be successful at retaining customers either because they offer a superior product (at least for a subset of consumers), or because they have high switching costs, or lock-in.

## Drivers of switching costs

Klemperer (1995) defines the following drivers of switching costs:

## 1. Search costs

The costs of finding a new service provider, and ensuring it provides the service level you are looking for.

## 2. Transaction costs

The cost that switching service providers requires. This exists of the cost required to initiate a new relationship and terminate the old one.

## 3. Network effects and compatibility

When users demand compatibility with other users. In the presence of these effects, users benefit from using the product with the most users. This also holds true for supermarkets, where in theory the company with most users can carry the most SKU's and thereby have the most appealing assortment for users.

## 4. Learning costs

The cost of learning to use new products. This involves all the money, time and effort spent with the competing service provider. These are sunk costs and non-transferable from one relationship to another.

## 5. Complementary investments

Many information products require complements to be useful. Facebook for instance would be useless without friends and thus content and the utility of Spotify increases after creating your own playlist and after the algorithms learn your preferences. These are all complements created by use. These complements are a powerful driver of switching costs.

## 6. Psychological costs of switching Non-economic "brand loyalty", meaning loyalty to a brand without rational reason for it, or the uncertainty about the quality of the new service provider.

The aforementioned drivers are all relevant to Picnic, and the strategy should be mapped accordingly. The only exception to this are transaction costs, as there are no costs involved in initiating or terminating relationships with grocers.

# 2.1 RETENTION

## **Relevance of retention in general**

Customer retention is considered by both scholars and practitioners to be one of the critical success factors for retail businesses with its implications for cost savings, profitability and business growth.

Cost savings

In general, the cost of acquiring new customers is five to seven times that of retaining existing customers (Doyle, 2003).

Profitability

Furthermore, retained customers enhance profitability as they have a lower sensitivity to price changes (Doyle, 2003).

## Business growth

In order to understand how retention drives business growth, McClure (2017) customer life-time model is used. Based on this model, Picnic's revenue is a function of the number of customers acquired, the retention rates, and the number of orders per customer. This means that higher retention rates directly translate into business growth. In addition to that, retained customers have a higher likelihood of referring new customers (Doyle, 2003).

## **Relevance in online shopping**

Customer retention is an even more challenging issue in the context of online shopping, where competition is generally stronger, due to the absence of geographical limitations and the fact that switching costs are minimal (Anderson et al, 2003).

## **Relevance for Picnic**

Retention is highly relevant for Picnic as retaining customer is an necessity to run an profitable business, increasing the retention rate provides an interesting business opportunity, and there is still upward potential to achieve this increase.

## Necessity for business model

Based on the average contribution per order at Picnic, customers should place a minimum of three orders for Picnic to break even on that specific customer. This calculation does not include other investments, capital costs and overhead. In addition to that

### Business opportunity of increasing retention

Estimations based on customer data models of Picnic show that a 1% increase in retention leads to a 4% increase in revenue . This multiplier effect makes investments in retaining customers an interesting business opportunity. In the aforementioned calculation, the lower price sensitivity found by Doyle (2003) was not taken into consideration.

## Upward potential in Picnic's retention rates

It is likely that significant increase in retention can be achieved. By benchmarking Picnic's retention rate against eCommerce average, and elite (90th percentile), it can be concluded that while Picnic's retention rates are above industry average, they are still roughly half of that of top-performers.

Figure 15 - Comparison Picnic 10wk retention with eCommerce (Mixpanel, 2017)

# 2.2 RELATION BETWEEN RETENTION AND HABIT

Several empirical studies (Murray & Haubl, 2005) show that strong habits lead to higher retention. Researchers such as Quinn and Wood (2005) consider habit as an important factor in explaining repeated purchases.

## **Defining habit**

Habits are defined as 'situation-behaviour sequences that are or have become automatically, the individual is usually not conscious of these sequences' (Triandis, 1980, p. 204). The concept of habit represents the behavioural tendency to repeat previous actions. Habits are developed 'through frequent performance in a stable context' (Ouellete & Wood, 1998). It can be viewed as an automatic behavioural response triggered by a situational stimulus without being preceded by a cognitive analysis process (Aarts et al., 1998). In other words, habitual behaviours require minimal conscious thoughts, thereby enabling individuals to conserve their limited mental resources (Bargh & Ferguson, 2000).

## How habit drives retention

In the previous section, retention was defined retention as a function of perceived utility and switching costs. Habit influences both these drivers.

## Influence of habit on perceived utility

When a habit is formed around a product, the perceived quality of that product will increase. This is due to two reasons:

## 1. Habit influences actual utility

By creating a habit around using a product, the use will become easier and the perceived utility will thus increase. This is similar to visiting a new supermarket. The first time, learning will take place. After a couple of visits, visitors know the lay-out of the store and might have developed a preferred route that helps them shop faster and more pleasant (Kahn & MacAlister, 1997).

## 2. Habit influences affect towards a behaviour or product

Repeated behaviour and exposure to products or people automatically evokes an emotional response to this behaviour, known as affect (Triandis, 1971). This is known as the *mere exposure effect* (Zajonc 1968). A body of research states that habit is a major driver of affect (Limayem & Hirt, 2003).

## Influence of habit on switching costs

When a habit is formed around a product, switching cost away from this product and towards alternatives will increase. The perceived learning costs of other alternative products will increase the switching costs towards these products. The customer has now invested time and effort in acquiring the habit associated with the product. The costs of this investment are sunken into the specific product and non-transferable to alternatives. In addition to that, the psychological switching costs will increase, as the customer is unsure if alternatives can offer similar product quality.

By increasing the perceived utility and switching costs, creating a habit is the key driver in increasing the retention of customers. This is in line with the findings of Triandis (1971) who states that "when a customer has acquired a habit of a certain behaviour, he is more likely to repeat that same behaviour in the future, than others without such a habit."

<sup>1.</sup> Contribution is defined as how much an order contributes to the EBITDA

<sup>2.</sup> See Appendix G.2. For full calculation.

# 2.3 HABIT FORMATION

As mentioned in the previous chapter, habits drive of retention. This chapter focusses on how habits are formed around products and services. It establishes a theoretical model, that serves as the theoretical foundation of this thesis.

Before going into specific models, it should be stated that human behaviour is complex and there are numerous models to explain human behaviour and thus habit. This thesis will make use of models that are widely recognized and easy to understand. These two preconditions are set to make implementation in the Picnic organization easier.

## Model of habit formation

One of the most widely accepted models to explain habit formation is introduced by Fogg (2010). Fogg states that habits are created when both frequency and perceived utility are both high enough.

Frequency is defined as how often a certain behaviour occurs. For the purposes of this thesis, this behaviour equals the interaction with the Picnic store. Perceived utility, or product quality, is the first section of this chapter.

Habits occur across both dimensions. This means that some habits involve high frequency interaction, whereas others have a far lower frequency.

## Examples of habits with different frequencies

Examples of habits with different frequencies are shopping at Coolblue, where the frequency is relatively low, but the perceived utility is high, making it a habit for a lot of people to shop via Coolblue.

Searching on Google on the other hand, has a lower perceived utility but occurs more often. This also allows a habit to form.

The higher on the frequency and utility dimension, the stronger the habit. These type of habits are behaviours that will occur almost certainly such as brushing your teeth.



Figure 16 - Habit formation model Fogg (2010)



Figure 17 - Habits with different frequencies

# 2.3 HABIT FORMATION

## Structure of habits

Habits are built over time and generally require a certain frequency to form. This thesis uses Eyal's Hooked model (2016) as a framework for the distinct elements that make up habit. This model consist of four elements:

1. The trigger

Something that drives a person to use the product.

2. The action

The simplest behaviour a user can take in anticipation of a reward.

3. A (variable) reward

Something that fulfils the need of the user, but at the same time leaves the user with a desire for more.

4. An investment by the user

A "bit of work" the user has to perform, to increase the likelihood of returning and to make the product better for the next go round.

## Fig

## The trigger

Two classes of triggers are distinguished: internal and external. External triggers are obvious cues to action. They contain the information about what to do next within them. A good example is a button with the text "buy now". Internal triggers on the other hand work differently. The next action is prompted by an association in the mind of the user. Types of internal triggers are: spaces, places, routines, behaviours, people and emotions. Both classes of triggers predict behaviour in a relatively reliable manner. The emotions that trigger users to perform an action are most often negative.

## **Triggers for Picnic users**

In the table below a preliminary overview of triggers for Picnic customers is provided. Different triggers might apply for different customers. These triggers were derived from customer interviews, and observations of Picnic's communication to customers.

External triggers	Exte
Advertising	• [
Word-of-mouth	• [
App icon on phone	• [
Push message	• F
• E-mail	• F
Seeing the EPV drive by in your street	• [
Bubble on app icon	• [
	• [
	• (



Figure 18 - The habit loop (Eyal, 2016)

- ernal triggers
- Planning your week
- Empty shelves
- Being out of milk
- eeling hungry
- inding a recipe
- Deciding what to eat
- Purchasing products
- Receiving products
- Consuming products

# 2.3 HABIT FORMATION

## The action

The action is the simplest behaviour in anticipation of a reward. The dynamics of the action phase in Eyal's habit model is captured in the Behaviour Model by Fogg (2010).

Fogg provides the following formula to describe behaviour:

## Behaviour = Motivation + Ability + Trigger

This means that for a behaviour to occur, both the user's motivation and ability need to be sufficient and an appropriate trigger needs to be present.



## **Example of behaviour model equations**



The formula for actions is best explained by an example: A phone call. When your lover calls, you want to pick up, that's motivation. By simply swiping right you can pick up your phone, that is ability. However, you need to hear your phone ring, or see an incoming call on your screen in order to know that you are receiving a call from your lover, that's your trigger. This equation changes as someone else calls you, for example your boss, causing motivation to drop. Or you might be driving, which decreases your ability to pick up your phone.

Fogg's model provides us with a useful way to think about behaviour and how to enable users to successfully perform the target behaviour. The previous section discussed triggers, and the next will explore motivation and ability.

## Motivation: The energy for action

Motivation is the energy for action. A great deal of variance in this energy among Picnic's customer group can be expected. Eyal identifies the following drivers for motivation:

- 1. Seeking pleasure
- 2. Avoiding pain
- 3. Seeking hope
- 4. Avoiding fear
- 5. Seeking social acceptance
- 6. Avoiding social rejection

These are universal drivers of human behaviour (Wahba, 1976). Sometimes this motivation will be based on rational thought (cognition), while on other occasions, the motivation will be mainly driven by irrational thoughts (affect).

## Ability: How difficult a behaviour is to perform

This again will vary among users. Eyal identifies the following drivers for ability:

1. Cost

How much time, money, physical efforts, brain cycles (the more difficult to understand, the less likely to people are to use it).

2. Social deviance

Do others like me do it?

**3. Non-routine, practice** The more the user performs an action, the easier this action will become.

# 2.3 HABIT FORMATION

### Actions for Picnic users

The key actions we want Picnic customer to take is to place an order. This exists of two sub-process: shopping and checking out. In order to place an order, users should perform at least 5 sub-actions, visualised in the customer journey below.



### Figure 20 - Generic customer journey

In-app behaviour data shows in the conversion percentages for each subtask. This is a relatively steady decline, meaning there is not one point where all customers are stopped in their tracks. It is interesting to see that of all the customers that added enough products to their basket to reach the €25 order limit, only half of them places an order.

## CONFIDENTIAL

Figure 20 - First order conversion funnel



## HABIT FORMATION 2.3

## HABIT FORMATION 2.3

## The reward

Users perform their actions because they expect and desire a reward. These rewards can be divided into the three following categories:

## 1. Social rewards

This type of reward comes from other people. Examples of these rewards are feeling good for someone else, competing and cooperating with peers, and receiving recognition and praise from others.

### 2. Search for resources

These rewards can be food and resources such as money or information. The search part is emphasized, because the effort increases the perceived reward. Eyal calls these rewards "the reward of the hunt".

### 3. Search for self-achievement

The third reward is in the search for self-achievement. Examples of this are mastery, competency and consistency.

All of these rewards feel good to the user and have a sense of mystery. Olds and Milner (1954) have showed that these rewards activate a part of the brain called "Nucleus accumbens". This area is mainly activated by good deals, certain things people really want to buy, love, food and technology. In habit forming technologies, its more about wanting the reward rather than actually getting it.

### **Rewards for Picnic users**

Picnic can provide rewards to its users in all aforementioned categories. Social rewards might come from recognition and praise for having nice food in stock, or for cooking a delicious meal. In terms of resources, Picnic users might be rewarded by finding their favourite products in the store, or products they did not expect to be there. In terms of self-achievement, users might derive a feeling of competence when successfully performing (sub) tasks in the Picnic app.

## The investment

This is where the user does a bit of work in anticipation of future rewards. This increases the likelihood of the user making the next pass through the loop. If this happens often enough, a habit will be formed. Two ways of investing are identified: (1) loading the next trigger and (2) storing value.

### **Investments for Picnic users**

Loading the next trigger can be for example downloading an app or allowing push messages. Storing value means improving the product by your use. Ways of doing so are by creating content, data, a reputation or followers. This value will make the app better for the next go round.

## Conclusion

Fogg proposed that habits are formed when both the perceived utility and frequency of interaction are high enough. Although habits can be formed on different frequencies of interaction, a higher frequency generally results in a stronger habit. This means that apart from increasing the perceived utility by improving the app for users, the store team should focus on increasing the frequency with which users interact with the store. Eyal's habit model is used to provide a theoretical foundation to think about habit creation. According to this model, habits consist of a delicate combination of triggers, actions, rewards and investments. Finally, Fogg's Behaviour Model helps to understand when behaviors, or actions as they are defined in Eyal's habit model, occur.



Habit formation model (Fogg, 2010)

Habit model (Eyal, 2016)

Figure 21 - Visual overview of how the theory in this chapter is connected

## CHAPTER 3 **USER RESEARCH**

## 3.0

This chapter identifies the drivers of a succesfull Picnic habit. These are based in extensive quantitative and qualitative user research.

In this chapter: 3.1 Early market 3.2 Focus on families 3.3 Segmentation based on desired outcomes

## EARLY MARKET 3.1

This chapter explores what type of customers have successfully formed a Picnic habit, and thereby make up Picnic's early market. By identifying the types of users that are more likely to become successful Picnic users, drivers of a successful Picnic habit can be defined. These drivers will be used in the proposed design for the Picnic store.

New technologies and services diffuse through a population of potential buyers over time. Picnic has captured an estimated market share of 3,8% of the total grocery market in the areas where the company delivers<sup>1</sup> According to the Technology Diffusion Model proposed by Rogers (1964) this means that Picnic's customer base consists of mainly of innovators. The market share of 3,8%, however is based on the total grocery market. This would assume that over time, all customers will adopt the new technology. This is unlikely for the technology or service of online groceries, where estimations range from 8% to 20% market share in the Figure 22 - Technology diffusion Model foreseeable future (GFK 2018, McKinsey 2018).



If the upper limit of these estimations is used, it would mean Picnic has already acquired a 19% market share of the total addressable market (3,8% \* (100%/20%)) = 19%). That would mean that Picnic is starting to move from the early market, consisting of innovators and early adopters to the mature market.



Figure 23 - Adaption of Technology Diffusion Model for Picnic

These two markets have distinct characteristics. Moore (1999) states that the early market is generally positive towards new technologies. This group is constantly seeking out new innovations for the sake of innovation and a perceived benefit.

This does not hold true for the mature market. This group is generally sceptical towards new technologies; the need clear and proven productivity gains and plenty of support (Moore 1999).

Picnic's customer base roughly matches the definition of the early market provided by Moore and Rogers. In performed qualitative research it was found that the majority of the customer base is relatively young and technology savvy<sup>2</sup>. In addition to that, the majority of the group is willing to participate in the creation of Picnic's service, either by answering surveys, sending in assortment requests, or participating in user testing and other co-creation workshops. This is consistent with the notion of Moore (1999): This group of customers wants to be involved in the creation of the product.

## EARLY MARKET 3.1

## Challenges for shopping at Picnic

The main reasons indicated by users for not converting are the relatively small assortment, inconvenient process of ordering, the price and the limited spread of available delivery slots<sup>1</sup>. In interviews with users, it was found that especially the small assortment and limited number of available delivery slots were challenges that applied to all Picnic customers<sup>1</sup>.

## Picnic's early market has both a high motivation and high ability

Despite these general challenges a significant share of customers within the aforementioned group has placed at least 5 orders. The fact that they have placed 5 orders means that they went through the loop of the habit model at least 5 times. Therefore, both their motivation and ability must be high enough for them to end up above the action line. This line is the threshold that needs to be crossed in order to successfully complete an action.

The action in this case is placing an order with Picnic. This action consists of the following sub-actions: downloading and registering, shopping, check-out and receiving groceries (as defined in the customer journey in section 3.3.).

The customers who are above the action line have relatively high motivation and relatively high ability to use Picnic. However, the extent and drivers of their motivation and ability differ between customers. Although no customer is exactly the same, a handful of general characteristics that drive the early market's high motivation and high ability were found. It must be emphasized that individual customers do not necessarily have to possess all of these characteristics, but they have a mixture of at least some of them.

See appendix B.2. For more information



Figure 24 - Reasons for not placing an order with Picnic (Source: Survey N = 7704)



Figure 25 - Representation of Picnic's early market in Fogg's habit model

See appendix G.1. For full calculation

See appendix B.2. For more information 2.

## EARLY MARKET 3.1

## **High motivation**

Through qualitative research, the following characteristics that drive a relatively high motivation to use Picnic were found.



## 1. Time constrained

The customers in Picnic's early market are more time constrained than the average Dutch person. They have busy lives, with demanding jobs, children or other time-consuming hobbies. Because this group has a limited amount of spare time, this time becomes extra valuable for them. This increases the motivation to gain more time by adapting a more time-efficient grocery habit

## 2. Physical limitations

A relatively large share of the interviewed customers indicated some kind of physical limitations. Examples of these limitations are a permanent handicap. a temporary disability (such as a broken leg), limited mobility (for example with elderly people), the supermarket being relatively far away, or not having a car available for heavy groceries. These are all factors that increases the difficulty for users to go to a physical supermarket. This in turn increase the motivation for these users to look for an alternative way of getting their groceries into their homes.

## 3. Negative supermarket experience

The third characteristic that is frequently observed in this group is that their supermarket experience is more negative than the average Dutch consumer. There are multiple, and varying reasons for this. The customers might have young children, that apparently influence the supermarket experience very negatively. Other customers are annoyed by the impulse purchases they make when shopping at a physical supermarket. A third reason is that this group of people dislikes crowded and noisy places. Finally, some customers indicated that they are dissatisfied with the service level of physical supermarkets.

"Picnic is a real time saver for me! Now I can spend more time with my children."

"I don't have a car, so its perfect for the heavy groceries!"

"Have you ever tried taking kids to the supermarket?"

## EARLY MARKET 3.1

## **High ability**

Within the same qualitative research, the following characteristics that drive a high ability to use Picnic were found.



### 1. Ability to plan

The customers in Picnic's early market have an above average ability to plan ahead. The ability to plan is a cognitive skill and highly varies across individuals. This customer group generally acknowledges that they are relatively good at planning.



## 2. Predictable life

A large share of the customers in Picnic's early market lead a more predictable live than most people. This is driven by a high need for order and routine, or by other factors such as having children with fixed weekly events to which the parents' schedule should be adopted. Another reason for a more predictable is having a pet such as a dog, which requires the customer to walk the dog multiple times a day, increasing the predictability of your life. This effect can also be observed in Picnic's purchase data, where dog owners have larger basket sizes and purchase more frequently compared to customers that do not own a dog.

## 3. Guidance in food

The third reason that early customers have a relatively high ability, is the degree of guidance they get in their food consumption and purchase. Guidance is defined as external help in deciding what to eat, and to a lesser extent when to eat this. The customers were mainly guided by cooking books and specific diets. Intuitively it makes sense that customers who are told what to eat by either a cooking book, or a diet, have less difficulty in selecting and ordering products at Picnic. This is harder for people with less welldefined needs, as the Picnic store and the related shopping process are unfamiliar to the user.

## Tech saviness not considered

In these characteristics the tech-savviness of customers is left out of consideration. This has two reasons: First, registered customers have already successfully installed the app and registered, which is an indication that they have sufficient digital literacy. Secondly, the app is fairly easy to use. It only requires only the most basic interactions with smartphones. Therefore, it is unlikely that people who can't currently use it due to limited digital literacy will be able to use the product anytime soon.

### Combination of drivers

These are the different drivers of successful Picnic habits. Our early market has at least some of the characteristics. People who cannot successfully shop at Picnic lack these characteristics or have them to a lesser extent.

"Haha, yes my friends would describe me as quite the planner!"

"I started using Picnic when I started Fajah Lourens' Killer body diet. Back then, it worked really well, but now I have finished the diet it has become harder!"

## EARLY MARKET 3.1

## Majority of Picnic's early customers are families

Of this group of early customers, the household composition of most customers is that of a family, with at least one adult and one child.

Households composition	Share of customers	Share of deliveries	Share of revenue
Families	49%	56%	63%
Couples	32%	29%	26%
Singles	19%	14%	11%

Figure 26 - Different households' types and their impact on Picnic. Unindicated and outliers are filtered out. For the period 01-06-2018 until 01-06-2019

### Families are overrepresented in Picnic's customer base

These numbers are far higher than the Dutch average, where only 32% of the households are families. In the total Dutch grocery market, families account for 39,5% of all revenue (GfK 2018). This shows us that Picnic's customer base is heavily skewed towards families.

### Families have high motivation and ability

The fact that this a large group of families performs the target action of ordering groceries via Picnic, means that this group has both a motivation and ability.

For the first order, the conversion rate of 41% indicates that 41% of families that register has a high enough motivation and ability. This allows us to plot the group of families on Fogg's behaviour model.

The characteristics that positively influence these dimensions, and thereby a successful Picnic habit that we defined in 9.3. are very often found in families. They are time-constrained, and experience going to the supermarket more negative than others. In addition to that, this group has developed an ability to plan, and their lives are relatively predictable.



Figure 26 - Picnic early customer base consists mainly of families

## FOCUS ON FAMILIES 3.2

The service that Picnic offers works the best for families. Generally speaking, their behaviours and needs are the most compatible with Picnic's value proposition. This is proven by the significantly higher conversion rates of this subgroup of customers.

# CONFIDENTIAL

### Figure 27 - 10-week conversion rates in 2018, split for households type (Picnic internal data)

In addition to that, families are the most valuable subsets of customers for Picnic and the grocery market in general. This finding is supported by industry experts<sup>1</sup> and market reports. GfK (2018) claims that household with children account for 39,5% of grocery market revenue, and 60,3% of the online grocery revenue. In addition to that, their behaviour involving groceries is the most compatible with the Picnic customer journey. This view is supported by Picnic CEO Beckers who states that: "It is for people who can and want to plan ahead - families for example-." (MS, 2018)

### Families are the most profitable customers

In addition to having the highest conversion rates, families also place the highest value orders. Making this group even more interesting to focus on from a business perspective.

## Conclusion

Picnic is mainly working well for families, as they have both high motivation and ability to order their groceries at Picnic. However, a large group of families is not ordering their groceries at Picnic yet. Therefore, Picnic should focus the development of their product on families in order to increase retention.





See appendix E.1. for more information

# **3.2 FOCUS ON FAMILIES**

## Picnic's growth potential among families

Although families are already our most important customer, there is still a huge potential in this market segment. Right now, only 35% of the families in the areas where Picnic delivers have registered with Picnic<sup>1</sup>, if we take the conversion rate of 17% this would mean that around 6% of all families in the areas where Picnic delivers becomes an active customer. This group of active families is estimated to purchase roughly 20% of their groceries at Picnic. This means that Picnic's active family customers account for 2% of the annual grocery spend of all families in Picnic's delivery area. Another 1% is added by sales to non-active families.

## CONFIDENTIAL



Figure 28 - Picnic's growth potential in family category

From these numbers we can conclude that although Picnic is currently only able to convert a small percentage of families, whilst the ones that do convert are highly valuable to the company.

## Specific intended user

Picnic's store team should focus its product development efforts on its main intended user: Families. This does not mean that its app cannot cater to the needs of other subsets of our customers, but it means that it is not the focus. The strategy of designing for one specific intended user is common practice in the design industry. It provides more insight, focus and inspiration and leads to stronger results (Van Boeijen et al, 2014).

# **3.2 FOCUS ON FAMILIES**

## Challenges in adopting Picnic for families

Based on a combination of interviews, surveys and analysis of in-app behaviour, the main challenges for families for using Picnic were defined.

### Groceries are crucial in organizing family life

The main challenges families face when shopping for groceries is that groceries are a crucial part in organizing family life. If something goes wrong in this process, families have a far greater problem than other groups of users.

"It's not an option not to have groceries, so when my Friday night slot is unavailable I have to go to the AH early in the morning "

They need to feed their children at very specific times, and are often too constrained in time, or ability to go to the supermarket to be able to shop for missing products last minute. So, the stakes in doing groceries for families are high.

## Limited time and cognitive energy available

However, this group has only limited time and cognitive energy available to spend on doing groceries. Therefore, this group forms strong routines that allow them to shop for groceries in more efficient ways.

### Strong routines are hard to change

Because of these strong routines, families have a hard time adapting their grocery habits to Picnic. The two main challenges herein lie in 1) aligning the family's weekly schedule with Picnic's delivery slots, and 2) finding inspiration for what to eat for dinner via an app, instead the familiar physical supermarket.

"Sorry, but the slots just aren't suitable"

These challenges provide Picnic with great opportunity: When these families have built their Picnic habit, and are used to the convenience it offers, they are expected to make for loyal and profitable customers. This opportunity is recognized by Picnic CEO Joris Beckers, who states that: *"For the big group of families, convenience becomes essential very quickly"* (Management Scope 2018). However, it can only become essential when families have first formed a habit around using Picnic.

## Conclusion

The store team should focus its product development on families as specific intended user. Their needs are most compatible with Picnic's value proposition and therefore, this group is most likely to convert to active users, thereby increasing retention. In addition to this proven track record, there is still a lot of growth potential in this group. By focusing on one specific type of user the store team will be able to make better decisions.

Groceries are crucial in organizing family live. Families therefore try to create routines, to save time and cognitive energy. Picnic should thus design for creating routines or habits.

Although these insight hold true for all families, there are nuances within this segment of customers. Different types of families have different goals and motivation, which results in different behaviour. These differences, and the design challenges they pose will be explored in the next section.

<sup>1.</sup> If we assume that the percentage of households with children in Picnic's delivery areas is the same as the Dutch average.

Chapter 3. User research

44

## 3.3 SEGMENTATION BASED ON **DESIRED OUTCOMES**

Although families share a large number of characteristics that make them more likely to successfully form a habit around shopping at Picnic, significant differences exist within this group. This chapter seeks the different types of customers within that group, and the specific problems they face in shopping with Picnic. This distinction will help the Picnic store team to focus very precisely on solving the different types of problems these groups face.

## Segmenting based on motivation and ability

This thesis defined the drivers of motivation and ability. As a results, Picnic's users can be segmented on these dimensions. The family segment is divided into four subsegments. Segment 2, with both a high motivation and high ability is entirely above the action line. This means that this group is highly likely to perform the target behaviour if a sufficient trigger is present.

Segment 1 and 3 only partly fall above the action line, meaning that only a small portion of this segment is successfully performs the target behaviour.

Segment 4 falls outside of the action line entirely, meaning that none of the users in this group is likely to perform the target behaviour of placing an order with Picnic. This group is disregarded for now, as they are the least likely to Figure 29 - Distinguishing groups based on ability and convert to active customers anytime soon.

motivation.

## Translation to concrete segments

In order to translate the conceptual distinctions based on ability and motivation into actionable segments, the characteristics that drive ability and motivation defined in chapter 9 are used.

## Segment 1

This segment has a high motivation but a lower ability. This means they are either time-constrained, face physical limitations or experience going to the supermarket very negatively. These factors can also come in a combination. Despite these motivation inducing factors, this group has a relatively low ability to plan, a not very predictable life, and lacks guidance in their food choices.

## Segment 2

This segment has both high motivation and ability. This means they are either time-constrained, face physical limitations or experience going to the supermarket very negatively. In addition to that, this group has a high ability to plan, a predictable life, or a high degree of guidance in their food choices. The combination of these motivation and ability increasing factors makes this group very successful in shopping at Picnic.

## Segment 3

This segment has a low motivation, but a high ability. The lack in motivation is explained by an absence of timeconstraints, physical limitations or negative supermarket experiences. If this group would have this motivation, they could easily perform the target behaviour, as they have a high ability to plan, a relatively predictable life, or sufficient guidance in their food choices.

These statements enable accurate evaluation of competing solutions, across services or products. Therefore, it allows us to compare grocery shopping at the physical supermarket with grocery shopping via Picnic. The goal of DSOs is to explain all casual factors that contribute to failure of success. In doing so, these statements will guide the creation of better products and services. DSOs consist of four elements: A direction (up or down), a metric (what goes up or down), an object of control, and a contextual clarifier.

By interviewing 30 Picnic users, deriving insights from two surveys (N=7500, and N=73), and hundreds of app reviews<sup>1</sup>, the desired outcome statements of the aforementioned segments are created.



3.3

The segments defined in the previous section are helpful to understand Picnic's different types of users, but aren't actionable. This segments are made actionable by using the method of desired outcome statements (from now on referred to as DSO) (Ulwick 2009), which provides a useful framework to synthesize but quantitative and qualitative findings. The desired outcome statements method is built on the jobs to be done theory by Christensen (2007). Desired outcomes are "the metrics customers use to measure success when getting a job done", making them stable over time.









## SEGMENTATION BASED ON **DESIRED OUTCOMES**



Figure 30 - An example of a desired outcome statement (Ulwick 2009)

## 3.3 SEGMENTATION BASED ON **DESIRED OUTCOMES**

Based on the segments introduced in the previous paragraph personas are created. These personas serve to guide the designers in solving the specific challenges for the different types of user.

## Segment 1: Convenient outsourcing

This group of customers has a high motivation but a lower ability. The majority of this group has difficulty using Picnic, despite their high motivation to do so.

This group is looking to conveniently outsource the process of grocery shopping. For this segment, Picnic is already making grocery shopping easier and less stressful. Picnic does so by providing guidance in the form of recipes, the reminders in the purchase page, and enabling user to shop when and where they want. This reduces the amount of thinking and energy required of the user. This guidance and flexibility is however still sub-optimal. The inability of this group to use Picnic can be overcome by facilitating a convenient way to outsource the process of grocery shopping

## **Desired outcome**

This group measures the success of the job of getting the right groceries to their homes with the following desired outcome statement: Minimize the number of cognitive decisions I have to take in order to get the right groceries to my home.

## **Characteristics**

Most users in this group are weak planners with relatively unpredictable lives. This group also dislikes going to the supermarket. They live relatively far away from the supermarket and cannot easily take a car to get there. This group is also time constrained.

## Typical users

These users are typically busy dual earners. This group seems to buy more convenience focused products.

## Additional assumptions

Based on the interviews, I got the impressions that this segment prefers to not spend too much time on cooking. A part of this group indicated they order food at often uses takeaway.com in the survey and the group might have a somewhat lower than average income than the other two groups. This should be verified by studying the CBS data for the postal code areas where these people live.





"You can just take your time, and do groceries when you want to. I forget less things because of Picnic'



Figure 33 - The Convenient Outsourcing family

## Gain

This group's biggest gain is to avoid planning and thinking about what to eat, and having to remember what products to buy. As these are all relatively hard and thus unpleasant activities for this segment.

## Pain

The group's biggest pain is having to think about their groceries too much. This causes stress and anxiety, and often leads to routine based choices.

## 3.3 SEGMENTATION BASED ON **DESIRED OUTCOMES**

## Segment 2: Efficient control

This group of customers has both a high motivation and high ability. These customers are already able to use Picnic successfully, which shows from their high conversion rates and big basket sizes.

Picnic helps these users to be more time-efficient and in control. It does so by enabling them to shop more deliberately and form efficient routines. However, these users do not always feel like they are fully in control. Especially more experienced users in this group would like to adjust the app making its use even more efficient for them.

These customers should be given the power to build a very effective grocery routine. For this group, the challenge lies mainly in increasing the frequency of their orders, and not necessarily in converting them to five orders as they are already converting well.

## Desired outcome

This group measures the success of the job of getting the right groceries to their homes with the following desired outcome statement: Minimize the time it takes to get the right groceries to my home.

## **Characteristics**

These people are often strong planners with predictable lives. Figure 35 - The Efficient Control family They dislike going to the supermarket for various reasons. Most of the time, they do not live close to the supermarket, "You know, you really have to learn how to and are often unable or unwilling to take the car to go there. Picnic..... The group is relatively time-constrained, which makes them but I know how to". value their time more.

## Typical users

Typically, these users are young families. From interviews, this group appears to be very limited in the amount of free time they have available. In addition to that, this group is relatively tech savvy. Furthermore, this group is expected to buy healthier products than the average Picnic customer.

## Additional assumptions

We hypothesize that this group prepares dinner the most often, rotating a limited number of recipes. This allows them to eat healthy food without having to break routine, and thereby spend more time on doing groceries. Services such as Hellofresh are likely to be a very good fit to these customers.



## Gain

The biggest gains for this group is to save time and create a feeling of mastery. The latter means the feeling you get when successfully completing something or becoming better at something.

## Pain

To this group, it is extremely painful when their routine is broken. This effect is amplified when this routine is broken due to factors that are out of their control, such as for example the standard delivery slot being unavailable. In addition to that, this group dislikes inefficiencies.

3.3

## SEGMENTATION BASED ON DESIRED OUTCOMES

## Segment 3: Pleasant service

This last segment of families has a high ability to use Picnic, but a lower motivation to do so. The motivational drivers of being time-constrained or having physical limitations do not apply for this group. Therefore, Picnic should focus on creating a far more enjoyable experience than going to the physical supermarket.

The value Picnic to these users is transforming the annoying chore of doing groceries to a pleasant experience. It does so by avoiding the hassles that come with physical grocery shopping, and providing nicer experiences instead, such as pleasant interaction with the Runners. However, the potential of this group is not fully tapped into, because Picnic doesn't always succeed in making grocery shopping truly enjoyable. Incidental mistakes with deliveries, or freshness issues are expected to hit this group harder, as they do not have to use a service like Picnic.

## **Desired outcome**

This group measures the success of the job of getting the right groceries to their homes with the following desired outcome statement: *Maximize the pleasure it gives me to get the right groceries to my home.* The inverse also holds true: *Minimize the pain it takes to get the right groceries to my home.* 

## Characteristics

These users are relatively strong planners with fairly predictable lives. They don't really mind going to the supermarket and some might even value the bit of social interaction the supermarket visit offers. Generally speaking, these users live close to supermarket, or can easily take a car. This group is also not limited by available time.

## **Typical users**

For this group, it is typical that only one of the adults in the family works full time. Most of the time, their partner is in charge of the household, which is relatively organized. This group is willing to spend more on quality products

## Additional assumptions

This group does not always cook dinner themselves but can sometimes spend lots of time and effort on doing so. It is suspected that this group uses



Figure 36 - Position of segment in habit model

"No, I am the boss of the house. I just take care of the households and the groceries"



Figure 37 - The Pleasant Service family

apps such as Uber and Deliveroo and get their groceries at Albert Heijn and the butcher. The limited assortment of Picnic is expected to be more painful to this segments than others.

## Gain

The biggest gain for this group is the joy and the feeling of pleasure they might get from having their groceries delivered to their homes, rather than going to the supermarket.

## Pain

This group dislikes unnecessary hassle, or unpleasant shopping experiences that do not bring any pleasure. This might for example be operations related issues such as missing products. But hassle might also happen in the app, with products being unavailable, or flows that cause friction or do not offer any delight.

## 3.3 SEGMENTATION BASED ON DESIRED OUTCOMES

## Sizing up the segments

To gain insight into the opportunities these segments present, an estimation of the size of different segments was made. This was done by validating the desired outcomes where validated with families. These families were asked what their biggest pain during grocery shopping is. This pains serves as a proxy for the segment these users belong to. The survey was answered by 73 respondents.

From these responses it can be concluded that convenient outsourcing represents 4/10 of all families, whereas *efficient control* and *pleasant service* both represents roughly 1/8 of all families. Although this estimation method is far from perfect, it does provide the indication that convenient outsourcing provides the biggest opportunity for Picnic.

## Conclusion

Within the family customer base of Picnic, three interesting segments are defined. These segments have different desired outcomes for shopping at Picnic, and thus need be catered to in different ways.

The ability of the Convenient outsourcing group needs to be increased in order to enable the group to perform the target behaviour. This group seems to offer the biggest opportunity for Picnic; it accounts for the largest share of family-users, and according to Fogg and a vast body of research it is easier to enhance ability than to enhance motivation.

The Efficient control is already able to shop at Picnic, but needs to be enabled to achieve mastery of the Picnic grocery shopping process, in order to increase their delivery frequency. Mastery is defined by a high sense of control, and gradual improvements of the perceived utility over time. This might have a significant effect on Picnic's revenue, but it is expected to have a smaller impact on increasing retention rates, as these users are already able to perform the target behaviour.

For the Luxurious service group, the motivation should be increased. This can be achieved by emphasizing the specific value Picnic offers to these users: Making doing groceries more pleasurable. The app can play a big role in this. This group is expected to be less price sensitive, which provides Picnic with an interesting opportunity.



Figure 38 - The biggest challenge in grocery shopping (Source: Survey N=73)

## CHAPTER 4 **PRODUCT STRATEGIES**

## 4.0

This chapter introduces the proposed product strategies. First, an overview of all strategies will be provided, after which every strategy will be further detailed. Fiannly, the conclusion explains how the strategies are connected and how they lead to a stronger Picnic habit.

#### In this chapter:

4.1 Overview of product strategies

4.2 Strategy I. Enable different types of users to place orders 4.3 Strategy 2. Increase the frequency of interaction 4.4 Strategy 3. Grow personal connection with each usage cycle 4.5 Conclusion

## **OVERVIEW OF PRODUCT** 41 **STRATEGIES**

## Introduction

This chapter introduces strategies with which Picnic can reshape its store in order to help more users build a strong Picnic habit. The theoretical foundation provided in chapter 2 is used to provide a comprehensive model to think about habit-formation. This chapter is the synthesis of these models, user research and examples from Picnic and other digital companies, such as Spotify. These combined insights yield three product strategies. These strategies help more Picnic users form a strong habit, and thereby increase retention.

## Distinction first time and repeat purchases

A strong Picnic habit is defined as placing 5 orders with Picnic. To form such a habit requires the user to take two steps: Firstly, the user have to place their first order, with allows them to experience the value Picnic offers, and creates trust. Secondly, The user should make a number of repeat purchases with Picnic after having the first order delivered



### Figure 39 - Two steps in retaining users

These steps are fundamentally different. In the first step the user is unfamiliar with the process. In addition to that the user only has information on the quality of Picnic's service via others, and has not experienced it first-hand. The first order is therefore a behaviour that involves a higher perceived risk for the user.

The repeat purchases on the other hand, are made by more experienced users. The challenge here is not about overcoming the risk of an unknown service provider, but the effort of integrating this new service into the daily life of the user.

This chapter provides strategies to help the user to successfully take both steps.

## **OVERVIEW OF PRODUCT** 4.1 **STRATEGIES**

## Strategies to help more user form a strong Picnic habit

Because of the distinction between first time orders, and repeat purchases, the strategy to build a strong Picnic habit is divided in three steps. This allows Picnic's store team to solve the right problems for every step in the user's journey.

## 1. Enable different types of users to place orders

## By increasing motivation and ability

First, more different types of customers should be enabled to place orders. Currently, mainly well-organized people with a clear need for Picnic succeed in placing an order while more types of user are interested. By increasing the ability of less-organized people they are also enabled to place orders. For the group without a clear functional need for Picnic, increasing their motivation by focusing on fulfilling their emotional needs enables them to place orders with Picnic.

## 2. Increase the frequency of interaction By loading strong triggers and providing (variable) rewards

When more users are enabled to shop at Picnic, they must engage frequently with the app in order to form a habit. Currently, users indicate that they often forget to order their groceries via Picnic, as it is simply not part of their routine. Picnic has the ability to connect strongly to the grocery habits of users, as their mobile phones are always around and ready to use, whereas the access to physical supermarkets is limited. By attempting to connect all grocery related moments to the habit of using Picnic, strong triggers are loaded. A trigger is only successful if the consequent action



First order

Figure 40 -Visual overview of product strategies





fulfills the need that sparked the trigger in the first place, therefore more results or short-cuts to existing rewards should be created in the app. This makes the more frequent interaction satisfying for the customer.

## 3. Grow personal connection with each use By enabling user-driven and Picnic-driven personalization

Now more users are able to shop at Picnic, and they are frequently interacting with the app, it is crucial to keep these users engaged and help them build a strong habit. This is done by a combination user-driven, and Picnic-driven personalization. The user-driven personalization will work by letting the user make small changes in the app, such as creating shopping lists, personalized filters and reminders. These changes by the user are small investments which increase both the perceived utility and switching costs of the Picnic app, the two drivers of retention. Picnic-driven personalization is the tailoring of the content in the store to the user's preferences. This is already happening through ranking algorithms, but can be improved by creating tailored offers, theme pages and more.

The strategies, and the tactics to implement them will be explained in more detail in the next section



The first product strategy is to make the action of ordering more likely to happen. Eyal (2010) defines the action as the simplest behaviour a user can take in anticipation of a reward. For Picnic's service, the main reward for the user can be defined as *getting your preferred groceries into your home*.

Currently the app mainly caters to people that have a high motivation as they are time-constrained, have physical limitations and dislike going to the supermarket and a high ability as they are good planners, have predictable lives, and guidance in their food choices. This group is looking for a way to *control* their grocery process in an *efficient* way, and therefore Picnic is their preferred way to get their groceries into their homes. To increase the percentage of users who place orders, the first step in increasing conversion to active customers, more different types of customers should be enabled to place orders. This can be done be increasing the ability and motivation of the two groups that are currently not placing their first order.



Ability



## Ability

The customers who currently do not place a first order, or make a repeat purchase lack the ability to do so. This especially holds true for the convenient outsourcing group. The order process consist of multiple steps, as defined in chapter 2.



### Figure 42 - First order conversion funnel

In a workshop with Picnic's designers, the biggest pains in these steps were pinpointed<sup>1</sup>. The main problems for customers are expected to be in *planning their groceries*, and *selecting the right products*. Selecting the groceries is divided into two steps: *deciding what products to buy*, and *ensuring to place a complete order*. To increase the ability of customers to place an order, Picnic should:

- Increase the ability of the customer to plan their groceries
- Increase the ability of users to decide what products to buy
- Increase the ability of users to place a complete order

In addition to these clear product strategies, Picnic should increase the level of challenge along with the skill level of its users. This means starting out with a simpler app, and gradually revealing advanced features.

## 4.2 STRATEGY 1. ENABLE DIFFERENT TYPES OF USERS TO PLACE ORDERS

## **Motivation**

The customers that are currently unable to order are motivated to order their grocery to some extent, as they did download the app and fill out their personal details. However, this motivation is somehow not high enough to make it through the entire order process, or make it through the process more than once. Motivation can be increased by using persuasive design strategies (Toxboe 2019) that are based on the fundamental drivers of human behaviour (Fogg, 2009).



<sup>1.</sup> See appendix I.1

## A. INCREASING THE ABILITY OF USERS TO PLACE AN ORDER

## Increase the ability of users to plan their groceries

As a result of the delta between moment of purchase and the moment of delivery, more planning is required of Picnic's customers as compared to physical supermarkets. This process is made more complex by the limited number of delivery slots available to customers. The logistics are not the scope of this project, and we will thus focus on the Store and the customer experience, within the given constraints. The complex of planning groceries reduces our processing fluency (the ease with which we process information), and lead to high cognitive effort. Customer research showed that this was one of the main reasons for customers churning during their first order. Picnic therefore needs to simplify this process.

## "Sometimes I just do not know what my week is going to look like"

Planning your groceries consists of two elements: What groceries do I want, and when do I need them. Currently, the user first selects what he wants, and only then, he will start thinking about when he wants it. This can be seen from the in-app behaviour of first order customers. Most of them select their delivery slot between 70% to 80% into their order process. Whereas internal data shows that for customers that perform the action of picking a delivery slot somewhere in the first 10% of their order have a higher first order conversion (+10%).

## Tactics to make planning process easier

The process of planning groceries can be simplified in two ways:

## 1. Help user pick a delivery slot earlier in the shopping process

Enable selecting a delivery slot earlier in the shopping process. This connects that what and when better. This approach is also used by competing online grocers such as Crisp and Goodeggs.

## 2. Helping the user by suggesting a delivery slot

For when to order Picnic could suggest a time that is appropriate to most users. By already suggesting, or even pre-filling the time, it's easier for the customer to decide. This principle is known as a default nudge. These nudges help the customer make the right decision.

lect an issue	Problem with an order	
elect issue details		
nter short summary of issue	Help!	
How would you like to contact	us?	
How would you like to contact	us? Phone Chat	

### Figure 43 - Amazon's use of default nudges

By making users select a delivery slot earlier in their first order journey, they have a clear goal in mind which according to Csikszentmihalyi (2013) makes actions easier. This also makes the reward much clearer (On Monday evening, I will receive my groceries and I can enjoy my fresh products"). Furthermore, it is expected to give the user a feeling of control over the task at hand.

## Reducing the need for planning

The two aforementioned tactics will not entirely solve the problem of planning. Currently, it is observed that users with predictable lives are better able to use Picnic. But there are also some examples of users with relatively unpredictable lives, that have found tactics to make Picnic work for them. An example of this was a couple, that ordered groceries for 3 dinner meals, once a week. This allowed to have the weekly delivery, without committing specific meals to specific days. This increased their flexibility, and thereby their ability to plan their groceries ahead. It might be effective to educate other users with relatively unpredictable lives on these types of tactics.

## 4.2 STRATEGY 1. ENABLE DIFFERENT TYPES OF USERS TO PLACE ORDERS

## A. INCREASING THE ABILITY OF USERS TO PLACE AN ORDER

## Increase the ability of users to decide what products to buy

Consumer decision making is driven by affective dimensions on one hand, and cognitive dimensions on the other. Physical supermarkets provide a wealth of inspiration on what products to buy, and to a lesser extent what meals to cook. This inspiration happens mostly on a subconscious level, in the form of sensory feedback (Fasler 2019). Evolution has trained human senses to react very heavily to the sight and smell of food (Fasler 2019). Picnic's customers have to make due with a symbolic presentation of their food, the pictures in the app. Symbolic representations are proven to evoke a smaller response in the human brain (Shiv and Fedorikhin 1999), and are thus expected to serve as less powerful in providing inspiration for what products to buy. Therefore, Picnic's customers have to rely almost entirely on decision making in the cognitive dimension. This means that purchase decision can be cognitively strenuous, especially when customers do not know what they are exactly looking for. It thus takes a large cognitive effort for user to place an order with Picnic. When tasks are cognitively demanding, a habit cannot be formed as habits are process that occur with little thought. Eyal (2016) defines cognitive effort, or brain cycles as one of the biggest reasons to stop using a product, preventing a habit from forming.

The difficulty in deciding what products to buy is hard to articulate for users. It is unlikely for user to say: "Deciding what to buy while using your product was too hard for me". This would mean they have to admit that they were unable to perform the required behaviour, making them feel inadequate. Instead, users indicate that the store offers "Too little inspiration".

Another often heard complaint is that customers feel that the products and promotions they see in the store are not suitable to their needs. One customer indicated: "On what data do you base these promotions?". The same holds true for the Wachtverzachters, which some customers think are too unhealthy:

"Now some unhealthy stuff is in my purchased page..."

## Tactics to make deciding what products to buy easier

## 1. More relevant content

Too reduce the effort in deciding what products to buy, Picnic should show the customer products that customers is likely to buy. This means a higher level of personalization and curation. Customers prefer to shop partly in a personalized way, judging from the number of product adds from the 'besteld' page, which accounts for more than 1/3 of their basket value. For first order users, they lack personalized an curated pages such as the first order page. Picnic might include a page with the most bought products from existing customers in that city that have the same household type. This would mean that as a family in Amsterdam South, you get an overview of the 30 top products for that area. This would make it easier to select what products to buy.

Another tactic would be to tailor promotions to household type and hub for non-order users, and on purchase behaviour for users who have made a couple of purchases.

## 2. Recipes

The most difficult part of the decision making process in groceries is the deciding what to eat for dinner. For both breakfast, lunch and household products, Dutch consumers rely heavily on routine decision and non-perishable products.

## Recipes

Picnic has already launched an MVP of a recipe feature. 10% of the customers were interested, and ordered a recipe at least once, but due to the limited number of available recipes, and the fact they did not change for a couple months interest waned over time.

## A. INCREASING THE ABILITY OF USERS TO PLACE AN ORDER

## 3. Moments-based shopping

Currently, the Picnic store is organized in the same way as physical supermarket around types of products. However, the customer does not necessarily need to see all the products in a category, but he wants to buy a meal for his family, prepare a luncheon, do the shopping for the annual BBQ with the neighbours or organize drinks with friends including bites. Picnic can play into this by providing moments-based shopping: special pages per activity. It can do so as the lay-out of its store is not limited to the same physical constraints as supermarkets.

Providing moments based shopping can be via special pages, but might also work with suggestions from product add-ons. For example, when you are buying a nice wine, you get the suggestion to also buy cheese to go with it.

## Reducing the need to decide what products to buy?

In addition to aforementioned strategies, Picnic might also reduce the need of their customers to decide what products to buy. This would mean that Picnic makes the decisions for the customer. This would involve a high degree of curation, for which the company currently lacks the knowledge.

## **Hello Fresh**

This meal kite delivery service is a good example of how Picnic can reduce the need for customer to decide what products to buy. Based on simple questions to the customers, the company provides meal kits with detailed recipes. The customer does not have to decide what to eat, but can focus on cooking instead.



## 4.2 STRATEGY 1. ENABLE DIFFERENT TYPES OF USERS TO PLACE ORDERS

## A. INCREASING THE ABILITY OF USERS TO PLACE AN ORDER

## Increase the ability of users to place a complete order

Due to the delta between purchase and delivery, the minimum order value of €25 and the limited number of slots available, orders are very "definitive" to customers. Therefore, the customer cannot afford to forget any products, as that would force him to either wait at least an extra day or go to a physical supermarket. Both scenarios can be problematic for the user, and thereby for Picnic. It is hypothesized that the definitive nature of ordering at Picnic leads to a higher cognitive effort for Picnic's users. In addition to that, it is in the company's best interest to keep customer from going to the physical supermarket. Therefore, it is essential to users place complete orders with Picnic. With complete, we mean that the order contains all the products the customer needs or was aiming to buy. It is recognized that pinpointing the exact needs of customers is a very difficult process, and therefore this process will always involve estimation and simplification.

Behavioural design theory suggests that when users are doubting their ability to complete a task, they are less likely to engage in the first place, and when they do engage, they are less likely to complete the task.

## Tactics to make placing a complete order easier 1. Check-out suggestions

During check-out, Picnic might suggest product to user: Hey aren't you forgetting something? The store needs to know relatively certain that this is a product the customer is forgetting. This can be done by checking for products that the customer is normally buying. This means that this will only be an option for active customers.

## 2. Sharing best practices of other customers

Users in Picnic's early market have found ways to successfully navigate the difficulty of placing a complete order. Lots of users do this by having a standard day in their week, or by checking it with their partner, or by checking the cupboards and refrigerator. Picnic's store can be helpful in simplifying this process by sharing the successful tactics of other users, or by providing help in the form of checklists,

## Reducing the need to place a complete order

Apart from improving the ability to place a complete order, Picnic can also reduce the need to do this.

## Add to order

The add to order feature is a great example of this. The recently launched feature is helpful for users to place a complete order. This feature is called add to order and it enables users to add products to their delivery, even after they have placed their order. This makes the moment of ordering less definitive, and allows users to add products for which they would otherwise have needed to go the physical supermarket.



## Reduce time difference between moment of purchase and moment of delivery

Another way to reduce the need to place a complete order would be by reducing the time difference between the moment of ordering and the moment of delivery. When a customer can order something and have same day delivery, it is less important to get all the product you need for that week in. This solution, however is not in line with the company's strategy. In addition to that, the logistics are not the scope of this project.

## A. INCREASING THE ABILITY OF USERS TO PLACE AN ORDER

Ability is defined as the ease with which a specific behaviour can be performed. The flow model by Csikszentmihalyi (2013) provides more understanding of ability. This model defines flow, or a very high ability, as a combination of an appropriate challenge and appropriate skill level.

For our early market, the challenge level is appropriately matched to their skill level, meaning they have a high ability to use the Picnic store. The challenge for our late market is similar, but their ability turns out to be lower. This means that the difference between these groups must lie in the skill level dimension. Our early market has higher skills in placing an order with Picnic because they are able to plan their week and deliveries better.

To ensure a behaviour occurs naturally, Csikszentmihalyi describes that there should be clear goals, the reward should be in mind, users should receive immediate feedback, there is a feeling of effortlessness and ease, and finally the feeling of control over a task. As first-time users will have a low skill, the challenge level should be low too. As their skill level increases with use, the challenge level can also be increased.









## **Picnic reminder**

The principle of revealing more functionality over time is already sparsely being used. An example of this is the *Picnic reminder* feature that was only revealed to active customers.



## **Conclusion ability**

The ability of users to place an order at Picnic depends on the ability of these users to do three things: Plan their groceries, decide what products to buy, and ensure their order is complete. The right combination tactics suggested in this chapter must be found by experimentation.

## 4.2 STRATEGY 1. ENABLE DIFFERENT TYPES OF USERS TO PLACE ORDERS

## B. INCREASING THE MOTIVATION OF USERS TO PLACE AN ORDER

The customers in the early market captured by Picnic are highly motivated to order at Picnic. There are three main drivers for this motivation, that can sometimes be combined in one customer but that does not necessarily have to be the case. The first reason is that the customers in this group have a limited amount of free time, so they do not want to spend that free time in the supermarket. The second reason is that they are physically limited to go to the supermarket as they are immobile due to injury or illness, live far away from a supermarket, or do not have a car to transport heavy groceries. The third reason is that going to the supermarket is an extremely painful experience for this group of customers.

These factors, or a combination of them, leads to highly motivated customers. Notice that all the factors are types of pains this highly motivated group is feeling. To increase the motivation of the users in the late market segment, we should emphasize the pain they experience. The fundamental drivers of human behaviour are used to do so: 1) Seeking pleasure and avoiding pain, 2) Seeking hope and avoiding fear, and 3) Seeking social acceptance and avoiding rejection (Fogg, 2009).

## Driver 1. Seeking pleasure and avoiding pain

Giving customers the chance to find pleasure somehow in the app, this might be by providing rewards such as very good deals which cause the user to feel pain when he is not getting the right deal, or an unexpected favourite products which relieve some kind of pain. These rewards are different for each user and extensive experimentation is recommended. To utilize the avoiding pain driver, we can emphasize the pain of losing something. Van Lieren (2018) defined this strategy as Avoiding losses. For example, we might give the customer a certain exclusive right, such as their "own" delivery slot. If they do not order, we might threaten to take this slot away from them.

### Picnic example

Picnic's habit team, that focusses on sending e-mail to customers, is already using this strategy successfully. When newly acquired customers that receive a direct invite are not placing orders, they will receive a message that says: "Do you want to give up your place to someone else?". This email has a positive effect on first order conversion.



## Driver 2. Seeking hope and avoiding fear

The second driver is seeking hope and avoiding fear. Seeking hope can for example be about hoping to win prices, find nice new product and recipes or other positive surprises. The scarcity effect leverages the fear of missing out that customers might have. This fear can be tapped into by emphasizing the limited availability of a product or delivery slot. Avoiding fear of being out of groceries at crucial moments, for example when you have to prepare a meal for your kids.

All rewards and possible achievements can be framed as either something we stand to gain or as something we stand to lose. However, fear is often a more powerful motivator (Deci & Ryan, 2010).

### **Picnic example**

When Picnic started it was overwhelmed by the interest for its service, causing the company to introduce a waiting list for their service. To ease the pain of this waiting list, "wachtverzachters" were introduced. These are free products user get for each week on the waiting list. These free products had a positive effect on first order conversion, as customers want to avoid the fear of missing their hardearned free groceries.



de straat op. Tot die tijd ata je in de wachtrij en dat in natuurlijk minder leuk. Dat vonden wij nou ook en daarom hebben we de Wachtverzachter bedacht. Af en toe stoppen we een aardigheidje in je winkelmandje. Hoe



Om te beginnen leggen we een tros heerlijke bananen voor je klaar (om dit komme verhaal een beetje recht te zetten). Zodra je kunt beginnen krijg je direct een malitje. Bestel je vervolgens binnen twee weken? Dan nemen we je gespaarde mer

## B. INCREASING THE MOTIVATION OF USERS TO PLACE AN ORDER

## Driver 3. Seeking social acceptance and avoiding rejection

People generally are motivated to act, when they can win social acceptance and status just as we are motivated to avoid negative consequences which might lead to social rejection. Therefore, people are less likely to engage in behaviour that is outside of the norms of their social group.

### California based online grocer Goodeggs is using social proof

Other online grocers are using testimonials of successful customers as social proof. These testimonials can convince new users that more people like them are using the product, and it is thus okay to do so.



"Good Eggs has changed our food routine. It's made it less chaotic for us as we try to get the kids fed and also get our own meals on the table."

- CHRIS T.

### **Conclusion motivation**

Aforementioned strategies to increase motivation haven proven effective for a number of products but miracles aren't to be expected. In general, researchers such as Fogg and Eyal agree that increasing motivation is extremely hard to do. They state that it is therefore more effective to focus on making the desired behaviour simpler. Intuitively this makes sense, as from experience we can tell that people are often hard to motivate, while engaging in simple tasks happens almost automatically.

## 4.2 STRATEGY 1. ENABLE DIFFERENT TYPES OF USERS TO PLACE ORDERS

## **Conclusion strategy 1**

By increasing motivation and ability both the convenient outsourcing, and pleasant service groups can be moved above the action line in Fogg model of behaviour. This means that they now can successfully complete the action of ordering groceries at Picnic, if a sufficiently strong trigger is present.

This strategy will be mainly beneficial to increase first order conversion. Although this strategy does not specifically focus on the efficient control group, it might influence their ability and motivation as well. This will likely not increase their first order conversion, as they can already successfully complete this action. However, it might have impact on how easy and pleasurable the experience of groceries doing is for this group. This is likely to translate to bigger basket sizes or less time spend per order.

During a discussion it was noted that theoretically it is also possible to move the two groups above the action line not by increasing ability for group 1, and motivation for group 2, but the other way around. Although this might be true in theory, figure 32. Shows that the required increase in motivation for group 1 is much larger than the required increase in ability. The same holds true for ability in group 2. In addition to these bigger required increments, the starting point on these alternative dimensions is higher. The law of diminishing returns suggests that it would be harder increase this motivation of ability from a higher starting point.

Although increasing the ability of the convenient outsourcing group might be the most effective way to get them to cross the action line, it is not said that their motivation will not increase due to the tactics applied for the pleasant service group. The purely horizontal and vertical axis in this model are thus simplifications of the true changes along these dimensions.



Ability

Figure 46 - Visual representation of strategy 1



Figure 47 - This strategy increases perceived utility



Figure 48 - Alternative ways to move group above the action line.

## **STRATEGY 1. ENABLE DIFFERENT TYPES** 4.2 OF USERS TO PLACE ORDERS

## **First order helper**

To make the aformentioned strategies and tactics more tangible, they are brought together in the concept of the first order helper. This makes use of the persuasive design strategies of chunking and sequencing

Chunking

It is easier to process and remember information when it is grouped into familiar and manageable bits.

Sequencing

When complex activities are split into smaller pieces, it is easier for people to perform the desired behaviour.

In addition to that, planning is made easier by making the user commit to a delivery slot earlier in the process, deciding what products to buy is made easier by moments-based shopping and providing more relevant content.

This way of shopping might hurt the basket value minimally but is expected to boost first order conversion. Grocery marketing experts indicated that it is more important to get users in your store first, and later increase their value per order.

This is also observed within Picnic, where the average order value of customers increases as they place more orders.

Therefore the possible negative impact on basket value is taken for granted.



Figure 49 - First order helper

See appendix A.3 for full overview of strategies

## 4.3 STRATEGY 2 INCREASE THE FREQUENCY OF INTERACTION

## ACTIVATING THE DESIRED BEHAVIOUR ONCE USERS ARE ABOVE THE ACTION LINE

Increasing the frequency of interaction is beneficial in forming a Picnic habit. Eyal (2010) states that to build a habit-forming product "connect your users' problems to your solution with enough frequency to form a habit". This implicates that a certain frequency is required to form a habit. This is supported by Johnson, Bellman & Lohse (2003) who state that the more a product is used, the higher the cognitive lock-in of that product becomes. In addition to that, they find that due to repeated practice, the perceived utility of the product increases. Apart from forming a strong habit and more lock-in in the long term, it is also expected that increasing the frequency of interaction leads to better short term results, as chances of customers placing a purchase increase when they are often in the position to place their orders. The frequency of interaction of the user with the product is increased by letting the user load strong triggers and providing him with variable rewards.

## Loading strong triggers

Literature on behaviour defines two types of triggers, external and internal. External triggers serve mainly to educate and acquire customers. Internal triggers are essential in ensuring a customer keeps using a product. Picnic already has a large number of external triggers in place, which can also be seen from the high percentage of households that register. However, in order to build a successful habit, users should internalize triggers associated with Picnic.



#### Ability

Figure 50 - Once user are above the action line, a trigger should be present to engage in the desired behaviour.

### **External triggers**

These triggers come from the environment of the user, through interference of outside actors. They are a result of advertising, marketing or other presence of Picnic, whereas earned triggers are the app icon on the user's phone after download, the wordof-mouth of satisfied customers, or coverage in newspapers. These triggers are useful for acquiring and educating customers but less effective in forming a habit. This has two reasons: First, these triggers can simply not always be present and two, when they are present too often, they can become annoying to the customer leading to a negative effect.

### **Picnic reminder**

Currently, users indicate that they often forget to order their groceries via Picnic, as it is simply not part of their routine. This is also indicated by the success of the Picnic reminder; this feature is simply a push message reminding the user to place an order. This feature was pushed to experience Picnic with at least 5 orders. Even for this experienced group, that should have made Picnic a part of their grocery routine to some extent, this feature had a large impact on the order frequency. This indicates that without such a feature, these users will simply forget to order, even though they want to.



## 4.3 STRATEGY 2 INCREASE THE FREQUENCY OF INTERACTION

### Internal triggers

These triggers occur internally, without interference of outside actors. When a product is tightly coupled with a thought, an emotion, or a pre-existing habit it can create an internal trigger (Eyal 2010). The potential triggers related to groceries are defined based on interviews and field research indicate that there are nine specific moments that customers think about their groceries.



#### Figure 51- Picnic related triggers in customer journey

These moments should be converted into triggers that fire the Picnic habit. This basically means that customers should relate these moments to using the Picnic app. This does not come naturally and requires repeated use. In this section we propose various ways of transforming these moments into triggers and affix them to the Picnic habit. It must be noted that this is only a small part of available strategies, and experimentation is required to find the ideal one.

### **Types of trigers**

Fogg (2009) defines three types of triggers: Spark triggers, facilitator triggers and signal triggers.

### Spark triggers

In situations where users have the ability, but lack the motivation, highlighting fear or inspiring hope are effective means. Leveraging the power and persuasive patterns of any of the three fundamental drivers of human behaviour mentioned earlier can be effective. These types of triggers are especially suitable for the Pleasant service group, as they have the ability, but lack the motivation to use Picnic. Powerful spark triggers could be connected to 1) recurring periodic events, or 2) events that mark a so-called fresh start. In the first case, these events help build up anticipation by connecting to recurring events or traditions. In the second, the mechanism is used where people set goals at the start of a new time period. These trigger should be presented to the user at the moment they are actually able to take action. If we define the action as shopping for groceries and placing an order, this moment is mostly an idle moment in the life of the customer. For some, this is their daily commute, for others this is a fixed another fixed moment of the week.

## 4.3 STRATEGY 2 INCREASE THE FREQUENCY OF INTERACTION



Figure 52 - Distribution of orders and deliveries over the week

The data shows that most orders are placed on Sundays, Mondays and a smaller peak on Thursday. This seems to be in line with recurring periodic events and fresh starts, as users seem to distinguish between the week and the weekend.

## Facilitator triggers

In situations where users have a high motivation, but lack ability, facilitator triggers might be used. When these types of triggers are effective, they convey to users that the target behaviour is easy to do and that it will not require resources he or she does not already have.

## Signal triggers

In situations where users have both high motivation and high ability to perform a target behaviour, a signal, for instance a simple reminder, is enough. These triggers do not have to motivate or simplify a task, they simply have to be there to remind the user of the target behaviour at the right time.

## Tactics to help users load strong triggers

As our digital devices become more context aware, the more powerful triggers have the potential to be. As recipients, we will be most tolerant of signal- and facilitator-triggers, as spark-triggers have the potential to annoy us by being an unwelcome distraction as they try to motivate us to something, we have no original intention of doing. This reinforces the decision to focus on the convenient outsourcing group first, as the pleasant service group is harder to convince.



Figure 53 - Picnic and their types

## 4.3 STRATEGY 2 INCREASE THE FREQUENCY OF INTERACTION

Moment or trigger	Desired behaviour	Tactics to affix to Picnic habit
Planning your week	Plan your groceries along with your week.	Integrate slot selection with Calendar software. For example, by sending an invite for a slot on the day the customer normally places the order.
Feeling hungry	Grab some products you have ordered at Picnic, and already order it now for the next time you want to use this product.	This is the hardest one, as Picnic can't offer direct satisfaction. The company can maybe give some kind of wink to the customer to help him deal with the pain, such as offering a discount on cup-a-soup, a well-known snack for people feeling hungry around 16:00 at work.
Using last bit of certain grocery product	Open app and order and restock this product.	Commercials and push-messages that emphasize that Picnic can help you in making sure this doesn't happen again.
Being out of a certain grocery product	Open app and restock this product.	Commercials and push-messages that emphasize that Picnic can help you in making sure this doesn't happen again.
Finding a good recipe	Open app and find a nice recipe. Not necessary per se that you order it in the app, can also be used just for inspiration (Amazon strategy).	Providing high quality recipes in the app that are presented in a compelling way. This can be potentially done by collaborating with cookbooks or magazines, or popular chefs.
Deciding what to eat	Opening the app and finding a nice recipe.	These recipes can either be your own, those suggested by Picnic, or things your friends or influencers are eating.
Receiving your Picnic groceries	Already start orders for next week	This is already tackled quite well, by providing a receipt that draws people back to the app. This might be the moment to ask the user to already add products for next week. The user might be asked "next week, same time".
Coming home with your groceries bought at the physical supermarket	Decide to shop via Picnic from now on.	This needs creative ways to connect this moment to Picnic. An example of this might be a give-away action that asks people to take a picture of their heavy bags of groceries purchase at physical grocers. The winners of the action get the same bag of groceries from Picnic.
Consuming the grocery product	Enjoying the great quality of Picnic products	Having Picnic-branded products, or other ways to reinforce that Picnic provides quality products and produce.

## 4.3 STRATEGY 2 INCREASE THE FREQUENCY OF INTERACTION

## Providing (variable) rewards

User perform their actions because they expect and desire a reward. The triggers mentioned in the previous section can therefore only be effective when an appropriate reward is gained by the user. Figure 36 provides a visualization of how this process work: A user needs to at least hope to get some kind of reward, each time he opens the app. All of these rewards feel good to the user, and most importantly involve a certain degree of uncertainty. Olds and Milner (1954) have showed that these rewards activate a part of the brain called "Nucleus accumbens". This area is mainly activated by good deals, certain things we really want to buy, love, food and technology. In habit forming technologies, its more about wanting the reward rather than actually getting it.



Figure 54 - Picnic's reward cycle

These rewards can be divided into three categories:

#### 1. Social rewards

This type of reward comes from other people. Examples of these rewards are feeling good for someone else, competing and cooperating with peers, and receiving recognition and praise from others. In search of these rewards, users are more likely to engage in behaviour that is accepted in their peer group.

Picnic might use these rewards by also using testimonials of happy customers. Other ways to use this category of rewards I by providing customers with things that have "badge value", ways to show of they are using Picnic, and are therefore modern and cool.

### 2. Resources

These rewards can be food and resources such as money or information. We emphasize the search part, because the effort increases the perceived reward. Eyal calls these rewards "the reward of the hunt". Resources for Picnic customers are food, but also inspiration on what to eat and how to prepare the food. The biggest challenge in these types of rewards is that Picnic can't offer instant gratification.

#### 3. Self-achievement

The third reward is in the search for self-achievement. Examples of this are mastery, competency and consistency. A relevant example of this type of reward is the feeling you get after you have checked your WhatsApp messages and the red bubble on the app icon disappears. This plays into the need of customers to have a sense of mastery.

## 4.3 STRATEGY 2 INCREASE THE FREQUENCY OF INTERACTION

### **Snapchat streaks**

Snapchat uses a combination of self-achievement and social rewards by creating snapchat streaks. This streak starts when users message each other for a couple days in a row. This provides users, especially teenagers, to return to the app daily in order to maintain their streak. Although the impact was not made public, analyst believe this greatly increases the frequency of use for a specific group of users.

This reward can be achieved within the closed system of the user and the app. By performing certain actions in the app, the user can be rewarded. This can for example be after placing a certain number of orders. Picnic can use gamification concepts like this to provide extra rewards for its user. An potential example would be a Picnic streak, where customers can get a streak when they order for three weeks in a row. Every week that a user places an order, the streak is continued.

### Picnic handwritten letters for loyal customers

In the past, Picnic wrote a personal note to customers, congratulating them with their 25th order. As the company grew, this was outsourced to teenagers, and when they couldn't keep up anymore, the initiative died a slow death.

### Conclusion

By providing the customers with the right combination of triggers and variable rewards, Picnic can increase the frequency of interaction with the Picnic store. It is crucial to do this at the right moment for the customer, so the user is actually able to perform the target behaviour. This is expected to increase the frequency of interaction, leading to a stronger habit. This is in line with the habit formation model, where habits are a product of frequency and perceived utility.

	562 🔥 🔍
	543 🔥 🎈
, 👎	514 🔥 🎈
	387 🔥 🤤
	329 🔥 👥 🍳
•••	280 🔥 🎈
	229 🔥
	133 🔥 👥
	118 🔥 🎈
	102 🔥



# 4.4 STRATEGY 3 GROW PERSONAL CONNECTION WITH EACH USE

Picnic should aim to forge a personal relationship with the user by tailoring the app to the preferences of the user. This process is generally known as personalization. Although definitions of personalization are not identical, scholars agree that personalization provides individual customers with tailored offerings based on customer preferences (Tuzhilin (2009), Moon et al. (2008)).

Personal information can be used to tailor content or functionality to our preferences, interest, knowledge and other personal traits (Schneider et al, 2018). This adjustment to personal needs is based on a simple concept: messages, content, and experiences that we attribute to our self, reinforce our identity and differentiate us from others (Schneider et al 2018). As a consequence, they seem generally more appealing, more valuable (Kahneman, Knetsch, Thaler 1991), and more persuasive (Petty et al 2000). Due to this personalization, users feel like a product is "theirs". This feeling leads to a higher appreciation for the product (Petty 2000). Apart from the altered perception, users may actually benefit from relevant information or functionality that better suits their needs. For these reasons, personalization increases both switching cost and perceived utility.

The personal information mentioned earlier can be obtained in two ways: The first option is via direct input from the customer, through for example filters, feedback buttons or direct questions. The other option is to look at the user's behaviour in the app and derive meaning from that. These approaches fundamentally differ in the degree of control the user has, but also in the amount of effort a user has to invest in "personalizing" his product.

Personalization is not always the optimal strategy. Results of a study conducted by Choi and Doo-Hee (2015) reveal that customers prefer standard products over personalized alternatives when the range of personalized options exceeds a customerperceived optimal point. Therefore, the customerperceived optimal point must be determined before personalizing anything at scale. This needs to be done through thorough experimentation.



#### # of usage cycles

Figure 56 - Increasing the perceived utility with each usage cycle, through personalization of the app.

## **User-driven personalization**

This type of personalization is driven by the user. It allows the user to make the app "theirs" by adapting it to their preferences. This feeling of ownership will lead to an improvement in both actual and perceived utility of the app. Examples of bottom up personalization are through filters or user generated content. These are all forms of user investment, as defined in the habit model

## Spotify example

Spotify is very good at letting users create value within the product. Examples of this are: following artist, following friends, and creating your own playlist. The strongest driver here is the large collection of Spotify playlists that users might create over time. These are artefacts into which the user has put significant effort, making the decision to cancel all the more difficult. This is based on the condition that the value can't be transferred to competing music streaming services, as is currently the case.



## 4.4 STRATEGY 3 GROW PERSONAL CONNECTION WITH EACH USE

### Picnic reminder example

The Picnic reminder allows users to set a custom push message, reminding them to place their order. This is a simple and effective way to let users tailor the app to their preferences, enabling themselves to form a Picnic habit more effectively.

## **Picnic-driven personalization**

This type of personalization is also driven by usage cycles, but the actual personalization is performed by Picnic. By using the product, the user provides Picnic with relevant data which it can use to tailor the app to the person's likings. This is already happening with ranking algorithms, that sort products in the app in such a way that the most relevant products will show up at the top of the page. This form of personalization also requires a form of investment, that makes the app better for the next go round. However, the type of input is less direct and the user will thus not notice. Therefore, this investment will not feel like work for the user.

The lack of relevant products and promotions is often mentioned by users as an improvement point for Picnic. This is logical, as most customer do not reach the point where the ranking algorithms have enough data on the customer to rank the products in a useful way. In addition to that, user feel like promotions are only insufficiently tailored to their preferences.

Apart from adapting the order in which products are displayed, Picnic might tailor recipes, product suggestions, and text messages to the user (predicated) preferences.

## Picnic purchase page

The prime example of successful picnic-driven personalization is the purchases page. On this page, the app saves the top 30 products the user bought more often. This creates a highly personalized page with content that is mostly relevant to the user. This page accounts for more than 1/3 of the products added by active users.

## Spotify discover weekly

Spotify has created algorithms that learn the preferences of listeners. These algorithms are based on the artist and playlists you listen to, but also on whether you like a previous suggestions or whether you skip a certain song. This information allows Spotify to create Discover Weekly, a list of songs that specific user probably will like as it is relatively similar to things the user listened to before. This list is regenerated every week.

Another example is the Summer Rewind playlist, that contains songs you liked last summer. Picnic could offer similar tailored "playlists" to its users, such as for example a Summer Favourites list of groceries.





## STRATEGY 3 GROW PERSONAL 4.4 CONNECTION WITH EACH USE

## Effects of personalization

Personalizing the app will lead to both an actual and a perceived utility improvement.

## Actual utility improvement

The user actually improves the app for himself, the app gets more useful because it is better fitted to his preferences. Consequently, they seem generally more appealing, more valuable (Kahneman, Knetsch, Thaler 1991), and more persuasive (Petty et al 2000). Due to this personalization, users feel like a product is 'theirs'. This feeling leads to a higher appreciation for the product (Petty 2000). Apart from the altered perception, users may actually benefit from relevant information or functionality that better suits their needs.

## Perceived utility

This effect is compounded by the improvement in the perceived utility of the store. Because the user has put so much work in, he will value the store more than the actual improvement would be able to justify. This effect is known as the 'sunken cost fallacy' of the user. This fallacy occurs when people let previous commitments weigh in on future decisions even when rationally these commitments do not have any influence on these decisions. This fallacy is widely recognized among psychologist. Recently it is mostly ascribed to a fixed reference point and loss aversion (Friedman et al 2007).

## Switching costs

Personalizing in this manner requires an effort from the user. This effort increases the switching costs to other products.

These efforts are known as investments in Eyal's habit framework and defined as followed: "when the user does a bit of work in anticipation of future rewards". This increases the likelihood of the user initiating the next usage cycle. We identify two ways of investing:

### 1. Loading the next trigger

Loading the next trigger can be for example downloading an app, allowing push messages, or setting the "boodschappenwekker".

2. Storing value

Storing value means improving the product by your use. Ways of doing so are by creating content, data, a reputation or followers. This value will make the app better for the next go round. This lets users put significant effort into the store, making the decision to stop using it more difficult. This is based on the condition that the value can't be transferred to competing music streaming services, as is currently the case.

Picnic can let users store value by in the short term letting them create their own lists of favourites or set filters. In the long term, other components might be integrated such as a feature that allows you to follow friends or influencers to find out what they are ordering. This is one of the most successful retention strategies defined in our case study of Spotify

If the store gets better with each use, the user has a strong incentive to keep using it. This repeated usage reinforces his Picnic habit. It is natural that forming a relationship requires frequent interaction. Fournier (1988) states that "relationships are constituted of a series of repeated exchanges between two parties known to each other". This means that in order to successfully create and maintain this relationship, frequent interaction is required. This leads us to the third product strategy.

## 4.5 CONCLUSION

According to theory strong habits are formed when both the perceived utility and frequency are high enough. This also follows from users interviews, that show that for users with high perceived utility are more likely to convert to active users. Chapter 2 identified the factors that drive this higher perceived utility. From app usage data, it can also be deducted that users with more interactions have higher conversion rates to active users. Customers that had interactions with the Picnic app, in the 30 days prior to their invite had far higher first order conversion rates than customers who did not have interactions with the app in that period.



Figure 57 - How the three product strategies connect to form a strong habit

## CHAPTER 5 **IMPLEMENTATION OF PRODUCT STRATEGIES**

## 5.0

This chapter defines the most suitable method for implementing the proposed product design strategies.

## In this chapter:

5.1. Organizational analysis 5.2. Analysis previous strategic efforts 5.3. Conditions for successful implementation 5.4. Proposed solution

# 5.1. ORGANIZATIONAL ANALYSIS

This chapter analyses the organization of Picnic and its implications on the implementation of aforementioned product strategies. These strategie are complex design challenges that involve a high degree of uncertainty about how these objectives can be accomplished. Tackling such challenges requires a systematic and strategic approach (Calabretta et al 2016). Such an approach has to suit the existing structures and processes of an organization. To gain insight into the existing structures and processes interviews with team members were conducted. These were then combined with the author's observations.

## Analysis of product development

## process

The product development process of Picnic's store team was analyzed (see Appendix C.I for full analysis) to increase understanding of the process. This analysis showed three patterns:

## 1. Linear process

Firstly, the current product development process is relatively linear. This means that once an idea is passed the quarterly roadmap session, it must be build and A/B tested. While it is logical that the business has to align on what is being build each quarter, the problem is that this process assumes that the team has all the necessary information upfront. This does not take into account that most learning is done while designing and developing the product.

## 2. Top-down decision making

Secondly, the process is relatively top down, meaning that the management team and other business teams have a large say in what is being build. This happens first in the quarterly road mapping sessions, and later in the board meeting where the roadmap needs to be approved. This is frustrating for the store team, as they can't invest enough resources in projects they deem important.

## 3. Conflicting interests

Finally, there is an inherent conflict between different stakeholders embedded in the current process. In the road mapping sessions, different teams with different goals need to decide what needs to be built together. For example, when the partnerships team wants custom functionalities for a promotion with a partner, but the Store team wants to spend their design and development resources on another project. These situations occur without the teams having an objective way to consider the impact of their solutions. This conflict is enlarged by the limited development capacity of the store team.

## Drivers of patterns

When digging deeper for why these patterns occur, 6 challenges that stakeholders face were found.

## Management challenges

- Stakeholders require specific and time-bound commitments to be able to plan accordingly.
- The management team wants to have control over what the Store team is working on, and therefore requires concrete plans that ensure the priorities are set correctly.
- The high workload of ad-hoc feature requests that are considered 'must-haves'.

## Cultural challenges challenges

- The strong focus on execution over extensive strategizing.
- The benefit of documentation and information sharing is not entirely recognized within Picnic

## **Collaboration challenges**

• The high number of dependencies between teams, can complicate autonomous decision making.

# 5.1. ORGANIZATIONAL ANALYSIS

**Barriers for implementing long term strategy** These challenges manifests themselves in three problems that make creating a long term strategy harder for the store team:

## 1. High workload of "must-haves"

In 2015, Picnic started from scratch with a relatively small team. Being a start-up, the store team was focused on building a minimumviable-product. As the team scaled, it took on new challenges, but still has a high percentage of must have features it must build.

2. Strong focus on execution.

The Picnic organization has a very strong focus on execution. This is a remainder of the early days spirit where it was go-time all the time. This spirit is reflected in the internal motto "think, dare, do". Although this culture is very valuable for a company who is trying to build something radically new, it might stifle creative long term thinking when people feel execution is the only important thing.

3. Large number of dependencies.

There are many dependencies between different Picnic teams. This means that long term planning is by definition a trade-off between the (sometimes conflicting) interest of teams (proof). Thereby, it is hard to prioritize across teams. The final decision on what gets prioritized is now mainly driven by management and the power of persuasion during planning meetings.

## Different degree of organization needed as company grows

In fast-growing start-ups, it is difficult to keep teams aligned in a shared vision. Part of the reason for this, is that employees joined at different moments, with different mindsets and goals. These do not always align. In this section, the differences between early employees and later employees are laid out. These are mainly based on the research of Cagan (2011), who conducted numerous case studies on company cultures in technology driven companies.

## Early employees

The founders start the company with a strong vision to guide them through the ambiguous phase of starting a company. The first round of employees often has characteristics that make them better suited to pick up this vision. Moreover, this vision is often one of the reasons they join the company in the first place. This group takes a relatively large risk by joining a young company with unproven product market fit. These people often have an appetite for risk and are interested in the business as a whole. Because the team is small, it takes relatively few interactions to keep everyone updated on what is happening throughout the company. The smaller the team, the less need to formalize communication and document decisions (Cardon 2004). This group has no need for extensive documentation of values and ideas they share naturally. Although this approach might be valid for the first round of employees, it might be problematic for subsequent hires.

## Later employees

Once the company grows, new hires have fundamentally different profiles than the previous aeneration of hires. These different characteristics, in combination with the increase in the number of employees, leads to new organizational dynamics. The new employees are more risk aversive and do not necessarily feel the need to understand the company as a whole. They do not only buy into the vision of the founders when joining the company, as they are also assured of a competitive salary and a proven product market fit. Therefore, they place less emphasize on the value of vision and alignment across teams. This group is generally more positive towards documentation and guidelines. However, they need more convincing of how considering the business as a whole can benefit their daily work.

## Conclusion

Our implementation method should cater both to early employees, who are generally averse of extensive documentation and guidelines, and late employees, who have to be convinced of the value of a strong vision and a holistic approach.

## ORGANIZATIONAL ANALYSIS 5.1

# 5.2. PREVIOUS STRATEGIC EFFORTS

## The current product development organization is not suitable for next phase

The current product development process is a valuable method to solve clear defined problems, of which the added value is clear on the outset. However, the process is less suitable to solve problems with a higher level of ambiguity. This can be problematic, as the store team is entering a new phase that involves more complex and ambiguous projects. Previously, the team worked on more clearly defined features, that were considered must-haves. Now, new challenges arise as the team works on further enabling its customers to use the store in an efficient and pleasant way.

In addition to that, the current process does not cater to newer employees as it does not provide enough context. This will make onboarding new employees more cumbersome, which makes scaling the team harder.

## **Rehaul of Picnic's store**

A good example of a situation where no perfectly clear user need was addressed was the implementation of a new store lay-out with tab-bar navigation. The business value of this was unclear at the start of the project, and therefore spending considerable amounts of design and development effort did not seem justified. The team solved this by by-passing the current product development process, developing a prototype and creating buyin by showing people within Picnic the prototype. Finally, the team got the green light to do it, and the new lay-out has resulted in higher conversion rates.



Figure 58 - The former Picnic store (L) and the new version (R)

## Analysis interaction qualities model

The designers of Picnic's store team recognized the same challenge in 2018. They opted to solve this by creating the interaction qualities model. This model was created in order to have a model of what is important to the customer, and how the team could design for this. Unfortunately, the model wasn't successfully adopted

There were three main reasons for the model did not reach its full potential:

1. Ambiguous qualities

The interaction qualities are open for interpretation, making evaluating initiatives on their basis hard and unproductive. Due to their ambiguous nature, the qualities do not provide sufficiently clear guidance. Therefore, they are not easy to translate to tangible product ideas.



personal



Effective simplicity



## 2. Limited buy-in

The model is very design driven. Buy-in from the engineers and other business stakeholders is limited. In addition to that, the model does not resonate with management, which decreases buy-in even further.

## 3. No measurability The model does not make its outcomes measurable. This is a major obstacle in a company with a large number of analytically inclined people

Although internally the method proved to be somewhat helpful, the interaction qualities model was not helpful in providing other teams with clear commitments, nor for providing the management team with clear priorities and accountability. Therefore, the model has not achieved the momentum for it to be fully effective.





# 5.3. CONDITIONS FOR SUCCESFULL IMPLEMNATION

In order to successfully implement the suggested product strategies, the organization needs to be aligned on what the most important projects are, there needs to be buy-in across the organization, or else resources will not be made available. When both alignment and buy-in are achieved, the team will be able to operate with a higher degree of autonomy. This allows the team to set their own course, and thereby work on the most important problems for the customer. In order to do so effectively, the team needs to have the full context of the problem and the (business) impact of solutions

### Align initiatives across organization

Observation and interviews with stakeholders indicated that for the rapidly scaling company, aligning teams is the biggest challenges. Due to the interdependent and integrated nature of Picnic's organization, it is crucial to be able to set priorities across teams. In order to do this efficiently, teams should be able to align in the same vision. This allows the teams to consider how other teams contribute to this vision. The most important thing in successfully aligning is having a shared vision. Therefore, the store team should make it more clear how their product contributes in the vision of the friendly local milkman. Another way in which this alignment can be achieved by having an objective way to choose between very diverse projects on which project should get prioritized. The best way to do so in the Picnic organization is by having data on the expected impact of your initiative.

#### Create buy-in across organization

Teams need time to discover successful solutions for the less well-defined problems the prosed strategy aims to tackle. In order to be granted the time to work on projects related to our proposed strategy, the Store team should create buy-in across the Picnic organization. The Oxford Dictionary defines buy-in as "agreement with, or acceptance of a policy or suggestion". It is expected that the created buy-in will lead to a higher appreciation for the work the Store Team is doing, which in term leads to a more motivated team. Buy-in is easiest to achieve when there is a proven track record: This worked before, and we expect it to work now. By connecting the different ideas that should make the store better for each user, a coherent narrative can be formed, and previous success can be used as argumentation for new initiatives. A compelling vision, and a clear way to communicate this vision are also very helpful in creating this buy-in.

# 5.3. CONDITIONS FOR SUCCESFULL IMPLEMNATION

### Create a higher degree of autonomy

Teams need a certain degree of autonomy to figure out the best solutions for these problems. Autonomy is defined as the freedom from external control or influence. With strong teams, a high degree of autonomy leads to higher motivation and stronger sense of ownership (Cagan 2011). Weaker, or less experienced teams often have a harder time dealing with autonomy. The Store team is experienced and problems higher levels of autonomy are not to be expected.

Both Garcia and Pintric (1996) and Dickinson (1995) have found a strong relation between a groups' autonomy and their motivation that stems from this. By providing more autonomy, teams generally become more motivated and perform better. Research by Deci & Ryan (2010) shows that this increase in motivation is mainly driven by the teams' need for a sense of competence and control. It must be noted that this mechanism only works for people with a strong intrinsic motivation.



Figure 60 - The team in a meeting

## Provide context to team

The aforementioned product strategies propose a clear direction on what problems to solve, but not necessarily on what exact features the team should build. The teams need to shift the focus from building features to solving problems, captured by the quote: "Fall in love with the problem, not with the solution."<sup>1</sup> Focusing on features means that you assume you know how your customers will react to these new features, whereas this is something you generally cannot anticipate upfront. Literature on innovation management suggest that companies that follow similar approaches outperform their peers (Rodgers, R., & Hunter, J. E. 1991, J. Doerr 2018). This shift can lead to ambiguity for the team. In order to correctly translate the strategy to concrete initiatives, the Store team needs to have a deep understanding of the customer and his problems.

# 5.4. PROPOSED SOLUTION

## Implementation through a comprehensive product design framework

An effective way in which proposed design strategies can be embedded in the Picnic organization is by creating a product design framework. A framework is a strategic and comprehensive approach to the design of a product (Lee, 2018). These frameworks come in many different forms, as they should be tailored to the company's unique product and culture.

A large share of companies that build digital products use systematic approaches which are (partly) made available online. Examples of these companies are Airbnb, Facebook and Confluence. Confluence's framework is most public, exposing everything from their brand guide to design principles. The value of this system is that it provides guidance, and helps align teams and individuals. Product, or design principles for example, serve as a way to "Communicate what the team values, and what the product should be". (Cagan, 2011)

In the study The business value of design, McKinsey found that companies that score high on their design index (MDI) achieve superior financial results. One of the key determinants of a companies' MDI is whether design has analytical leadership, meaning a long-term design strategy is present, and design metrics are being tracked.

## Design, develop, and deliver

Use Atlassian's end-to-end design language to create straightforward and beautiful experiences.



Figure 61 - Atlassian's design system

# 5.4. PROPOSED SOLUTION

It is crucial that the product design framework is embedded in the current design process. This framework will help the team to build a better store for its users by:

## 1. Providing the team with clear guidance, while allowing for flexibility

The store team needs clearly defined problems it wants to solve for our customers. The framework should focus on solutions for these problems, rather than output from teams. This is hard to achieve in the current linear process, where the team has to commit to features that are expected to solve the problem early on. Having a clear guidance in the form of well-defined problems will help the team move towards a more iterative approach.

## 2. Providing the team with a strong mechanism for alignment

The framework should enable the store team to weigh the priorities of different ideas and features. These options can be ideas generated within the store team, or by other Picnic teams. This will allow both teams to understand and quantify which of the options deserves the priority. In theory, this should give the team the ability to prioritize long term customer value over short term gains. When the team is able to successfully align with other teams, it can achieve a higher degree of autonomy.

A clear direction and shared vision leads to more engaged team (Rodgers & Hunter, 1991). This is amplified by the higher level of autonomy for the team. Therefore, it is expected that this framework will lead to more motivation and a stronger sense of ownership. Even though our analysis does not indicate motivation and ownership being a problem, an increase herein might still be possible and beneficial to the results achieved by the team. The analyses in this chapter showed that in order for the framework to be successful, it must meet the following requirements:

- The framework must be measurable
   In order to thrive in Picnic's highly analytical culture, the results the framework aims to achieve should be clearly defined and measurable.
   By doing so, the store is provided with both an evaluative and generative framework.
- 2. The framework should be clear and concise The Picnic organization has limited tolerance for ambiguous or surplus communication. Therefore, the framework should be clear and concise to succeed in the Picnic organization.
- 3. The framework should have companywide buy-in

The framework will only be useful if both the store team and the rest of the Picnic organization see the use of this model and implement it.

## Conclusion

This chapter has proposed the requirements for successful implementation of the product strategies defined in chapter 4. The product design framework will be further detailed in the next chapter.

## CHAPTER 6 PRODUCT DESIGN FRAMEWORK

## 6.0

This chapter introduces the proposed solution: A product design framework tailored to Picnic's store team. First, an overview of this framework is provided, after which all its aspect are elicited. The chapter then explains how this framework meets the requirements defined in the previous section, compare it to other frameworks, and describe the fit with the current culture and processes at Picnic.

In this chapter:

6.1 Overview of framework6.2 Vision6.3 Product strategies6.4 Key results6.5 Principles

# 6.1. OVERVIEW OF FRAMEWORK

We propose a hybrid strategic model<sup>1</sup> that provides long term focus whilst allowing for flexibility. The framework consist of 5 elements.





### 1. Vision

This model consists of a vision to provide direction in all product development efforts. This vision is derived from the company vision and based on the findings of this thesis.

## 2. Product strategies

The vision is operationalized via three product strategies. These are high-level directions that help more customers build a strong Picnic habit. These strategies come with a set of tactics that help the store team build features based on these strategies.

## 3. Key results

The effectiveness of the vision and product strategies will be measured through the keyresults. This makes these strategic aspects more concrete and measurable. By doing so, the effectiveness of the strategy can be determined, increasing buy-in across the organization.

### 4. Principles

Finally, a set of product principles are used to help the team in their decision making process. Apart from making the decision making process easier and more consistent, these principles make communicating decisions across teams easier.

### 5. Actions

These are the initiatives, ideas and features that follow from the other elements of the framework.

By providing guidance and a mechanism for alignment within the team, and across the organization, this framework will help the team build a more habit-forming store for its users.

# 6.1. OVERVIEW OF FRAMEWORK

## **Durability of framework**

The product development model has different degrees of flexibility and durability. The vision should be fixed for multiple years, so it can provide the team with a clear long-term direction and goal. As we go down further in the pyramid, the framework becomes less rigid. The actions, projects and features, should be flexible, in order to fully empower the team and not get in the way of creative ideas.

The different degrees of durability mean that the model should be revised on different time scales. As a rule of thumb, the durability of each element is stated below.

### Vision

The product vision should be stable for a period of at least 2 to 3 years but might prove valuable for a longer period of time.

### Strategies

The strategies are expected to be valid for a period of at least 1 years.

### Principles

Principles can be sharpened every 6 months or so. This makes them relatively stable, but at the same time flexible enough to include new learnings. In addition to that, regular sessions help to reinforce the principles in the minds of the team.

1. For more information on the value of hybrid strategic models see Appendix A.1



Figure 63 - Durability of the framework

## Key results

Key results come in different forms. The highlevel key results are expected to be stable for a very long period of time. The most important high-level results is the annual value of a customer. This metric measures how much a customer contributes to Picnic's results. The more detailed results are more flexible, and project depended. These might change per project and thus per quarter.

## Actions

Big projects that involve multiple teams should be considered per quarter, which is a requirement to align with the planning processes of the entire company. For projects with less dependencies the Store team can commit to solving specific problem for its users in a given quarter, but not commit to building a specific feature. This will increase the flexibility of the team to evaluate the project on a monthly basis. More detailed decisions are made in bi-weekly sprint planning sessions.

# 6.1. OVERVIEW OF FRAMEWORK

# 6.2. VISION

## **Elements of framework**

The framework is a hybrid between agile and strategic models.is hybrid approach combines the best of both worlds by ensuring long term guidance while allowing for individual initiatives and creativity. The framework is a combination of strategic design methods and models used by technology start-ups. The vision is inspired by design thinking methods. The product strategies and the associated key results are derived from the Objectives and Key Results methodology proposed by Doerr (2018). The principles are inspired by case studies of Spotify, Netflix, and Atlassian , which showed how and why the design teams of these companies spend time and effort in creating the perfect product principles. This value of principles is recognized by Cagan (2011) who states that: "These principles provide highly valuable tools to align the team and the rest of the organization on what kind of product we want to build". The connection between these elements was made by the author of this thesis, in order to create a framework that truly matches the needs of Picnic's store team.

## **Effect of framework**

This framework helps Picnic's store team to move from a semi-structured approach to a strategic coordinated effort. This will lead to better alignment and more guidance, which in turn should lead to a better store that offers more value to its users.



#### Figure 64 - Visual representation of shift in framework of store team

Currently, the team is a high energy organization focused on tackling problems and projects as they arise. Sometimes, this makes it unclear how the developed solutions connect. In the new model, there is a much stronger connection between actions and results, which are aligned under one clear vision. This vision is operationalized through well-defined product strategies. This will help the team to unlock more value for the user with the current relatively small workforce. In addition to that, it will facilitate the growth of the team by ensuring new team-members are easily onboarded into the vision and values of the team. The vision is the starting point and guiding principle of our product development framework. There is an extensive body of studies and evidence that positively links vision to product successes (Lynna & Akgun 2001, Brown & Eisenhardt 1995, O'Connor & Veryzer 2001). Thornberry states that "clear, stable and lofty organizational vision can provide directions to a company and can positively impact its ability to succeed." In the study the business value of design (McKinsey, 2018) the authors state that: The companies with the best financial returns have combined design and business leadership through a bold, design-centric vision clearly embedded in the deliberations of their top teams. A strong vision can explicitly commit organizations to their goals. Despite this body of research, Lin and Luh (2009) conclude that most organizations do not have a commonly recognized visioning methodology. Despite the fact that there is no consensus on methodology, they to agree that a clear vision is a powerful instrument for an organization.

## **Company vision**

The Picnic company has developed a successful vision; it aspires to be the friendly local milkman that serves millions of families. This vison is translated into Picnic's service by the conversational and playful tone of Picnic's communication, the friendly appearance of EPV's, and a high level of customer service. In addition to that, Picnic offers local products, and sponsors local events.

Because the company effectively connects the vision to its operations, it manages to win the sympathy and trust of its customers. This increases the affect customers feel for Picnic. According to theory, this has positive impact on the business performance by decreasing price pressure (Aaker 1992), reduces the costs of acquiring new customers, and increases the forgiveness of users when mistakes are made (Fournier 1988).

## Translation of vision to Picnic's store

Currently, the company-wide vision is not sufficiently translated to Picnic's store. This is indicated by the feedback of a user that states:

## "Everything is so personal, but when I go to the store, it does nothing for me. It is bland and unpersonal"

Our analysis of the current store showed that there was a low degree of relevance in products and promotions for users . This is especially noticed by customers that aren't new to the store. An interviewee stated that: "Picnic seems to focus mostly on attracting new customers and does not do much for its existing customers".<sup>1</sup>

The lack of relevance basically means that the app is not tailored to the personal preferences of our users. So, the lack of relevancy, is effectively a lack of personalization. We aim to enhance retention by helping customer build a stronger habit more easily. There are three values that should be translated from the general vision into the Store's product vision: 1) Friendly, 2) Local, 3) Milkman. While friendly and local are more obvious qualities, milkman needs more explanation. The milkman is an archetypical representation of an old-school, reliable person. Both media and consumers have referenced to this type of nostalgic feeling (NRC 2017)

It should be stressed that it is common practice to ascribe human values to inanimate objects such as companies. Aaker (1997) showed that consumers show no difficulty in assigning personality qualities to brands. The same principle can be observed in the case of Picnic, which EPV's are commonly referred to by customers as "cute".

## VISION 6.2

# 6.2. VISION

## **Proposed vision for the Picnic store**

## The little milkman in your pocket.

Picnic's store is your very own little milkman, or that of your family. This little guy or girl is always right there in your pocket. He is friendly and ready to help, and knows all about food. He is a great at planning, even when you are not. And, he knows how to make you smile. As you get to know each other and form a personal bond, you will entrust him with more of your grocery related tasks.

The little milkman makes the Picnic store the easiest and most enjoyable grocery shopping experience. For some families, this means that the milkman saves them lots of time, and helps them be more in control of their lives. For others, this is about reducing the number of cognitive decisions, whereas for other it is about creating more delightful moments while shopping at Picnic.

The milkman achieves this by facilitating the full shopping experience: deciding what to eat, sharing favourite products and recipes.

### Your own milkman, means a unique milkman

Because every Picnic user is unique, each personal milkman is slightly different. These differences manifests itself in their behaviour and suggestions, which should be very well suited to the needs of the customer. Concretely, this means that the app does not have to be the same for each user. For some users for example, certain orders of different pages in the storefront will work better than for others. Singles are known buy more alcohol and convenience products, so it would be logical to make it easier for them to navigate to those products. Some users might get more messages that they should try a certain feature, as their "milkman" believes that feature is more suitable to them. On top of that, the user can adjust his own app by adding their own lists, filters or other personal artefacts. Through these mechanism, everyone can have its own personal milkman.

Chapter 6. Product design framework



Figure 65 -Visual representation of the store vision: The little milkman in your pocket

### Goals derived from vision

From this vision, the following goals are derived:

- The store should be ubiquitous, always around and with frequent triggers for use.
- The store should feel very personal to the customer
- Placing an order should always be easy, whether you know what you want, or you are undecided. The store should provide just the right amount of guidance to the shopper.

These goals are embedded into the product development framework via the product strategies, key results and principles.

## Communicating the vision

Effectively communicating the proposed vision is essential for its success. It is proposed to do so by creating a vision movie. Film is a powerful medium that is unparalleled in the degree of emotional reactions it can evoke with relatively low effort of the viewer.

#### STORY BOARD VISION MOVIE

The little milkman right in your pocket



Dad wants to surprise mom but needs Peter's help in deciding what to cook





Figure 66 -Different personal milkman for different types of users

92



In addition to that, a short video overcomes the limitations that a prototype might have in terms of fidelity; High fidelity prototypes feel like they are already "done" and therefore invoke little inspiration, where low fidelity prototypes are often hard to interpret for people who are less familiar with product design.

## Storyboard for vision movie

Due to the time constraints for this thesis, creating the full movie was not feasible. Therefore, a storyboard is provided that explains the concept for this vision.

In addition to this story, a very short GIF is created. This GIF consists of just one simple movement, the little milkman crawling out of your pocket, ready to serve. This is in itself a powerful image that captures the idea of the little milkman in your pocket. This GIF can be shared via Slack, causing it to spread virally across the Picnic organization.

## PRODUCT STRATEGIES 6.3

The three strategies to help more customers form a strong Picnic habit proposed in chapter 12, are translated into product strategies to facilitate implementation. The product strategies make the vison concrete and can be clearly measured.

## Strategy 1: Enable different types of user to order

The little milkman in the customer's pocket helps the different types of family customers place orders easily. He does so by increasing the ability of the Convenient Outsourcing group, and the motivation of the Pleasant Service group, moving both groups above the action line. The motivation is increased by applying behavioural design strategies and evoking the pleasant feeling of deliveries more effectively. While the ability is increased by 1) Increasing the ability of customers to plan their groceries 2) Increasing the ability of customers to decide what products to buy, and 3) by increasing the ability of users to place complete orders. This product strategy is also expected to positively influence the CAV of the Efficient Control and nonfamily customers. This is expected to mainly impact the first order conversion.

## Strategy 2: Increase the frequency of interaction

The little milkman makes interaction more interesting and reminds you to open the app at the right moments. This makes it easier to build a strong Picnic habit for more users. This effect is achieved by loading strong (internal) triggers for the next use, and by providing variables rewards. This product strategy is expected to mainly benefit repeat purchase customers, and drive next order conversion and purchase frequency.

## Strategy 3: Grow personal connection

The little milkman is nimble and becomes a better and more fun grocery gnome each time you interact. This in combination with a higher frequency of interaction, leads to a highly personal store, with high perceived utility and switching costs. This is done by combining Picnic-driven with user-driven personalization strategies. Picnic-driven, where Picnic changes the lay-out and content of the app based on your past behaviour. User-driven where users actively make changes to the app, so it suits their needs better. By doing so, the perceived utility of Picnic will increase with each usage cycle. This product strategy is expected to be mainly beneficial to repeat purchase customers and drive next order conversion. However, it is also interesting to figure out how to already personalize based on the information customers provide upfront, and their behaviour while on the waiting list. Finally, when the users interact frequently with

### Conclusion

94

These three product strategies combined provide a clear path forward and operationalize the vision. They should be embedded throughout the team and organization. This thesis will go into detail on how to achieve this in chapter 8 Implementation. One of the ways to ensure successful implementation in the data-driven company that Picnic is, is by quantifying the product strategies and their impact on business performance. The next chapter looks at how these product strategies and their effect on retention can be tracked and measured.

# 6.4. KEY RESULTS

In order to make the aforementioned product strategies actionable and measurable, they are connected to well-defined key results. We define three levels of key results: High-level, mid-level and detail-level.

## High level result

The high-level key results are the customer annual value (CAV), which is the key metric that tracks how valuable a customer is to Picnic. The CAV for a given customer is the number of orders of that customer times the contribution per order. The contribution is how much profit Picnic makes on that order. Although this can be precisely measured, for our purposes it can be sufficient to measure the average basket value. This is a reasonable proxy, as a large share of costs scale per order, and not per SKU. This means that in general, bigger orders are more profitable.

Once customers form a strong Picnic habit, they will order more often and therefore their CAV will increase.

## Mid and detail level results

The mid- and detail-level results are specific to every individual paradigm. The combination of these results influences the high-level results, as visualized in the figure 67.. It must be stated that most of these results are already measured by Picnic. This section provides insight in how these existing metrics, and a couple of new metrics, tie in to the three product strategies defined in the previous chapter.



Figure 67 - Hierachy of results



First more different customers should be

enabled to place an order





the app, it should improve with each use

# 6.4. KEY RESULTS

# 6.4. KEY RESULTS

## Strategy 1

### Enable different types of users to order

The goal of this product strategy is making placing an order with Picnic easy for the different types of families. The first type is focused on minimizing time spent on getting groceries to their home, the second wants to minimize cognitive decisions, and the final group wants to maximize pleasure.

## Product strategy 2

### Increase the frequency of interaction

In order to build a strong habit, the frequency of interaction should be increased. It is important to note that we do not wish to increase the time spend shopping, but just the frequency of interaction with the app. This means that we do not want customers to spend a longer time in the app in total, but we want them to spend time in the app more often.

### Mid-level results

The aim is to track how easy it is for these groups to order. The clearest metric for this is the conversion. Because this product strategy is mainly focused on first order customers the key metric is first order conversion after 10 weeks. In addition to that, the next order conversion is tracked.

#### Mid-level results

One way to track the frequency of interaction is measuring what % of (active) users has opened the app on that day. If the goal is to increase the frequency of interaction, this metric should increase over time. In addition to that, the number of sessions per order should increase, with the frequency staying the same or becoming higher. So, more sessions per order, with the number of orders per time period staying the same or increasing.

## Detail level results

The ease of an action depends on a user's motivation and ability. Motivation is relatively hard to measure. Either, Picnic can track the order rating. Or it can analyse the app reviews on specific topics. Both aren't perfect metrics, because only a small subset of customers reviews the app, and the order rating is mostly related to delivery and freshness quality. To track ability, we will look at the time and number of clicks it takes to place an order. To filter for the effect of bigger basket sizes, we will look at the time per € spend, and the number of clicks per euro spend. The aim is to especially reduce the second metric, to enable the convenient outsourcing group to place orders easier.

## Detail level results

To drill down further into the increased frequency, we will look at the average number of sessions an active user has within one week. This number should go up as the product strategy is implemented.

## **Product strategy 3**

**Grow personal connection with each use** The crux of this product strategy is that the store should improve and feel more personal with each use. How personal something feels is hard to measure. In the current store, users are asked to rate their order, but it is observed that this is mainly based on the quality of the products and the delivery experience, rather than the shopping experience. Users could be asked to answer questions on this, but that would disrupt their shopping flow and is therefore not advised. Therefore, we focus on the improvement with each usage cycle.

### Mid-level results

Improvements in product utility can be measured in the following ways, consistent with the metrics we track for product strategy I; The time and number of clicks it takes to place an order. To filter for the effect of bigger basket sizes, we will look at the time per € spend, and the number of clicks per euro spend. Furthermore, the basket size is expected to increase due to a more affect driven shopping experience.

## Detail level results

To be able to correlate the improvements in the mid-level results with the paradigm, we will look at detailed metrics for both the top down and bottom up personalization strategies.

For the top down personalization we will look at the conversion on suggested products, recipes or promotions. The metrics we track are: What percentage of the products that are suggested to you do you actually buy? And what percentage of your basket consists of Picnic-suggested products. For the bottom up, or user driven personalization, we will first look at the number of artefacts created. This for example tracking how many lists and recipes a user makes. In addition to that, we will look at how often products are bought from these artefacts (% of basket that is added from recipes).



Figure 68 -Design for store dashboard



Figure 69 - MVP of store dashboard

## Conclusion

The proposed metrics serve as a way to make the proposed vision and product strategies measurable. This is highly important in the analytical culture of Picnic. These metrics are combined in a dedicated store dashboard, that allows the team to check their progress in a simple way. This dashboard will be discussed in more detail in the Implementation chapter.

# 6.5. PRINCIPLES

## Principles that reflect the values and vision of the store team.

Data-driven decision making is often impossible before creating a new product of feature. In interviews with the designers, developers and the PO, it became clear that there are a large number of decisions that have to be made on a daily basis. Sometimes, these decisions can be made based on data, but more often clear data is unavailable. This makes the success of new products or features is highly unpredictable.

## Challenges of decision making in ambiguous environment

When clear factual information is missing, decisions have to be based on intuition and reasoning. This reasoning is often based on numerous assumptions. While this might be unavoidable in the design process, this decision-making process has the following downsides:

- Chances on wrong decisions are high
- It is time-consuming.
- It might hurt coherence in decision making.
- Someone might not feel "heard" if his opinion is pushed aside.

These issues can lead to sub-optimal results, as the team is not fully motivated.

## **Product principles**

A tried method of facilitating decision making in highly ambiguous environments is by using principles. These principles are known as product principles, a set of beliefs and intentions that reflect a product team's values and vision. The principles provide direction to the team and create understanding of what is important to the team and the product. In addition to that, these principles can serve to inspire new product features.

## Formulating the store team's principles

The final principles were co-created with the product owner and designers of the store team. This happened through multiple iterations. The first step in this process was getting input on the topics the team members often had discussions about. Out of their input on these topics, the first version of the principles was synthesized. These principles were then discussed in a group setting with the designers. This led to more iterations that were frequently shared with the involved team members. This iterative process led to strong involvement of the key-stakeholders within the team, who are the ones that should implement these principles in their daily work. Therefore, it is crucial that they see the value of these principles. The frequent iterations helped to make the principles more concrete and applicable, which helps the involved team members use them more easily.



Confluence page.

## 6.5. PRINCIPLES

## Product principles for Picnic's store team

## Trust over everything else

Groceries and high frequency deliveries into your kitchen require trust. Trust is multi-faceted; our customers should trust their data privacy, the friendliness of people, and the quality of groceries. Picnic should never violate that trust but reinforce with every interaction.

## Meaningful interactions over full automation

Forming a habit requires interaction and can't be fully automated. Becoming the best milkman requires a personal connection and trust, which can only be achieved through meaningful interaction. Therefore, shopping at Picnic should never be fully automated for users.

Meaningful interactions provide users with a feeling of being in control. However, customers do not want to spend too much time and energy on grocery shopping. Therefore, Picnic should provide only meaningful interactions, meaning important or pleasant decisions.

## Customer perception over rationality

True customer preference shows through actual behaviour, and does not always follow rational paths. The value customers ascribe to product and services is highly subjective. The store team must never mistake its own assumptions on what is "the right thing" with actual customer preference that shows true actual behaviour.

## Conclusion

The product principles presented in this chapter are an essential part of the product development framework. They are a way to make the vision and product strategies more tangible and thereby easier to implement. In addition to that, they serve as a useful tool to align with other teams on what is deemed important to the Picnic store. It is easier to dismiss a request for a business-driven feature when it conflicts battle-tested principles rather than just the opinion of the product owner. The proposed principles seem to have the support of the Store team. Feedback from the designers indicated that they see these principles as a valuable tool to help guide decisions during the design process. However, these principles are not set in stone. They lay in the middle of the flexibility axis introduced in chapter 20, which means they should be reviewed roughly every 6-12 months. When principles are reviewed the team needs to ensure they still represent the consensus of the team, and to a lesser extent the company, on what kind of product it wants to build. In addition to that, they should always be done so that the principles are in line with the vision and the rest of the product development framework.

## Building and nurturing over exploiting

Picnic is in it for the long run and values a good relationship with the customer over quick profits. The company is building a better way of doing groceries together with their customers, and this takes time. Therefore, we focus on building and nurturing the market rather than exploiting it.

## Guided mastery over forced learning

The store should get better with each use, enabling discovery over time. This is always done in a way that helps customers focus on shopping itself, and not on how the shopping works.

The Picnic store grows with the customers as they use it more often. Picnic is satisfying to master, from first browse to using advanced features.

## Empowered customers over Picnic power

Picnic is creating the ideal grocery experience together with its customers, thereby giving them great powers. Our customers help create our assortment, tweak the store to their preferences, and are empowered to handle refunds themselves. We give customers the tools to personalize their store instead of providing a one size fits all.

## CHAPTER 7 VALIDATION

## **7.0**

This chapter aims to validate the proposed framework. It does so in two validation steps, one with customers and one internal validation.

In this chapter: 7.1. Validation with customers 7.2. Internal validation

# 7.1 VALIDATION WITH CUSTOMERS

Validating a strategic framework is a challenge, as strategies are to be implemented over a longer period of time. This is consistent with the definition of strategy as "*a deliberate set of guidelines that determines decisions into the future*" (Mintzberg, 1991). This challenge also exist for the product design framework, which can only truly be validated by using it over a long period of time.

For both the academic purposes of this thesis and the benefit of the company, it is interesting to conduct preliminary research on the effectiveness of the framework.

Therefore, an estimation of the validity of the framework is made based on two method: Validation with the customer based on pairwise comparison, and validation with the team based on a sorting activity.

## Validation with customer

In order to test the validity of the framework, customers were asked to rate how much they thought the different elements of the framework would benefit their use of the Picnic store.

#### Method

First, design and technology savvy customers got an explanation of the proposed framework. The vision, product strategies and principles where explained and discussed. After the customers were familiar with the concepts, they were asked to rate the last four main features launched by the store team on this strategy. So, the feature that suited the framework the best was ranked the highest. This exercise was performed with three customers, all professionals working in app design or development. This ranking was than compared with the actual effects of these features, obtained by previous A/B test. This allowed us to check if the features that suit the framework the best, are also the most effective in increasing retention.

### Selected features



# 7.1 VALIDATION WITH CUSTOMERS

#### Results



The combined ranking is: 1) Add to order 2) Picnic reminder 3) Tab bar 4) SKU based recipes. We notice that SKU scores especially low, according to the respondents, this was due to the low quality and variety of these recipes. Add to order, on the other hand scored very high. The respondents indicated that it made placing an order during the day less stressful as you can always add stuff later.

### Difficult task for respondents

The respondents had difficulty in answering the aforementioned questions. They indicated that the framework was rather abstract for a customer, and therefore hard to evaluate. The author of this thesis assumes that more valid results can be achieved by testing actual prototypes with these customers, which can be considered the next step when this framework is adopted by the store team.

# 7.1 VALIDATION WITH CUSTOMERS

## **Results from A/B test**

We analyse the impact on habit by looking at the data from A/B test conducted by Picnic.

The relevant metrics we look at are conversion and order frequency. Conversion is defined as conversion to the next order after 6 weeks. Frequency is defined as the number of deliveries divided by the number of ordering customers. These metrics are closest related to habit.

## **Comparison of rankings**

We then compare the retention score with the actual effect on conversion to active customers for the selected features. The actual effect will also be ranked, as we do not expect to find clean correlations in this highly abstract model. If the ranked scores and ranked actual effect are similar, we have strong evidence that developing features according to our framework yields features that have a positive effect on our conversion rates.

### Conclusion

According to this validation step, the framework has high chances to be successful. The feature ranked highest on the framework generally perform better in terms of actual impact on habit. However, the test group did have difficulties with the abstract considerations required to draw these conclusion. As mentioned previously, it will be more effective to test with prototypes, and later with actual A/B tests of new features. For now, the results of the test group will be considered, but a larger sample size is not obtained.

# CONFIDENTIAL

## CONFIDENTIAL

# 7.2 INTERNAL VALIDATION

Because the framework was too abstract for user, a new round of validation was required. Therefore, a simpler method was chosen to validate internally at Picnic.

## Method

A workshop was conducted with two strategic design students. In this session, the four features discussed in the previous section were compared to the framework. The question here was: would we have built this feature if we were using the framework? In order to provide the design students with enough context, a short presentation on Picnic and the product development framework was held. After this presentation, the different features were presented to the students.

## In line with framework

Add to order was judged to suit the framework well, it increase flexibility for the users, and makes orders less 'definitive' This in turn increases both the motivation and the ability for users to place an order. This especially holds true for the convenient outsourcing group, which are hypothesized to be less able to place a complete order in one go. This group is now facilitated to place an order and add products along the way.

The Picnic reminder also suited the framework well. It provides meaningful interactions, and a personalised reminder. This increase the frequency of interaction with the app. The feature helps user add personal value, and was only revealed to more experienced users. In addition to that, this is a typical feature that is suitable for families.

## Not in line with framework

The recipe feature was less well aligned with the framework. Although the feature does reduce the cognitive effort of deciding what to eat, there are other aspects to this feature that still make it hard to use. The main problem is that the user should remember what recipe he has selected, as it will not show up in his basket. It is also hard to find the exact preparation guide after having order the recipe. In addition to that, there is no personalization in the recipes, all users get the same recipes. The recipe would be a great opportunity to provide variable rewards when opening the app, by seeing new recipes daily.

## Unclear fit with framework

Tab bar navigation was harder to place along the dimension of fit, non-fit. There were arguments for both sides. The most relevant argument for why it suited the framework was that it did reduce the cognitive effort of doing all process in the app, which automatically made ordering easier. However, it was not entirely clear how that worked. The most relevant argument why it did not fit the framework was that it did not clearly connect to any of the product strategies. Does it make ordering easier? That does not necessarily show from data, as first order conversion does not increase. Somehow it does increase next order conversion, making it contribute to habit formation for more users.

## Conclusion

The second round of validation showed that the framework is useful to designers, but discussion whether a feature or idea suits the framework might still arise. As mentioned in the introduction of this chapter, precise validation is impossible for a strategic framework. However, the two validation methods did provide an indication of the effectiveness of the framework before implementation.

# CHAPTER 8 IMPLEMENTATION

## 8.0

This chapter detailes how the product design framework will be implemented within the Picnic organization in general, and the store team specifically

In this chapter: 8.1 Implementation

# 8.1 IMPLEMENTATION

The proposed framework can only have impact if it is used by the store team. This chapter defines how to successfully implement the framework, enabling to the team to use it and thrive.

## Translating the framework to concrete initiatives

The framework provides a comprehensive method for Picnic's store team to develop a habit-forming store. It provides the team with direction and a method to align ideas and people, within the team, and across the organization. It is not a complete, 'IKEA instruction', how-to-guide on building a habit-forming store. The team, and especially the product owner and designers, must integrate it into their thinking and decisions making processes. Only then, the framework will lead to concrete initiatives and thereby results. This process of implantation is facilitated by clearly communicating the framework and its benefits, and by providing clear and easy ways to embed it across the organization.

## Communicating the product development framework

The framework should be communicated within the team and throughout the organization. This is done by creating a presence in both the physical and digital space both these stakeholders frequently visit. The physical space is the office, and especially the 'Store corner' where the team has its headquarters. The digital spaces the whole organization frequently visits are Slack and Confluence. By integrating the framework in the daily digital processes of stakeholders, it becomes ubiquitous. Communication is done both in both a central and decentral manner. With central, we mean fixed communication that goes only one way. With decentral, we mean two-way communication that does not require interference of the author of this thesis, nor the product owner.

### **Central communication**

The central communication creates a single source of truth, which is always easy to find and provides overview right away. An example of central sharing is creating specific confluence pages similar to those of Atlassian pictured below.



These are easy to find and digest. Another example is a specific user insights channel in Slack. Here, insights are shared and discussed with over 30 people from all customer-facing teams within Picnic.

# 8.1 IMPLEMENTATION

### **Decentral communication**

Decentral communication is about allowing the stakeholders of this framework to internalize it and have a bit of fun. It is done by creating shareable stuff in Slack such as GIFs and customized emojis (there is already a segmentation emoji). The user insights Slack channel is also a way for all stakeholders to communicate without any central involvement.

The decentral approach is also embedded in the physical space. We propose to add pinboards for the different product strategies. On these boards, the team or other teams can pin suggestions. In addition to that, we want to pin successful features to related product strategies by making polaroid pictures of them and pinning them

### Communication strategy per element

Each element is used at different moments and for different purposes, and thus should be communicated in another way.

## Vision

The vision is relatively fixed and should be the overarching truth of everything that Picnic does. It is crucial within the team, and across the organization, people can align in this vision. Therefore everyone should agree with the vision and it should be communicated in a compelling way. It is advised to make a short vision video that is shared to all new people upon joining Picnic. Also, we should pin it to the Slack channel of the store (both the private one for the team, and the one where other teams can interact with the Store team). In addition to that, a poster is made that communicates this vision and hangs in the 'store corner'. This vision is also included in the Confluence pages on the product development framework.

## **Family personas**

Personas were created for the different types of families that use Picnic. These are shared physically via posters and digitally via the confluence page system. For the full personas, see the chapter User Research.

## **Product strategies**

The product strategies are presented in detail to the team. Afterwards, they will be shared physically via posters and digitally via the confluence page. The features that link to the product strategies and are successful are attached to provide examples of how to make the product strategies complete.

## Key results

The results are shared in analyses of new features. In addition to that, they will be included into a new AB test dashboard. Finally, it is proposed to create a design data dashboard, that displays the key results per product strategy in real time. For this dashboard the most relevant mid and key results will be displayed in real time.

## Principles

The principles are discussed in a special workshop, and then made public via the confluence page. An annually sessions will be organized to revise the principles.

## Embedding the framework in organization

Once the framework is clearly communicated, the next issue to tackle is how people can actually use it. As mentioned earlier in this thesis, the framework is not a step-by-step how-to-guide on how to build the store. This is both impossible and would be a very bad fit with the independent and entrepreneurial mindset Picnic employees generally value. It is therefore partly up to team how to precisely embed the framework in their daily work.

There is however an important role for the tech lead and especially the business lead (product owner) to drive the use of this framework. This can be done by referring to the vision, product strategies or principles in ideation or evaluation activities. Communicating the results of AB test, with the new key results per product strategy is another example of how the product owner can drive this new way of thinking.

## CHAPTER 9 **DISCUSSION AND CONCLUSION**

## 9.0

This chapter concludes this thesis by defining how the goals set in the beginning of this project were achieved, and by stating the limitations, implications and recommendations that follow from that conclusion. This chapter is concluded by a personal reflection.

In this chapter:

9.1 Conclusion

9.2 Limitations, implications and recommendations 9.3 Personal reflection

# 9.1 CONCLUSION

The aim of this thesis was to increase retention for Picnic by creating a habit-forming store.

The first step in solving this problem was taken by creating a comprehensive framework for the product design process of Picnic's store team. This framework focusses on creating a habit-forming store. The framework encompasses four elements:

- **A clear vision** The Picnic app should be the little milkman in your pocket.
- **Product strategies** Three strategies to help more users build a strong Picnic habit
- **Key results** Metrics that make the strategies measurable.
- **Product principles** That help communicate what the team believes in. This facilitates decision making both in the team and across the organization.

The elements of this framework are based on literature on design and new product development, as well as on examples of other companies. The content of the framework is based on theory on retention and habits and on extensive user research. Therefore, the framework is firmly grounded in both theory and practice, and suited to the specific challenges of Picnic's users.

Through the comprehensive framework, organizational challenges in implementing design-driven strategies can be overcome. The most important organizational challenges for the store team were:

- Challenges in aligning teams across the organization,
- Challenges in creating buy-in for customer focused projects
- Challenges in autonomous decision making, due to large dependencies between teams.

By creating a clear, concise and measurable framework, this thesis has helped overcome these challenges. Although this thesis has focused on the specific case of Picnic, literature and interviews suggest that the same challenges exist in other organizations.

The framework was validated with customers, and internally. The results of both validation steps indicate that the framework is likely to be helpful in the store product development process. However, the value can only truly be proven by implementing the framework and putting it to the test.

To achieve successful implementation, the framework must be clearly communicated and embedded in the daily work of the team. The latter should happen in both creative activities and evaluative activities. The framework proposed in this thesis helps the store team to set a course for a longer period of time. It helps the team focus on solving the right problems for its users, by providing a way to visualize these problems and the effect the solutions should have. The compelling vision of the little milkman in your pocket provides the team with direction, and helps stakeholders across the organization align. The framework is however not a definitive 'how to guide' on building habit forming store, and proper implementation and execution are crucial to create a truly habit-forming store.



# 9.2 LIMITATIONS, IMPLICATIONS AND RECOMMENDATIONS

## Limitations

The main limitation of this thesis is the fact that product design and customer behaviour are not fully predictable. The framework presented in this thesis is therefore not a definitive 'how-to' guide on building the Picnic store, but rather a tool to help the team focus on the right problems and guide their thinking.

Another limitation is that although the product strategies are firmly grounded in theory and based on a combination of qualitative and quantitative user research, the synthesis that led to these strategies is highly dependent on the author of this thesis. For other designers, the provided insights will lead to different solutions. Therefore, the thesis aimed to deepen understanding of both retention, habits and the Picnic customers and their problems. This understanding can be used by other designers or product owners to draw alternative conclusions.

The final limitation is the unproven validity of the product development framework. This framework has to be proven over time which is unfortunately impossible within the scope of this thesis.

This research and the designed framework are focused on Picnic's organization and do not necessarily translate to other firms and industries.

## Recommendations

For this framework to be truly successful within the Picnic organization in general, and the store team specifically, it must be put to the test. Therefore, the recommended methods of communicating the framework and tracking its results must be implemented. Once the framework it is embedded, it must be constantly iterated to unlock to full potential of Picnic's store team.

In my opinion, product development frameworks deserve far more attention in the Master of Strategic product design. Currently, this study focusses on either organizational change, or on solving individual design problems. I believe these two topics are strongly interrelated. To achieve academic significance, a larger scale case study should be conducted. Companies should work together with academia to gather empirical data on the effectiveness of design frameworks. This could also help to define best practices in this field. If this can be done successfully, the process of creating a suitable framework should not require an ambitious graduate intern anymore but can be integrated in the daily work of product designers, and product owners throughout the industry.

## Implications

Habits are powerful mechanisms that allow people to dedicate their mental energy to important issues. Positive habits, such as eating healthy, can have a wonderful effect on someone's. When helping users form a habit around your product, it is thus important to consider whether you are helping the user form a positive habit.

If the framework proves to be efficient, it would have a significant positive effect on Picnic's business. This would in turn influence the positive outcomes that Picnic business model provides for its customers and society as a whole, mentioned in the beginning of this thesis. This means that if this framework proves to be successful, it will help:

- Increase the amount of spare time for its end-users
- Help reduce food waste
- Help reduce emissions in cities

In addition to that, the user research has found more positive side effects of Picnic's service. It enables disabled people (handicapped or blind)

to do their own groceries. It also helps people save money by spending more deliberately, not being tempted to overspent on impulse purchases.

For these reasons, online grocery shopping at Picnic can be considered as a positive habit. This is a strong motivator for the Store team to build a habit-forming store, and for the author of this thesis to ensure the proposed framework is successfully implemented.

# 9.3 PERSONAL REFLECTION

Personally, I believe that convenience is one of the greatest gifts to customers, as long as customers do not have to trade this for essential things such as freedom of choice and privacy. Design has the potential to help Picnic build an extra layer on top of their current product that leads to a delightful experience for its users. This will help Picnic to build the best milkman on earth, and I am happy to be part of that mission.

The past couple of months have reinforced my belief in the power of combining quantitative and qualitative insights to serve users in the best way possible. The process of writing my thesis has taught me the value of sharing knowledge across teams and of helping each other.

But it also showed me how hard it can be to function by yourself rather than in a team. By yourself, you can impossibly have all the qualities a multi-disciplinary team brings to the table. I have always valued the power of strong teams, and this process has reinforced that believe. Along the way, I have had help of a great deal of sharp minds for which I am very grateful.



Navigating the different needs of Picnic on one hand, and the TU Delft on the other, taught me how to successfully make compromises. One example of these types of compromises was the decision to not try to design, build and implement one of solutions, but focus more on the organizational aspects that were involved with the implementation of the strategy. The action driven and evidence-based culture at Picnic helped me to make it very clear why and how strategic design can add value. I am looking forward to implementing the framework within Picnic and refine my thinking on design frameworks in general. This thesis is not the end of my learning journey, but a milestone along the way.

## BIBLIOGRAPHY

## Α

Aaker, D. A. (1992). The value of brand equity. Journal of business strategy, 13(4), 27-32.

Alderson, W., 1957. Marketing Behavior and Executive Action, Richard D. Irwin, Homewood, IL.

Alderson, W., 1965. Dynamic Marketing Behavior, Richard D. Irwin, Homewood, IL.

Allenby, G. M., Arora, N., Ginter, J.L., 1998. On the Heterogeneity of Demand, Journal of Marketing Research 35 (3), 384-389.

Anderson RE and Srinivan SS (2003) E-satisfaction and E-loyalty: a contingency framework. Psychology & Marketing 20(2), 123–138.

Ansoff, H. I. (1991). Critique of Henry Mintzberg's 'The design school: reconsidering the basic premises of strategic management'. Strategic management journal, 12(6), 449-461.

## В

Beck, K., Beedle, M., Van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., ... & Kern, J. (2001). Manifesto for agile software development.

Bionext. Bionext Trendrapport 2017. September 2018

Bos, J (2018) Nederland kampioen online boodschappen doen. 19 september 2018. Retrieved from https://fd.nl/ondernemen/1270823/het-picnic-effect-nederland-kampioen-online-boodschappendoen

## С

Camerer, C., Loewenstein, G., & Prelec, D. (2005). Neuroeconomics: How neuroscience can inform economics. Journal of Economic Literature, 43(1), 9-64.

Cardon, M.S. and Stevens, C.E., 2004. Managing human resources in small organizations: What do we know? Human resource management review, 14(3), pp.295-323.

Carland, J. C., & Carland, J. W. (2003). A model of entrepreneurial planning and its effect on performance. Journal of Business and Entrepreneurship, 15(1), 1.

Chandler, A. D., Strategy and Structure, MIT Press, Cambridge, Mass., 1962.

Chen, P. Y., & Hitt, L. M. (2006). Information technology and switching costs. Handbook on Economics and Information Systems, 1, 437-470.

Cheng, C. H., & Chen, Y. S. (2009). Classifying the segmentation of customer value via RFM model and RS theory. Expert systems with applications, 36(3), 4176-4184.

Cialdini, R. B., & Cialdini, R. B. (2007). Influence: The psychology of persuasion (pp. 173-174). New York: Collins.

Csikszentmihalyi, M. (2013). Flow: The psychology of happiness. Random House.

Customer phone interviews (n=26)

## D

Dan Nessler. How to mash-up and benefit from PM and the Design Thinking Process. 3 September 2016. Retrieved from https://uxdesign.cc/how-to-mash-up-and-benefit-from-pm-and-hcd-ux-design-thinking-89ea28f47a63

Dave McClure, Startup Metrics

Deci, E. L., & Ryan, R. M. (2010). Intrinsic motivation. The corsini encyclopedia of psychology, 1-2.

Dickinson, L. (1995). Autonomy and motivation a literature review. System, 23(2), 165-174.

Dijksterhuis, A., Smith, P. K., Van Baaren, R. B., & Wigboldus, D. H. (2005). The unconscious consumer: Effects of environment on consumer behavior. Journal of consumer psychology, 15(3), 193-202.

Doerr, J. (2018). Measure what matters: How Google, Bono, and the Gates Foundation rock the world with OKRs. Penguin.

Dohmen, T., Falk, A., Huffman, D., & Sunde, U. (2010). Are risk aversion and impatience related to cognitive ability?. American Economic Review, 100(3), 1238-60.

Du, X., Jiao, J., & Tseng, M. M. (2003). Identifying customer need patterns for customization and personalization. Integrated manufacturing systems, 14(5), 387-396. alliance

## Е

Eyal, N. (2014). Hooked: How to build habit-forming products. Penguin UK.

## F

Fogg, B. J., Cuellar, G., & Danielson, D. (2009). Motivating, influencing, and persuading users: An introduction to captology. Human Computer Interaction Fundamentals, 109-122.

Foodmagazine.nl, 27 juli 2018. AH-topman Wouter Kolk: 'Toekomst moet je niet afwachten' Retrieved from https://www.foodmagazine.nl/interview/artikel/2018/07/ah-topman-wouter-kolk-toekomst-moet-je-niet-afwachten-1014506

Foodmagazine.nl, 28 Augustus 2018. AH en Picnic zitten in elkaars vaarwater. Retrieved from https://www.foodmagazine.nl/achtergrond/artikel/2018/08/ah-en-picnic-zitten-in-elkaarsvaarwater-1014569

Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. Journal of consumer research, 24(4), 343-373.

Friedman, D., Pommerenke, K., Lukose, R., Milam, G., & Huberman, B. A. (2007). Searching for the sunk cost fallacy. Experimental Economics, 10(1), 79-104.

Friedrich, W. R., & Van Der Poll, J. A. (2007). Towards a methodology to elicit tacit domain knowledge from users. Interdisciplinary Journal of Information, Knowledge and Management, 2, 179-194.

## G

G.C. O'Connor, R.W. Veryzer, The nature of market visioning for technology-based radical innovation, The Journal of Product Innovation Management 18(2001) 231–246

G.S. Lynna, A.E. Akgün, Project visioning: Its components and impact on new product success, Journal of Product Innovation Management 18 (2001) 374–387.

Garcia, T., & Pintrich, P. R. (1996). The Effects of Autonomy on Motivation and Performance in the College Classroom. Contemporary educational psychology, 21(4), 477-486.

Grudin, J., & Pruitt, J. (2002, June). Personas, participatory design and product development: An infrastructure for engagement. In Proc. PDC (Vol. 2002, p. 7th).

## Н

Hansen, T. (2008). Consumer values, the theory of planned behaviour and online grocery shopping. International Journal of Consumer Studies, 32(2), 128-137.

Hokkanen, L., Kuusinen, K., & Väänänen, K. (2015, December). Early product design in start-ups: towards a UX strategy. In International Conference on Product-Focused Software Process Improvement (pp. 217-224). Springer, Cham.

Horwath, R. (2012). What is Strategic Thinking?

Hughes, A. M. (2000). Strategic database marketing: the masterplan for starting and managing a profitable, customer-based marketing program (Vol. 12). New York: McGraw-Hill.

Hunt, S. D., & Arnett, D. B. (2004). Market segmentation strategy, competitive advantage, and public policy: Grounding segmentation strategy in resource-advantage theory. Australasian Marketing Journal (AMJ), 12(1), 7-25.

Hwang, H., Jung, T., & Suh, E. (2004). An LTV model and customer segmentation based on customer value: a case study on the wireless telecommunications industry. Expert systems with applications, 26(2), 181-188. ing-offerings-promise-wide-range-health care-applications

## J

Johnson, E. J., Bellman, S., & Lohse, G. L. (2003). Cognitive lock-in and the power law of practice. Journal of Marketing, 67(2), 62-75.

Jongerius, P., Offermans, A., Vanhoucke, A., Sanwikarja, P., & van Geel, J. (2013). Get Agile!: Scrum for UX, Design & Development. BIS Publishers.

## Κ

Kahneman, D. (2011). Thinking, fast and slow. Macmillan.

Kahn, K. B., Castellion, G., & Griffin, A. (Eds.). (2005). The PDMA handbook of new product development. Hoboken, NJ: Wiley.

Khalifa, M., & Liu, V. (2007). Online consumer retention: contingent effects of online shopping habit and online shopping experience. European Journal of Information Systems, 16(6), 780-792.

Kim, H. S., Green, P., & Lebwohl, B. (2017). Prevalence and Consumer Behavior of People With Food Allergy in the United States: 1189. American Journal of Gastroenterology, 112, S653.

Kim, S. Y., Jung, T. S., Suh, E. H., & Hwang, H. S. (2006). Customer segmentation and strategy development based on customer lifetime value: A case study. Expert systems with applications, 31(1), 101-107.

Klemperer, P. (1995). Competition when consumers have switching costs: An overview with applications to industrial organization, macroeconomics, and international trade. The review of economic studies, 62(4), 515-539.

Kotler, P. (1984), Marketing Management: Analysis, Planning and Control (5th edition), Englewood Cliffs, New Jersey, Prentice-Hall, pp. 250-276.

## L

Lin, C. C., & Luh, D. B. (2009). A vision-oriented approach for innovative product design. Advanced engineering informatics, 23(2), 191-200.

Long, F. (2009, May). Real or imaginary: The effectiveness of using personas in product design. In Proceedings of the Irish Ergonomics Society Annual Conference (Vol. 14, pp. 1-10). Dublin: Irish Ergonomics Society.

## Μ

McClure 2019. Customer Lifecycle. Retrieved 11/06/2019 from: https://www.slideshare.net/dmc500hats/startupmetrics-for-pirates-long-version/3-Customer\_Lifecycle\_Conversion\_Behavior\_Websitecom

McQuaid, H. L., Goel, A., & McManus, M. (2003, June). When you can't talk to customers: using storyboards and narratives to elicit empathy for users. In Proceedings of the 2003 international conference on Designing pleasurable products and interfaces (pp. 120-125). ACM.

Mintzberg, H. (1978). Patterns in strategy formation. Management science, 24(9), 934-948.

Moore, G. A., & McKenna, R. (1999). Crossing the chasm.

Morschett, D., Swoboda, B., & Foscht, T. (2005). Perception of store attributes and overall attitude towards grocery retailers: The role of shopping motives. The International Review of Retail, Distribution and Consumer Research, 15(4), 423-447.

Mortimer, G., Fazal e Hasan, S., Andrews, L., & Martin, J. (2016). Online grocery shopping: the impact of shopping frequency on perceived risk. The International Review of Retail, Distribution and Consumer Research, 26(2), 202-223.

Mulder, P. (2018). Paired Comparison Method. Retrieved [insert date] from ToolsHero: https://www.toolshero.com/ decision-making/paired-comparison-method/

Murray, K. B., & Häubl, G. (2007). Explaining cognitive lock-in: The role of skill-based habits of use in consumer choice. Journal of Consumer Research, 34(1), 77-88

## 0

Olds, J., & Milner, P. (1954). Positive reinforcement produced by electrical stimulation of septal area and other regions of rat brain. Journal of comparative and physiological psychology, 47(6), 419.

Online marktaandeel AH neemt af, Jumbo en Picnic groeien (12-11-2018) https://www.agf.nl/article/9041532/online-marktaandeel-ah-neemt-af-jumbo-en-picnic-groeien/

Ouellette, Judith A. and Wendy Wood (1998), "Habit and Intention in Everyday Life: The Multiple Processes by Which Past Behavior Predicts Future Behavior," Psychological Bulletin, 124 (1), 54-74.

## Ρ

Paramie, S., & Upeksha, G. (2018). Secondary Prevention of Cardiovascular Diseases and Application of Technology for Early Diagnosis, 2018. https://doi.org/10.1155/2018/5767864

Patientfederatie Nederland. (2019). Persoonlijke gezondheidsomgeving, wat en hoe? Retrieved from: https://www.patientenfederatie.nl/themas/persoonlijke-gezondheidsomgeving/

Pecorino, P.A. (2001). An introduction to philosophy; individual versus group interest. Retrieved from: http:// www.qcc.cuny.edu/SocialSciences/ppecorino/INTRO\_TEXT/Chapter%2010%20Political%20Philosophy/Group\_vs\_ Individual\_Interest.htm

Porter, M. E. (2006). Redefining health care. Redefining Health Care, (June 2004), 35. https://doi. org/10.1177/1476750304047980

Porter, M. E. (2009). What is value in health care? Perspective, 363(1), 1–3. https://doi.org/10.1056/NEJMp1002530

Price Waterhouse Cooper. (2012). Paths for growth. Retrieved from http://www.pwc.com/en\_GX/gx/healthcare/ mhealth/assets/pwc-emerging-mhealth-full.pdf Raisinghani, D. And Thioret, A., "The Structure of 'Unstructured' Decision Processes," Administrative Science Quarterly, Vol. 21, No. 2 (1976), pp. 246-275.

Rick, S. I., Pereira, B., & Burson, K. A. (2014). The benefits of retail therapy: Making purchase decisions reduces residual sadness. Journal of Consumer Psychology, 24(3), 373-380.

Rodgers, R., & Hunter, J. E. (1991). Impact of management by objectives on organizational productivity. Journal of Applied Psychology, 76(2), 322.

## S

SS.L. Brown, K.M. Eisenhardt, Product development: past research, present findings, and future directions, Acadamy of Management Review 20 (2) (1995)343–378.

Sanders, E. B. N., & Stappers, P. J. (2012). Convivial toolbox: Generative research for the front end of design. Amsterdam: BIS.

Shapiro, C., Varian, H. R., & Becker, W. E. (1999). Information rules: a strategic guide to the network economy. Journal of Economic Education, 30, 189-190.

Shiv, B., & Fedorikhin, A. (1999). Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. Journal of Consumer Research, 26(3), 278-292.

Silverstein, D. A., & Farrell, J. E. (2001). Efficient method for paired comparison. Journal of Electronic Imaging, 10(2), 394-399.

Smith, M. F., & Carsky, M. L. (1996). Grocery shopping behavior A comparison of involved and uninvolved consumers. Journal of retailing and Consumer Services, 3(2), 73-80.

Smith, W., 1956. Product Differentiation and Market Segmentation as Alternative Marketing Strategies. Journal of Marketing 21 (3), 3-8.

Sohrabi, B., & Khanlari, A. (2007). Customer lifetime value (CLV) measurement based on RFM model.

Spotify F-1 Form. IPO Filing As filed with the Securities and Exchange Commission on February 28, 2018 Retrieved from: https://www.sec.gov/Archives/edgar/data/1639920/000119312518063434/d494294dfl.htm

Supermarkt en ruimte. Versnelling in groei online supermarktomzet. Retrieved from: https://www.supermarktenruimte.nl/versnelling-in-groei-online-supermarktomzet/

Sutton, R. I., Rao, H., & Rao, H. (2016). Scaling up excellence. Random House.

Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. Journal of retailing, 77(2), 203-220.

Tarrow, S. (2010). The strategy of paired comparison: toward a theory of practice. Comparative political studies, 43(2), 230-259.

The McKinsey Podcast, Louise Herring, Jessica Moulton, Monica Toriello: The future of grocery—in store and online. Retrieved 11/04/2019 from: https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/

Thornberry, N, A view about 'vision', European Management Journal 15 (1)(1997) 28–34

TNS NIPO, 2013. De milieubeleving in Nederland Onderzoek ter gelegenheid van 15 jaar Milieu Centraal.;

Triandis HC (1971) Attitude and Attitude Change. John Wiley & Sons, New York.

Triandis HC (1980) Values, attitudes, and interpersonal behaviour. In Beliefs, Attitudes and Values (HOWE HE, Ed), pp 195–259, Nebraska Symposium on Motivation, University of Nebraska Press, Lincoln

Tsiptsis, K. K., & Chorianopoulos, A. (2011). Data mining techniques in CRM: inside customer segmentation. John Wiley & Sons.

Tuenter, M. Maart 2017. Picnic wil als melkboer heel Nederland door. NRC dagblad

Turk, D., France, R., & Rumpe, B. (2014). Limitations of agile software processes. arXiv preprint arXiv:1409.6600. Tynan, A. C., & Drayton, J. (1987). Market segmentation. Journal of marketing management, 2(3), 301-3

## ۷

Van Boeijen, A., Daalhuizen, J., van der Schoor, R., & Zijlstra, J. (2014). Delft design guide: Design strategies and methods.

Visser, F. S., Stappers, P. J., Van der Lugt, R., & Sanders, E. B. (2005). Context mapping: experiences from practice. CoDesign, 1(2), 119-149.

## W

Wahba, M. A., & Bridwell, L. G. (1976). Maslow reconsidered: A review of research on the need hierarchy theory. Organizational behavior and human performance, 15(2), 212-240.

Wang, Y., & Tseng, M. M. (2011). Integrating comprehensive customer requirements into product design. CIRP annals, 60(1), 175-178.

Welnic, P. (2017) The right way to respond to feature requests. Retrieved 07/05/2019 from: https://www.intercom. com/blog/the-right-way-to-respond-to-feature-requests/

## Ζ

Zajonc, R. B. 1968. Attitudinal effect of mere exposure. Journal of Personality and Social Psychology

T.

# **APPENDICES**

Due to confidentiality concerns, and out of considerations for the environment, the appendices of this thesis aren't printed. Instead, they are made available in a Dropbox folder accesible via the QR code below.



And the end of all our exploring Will be to arrive where we started And know the place for the first time"

- T.S. Eliot, Four Quartets

"We shall not cease from exploration