OTTO-VON-GUERICKE-UNIVERSITY MAGDEBURG

FACULTY FOR MECHANICAL ENGINEERING



**Foodpunk GmbH**

Systems Engineering for Manufacturing

Advanced Applications of Industry 4.0-Technologies

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Magdeburg, [January 26, 2023]

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We hereby declare that we have done this Case Study work independently and without unauthorized help, that we have not used other sources and aids than those indicated, and that we have indicated as such all content taken literally or alternated from the sources used.

The work has not yet been submitted in the same or similar form to any other examination authority and has not been published.

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# Abstract

A global wellness start-up company called Foodpunk GmbH offers individuals, tailored nutrition programs for leading healthier lives, together with the group of scientists and dieticians. It hopes to dominate the food market with an AI-based app that analyzes user data, offers dietary recommendations, recipes, challenges, and weekly shopping lists to make losing weight simpler. The business model is thoroughly examined in the paper, along with the company's effective implementation of it.

# Introduction

Foodpunk GmbH offers its consumers the ability to truly nourish themselves with their daily food consumption, i.e., to take delight in nutritious foods with low carbs and no added sugar. The Munich-based start-up, launched in 2015 by Marina Lommel, uses its app to provide consumers individualized nutrition plans and a variety of products that take into account their goals, illnesses, allergies, and intolerances. The company develops computerized personalized nutrition and diet plans, making nutritional advice simple and appropriate for everyday use. They offer recipes and nutritional plans in addition to selling premium, healthier products such as breakfast recipes, baking items, BBQ box, nutritional supplements and E-Books for each customer's lifestyle.

In this study, the business model of Foodpunk GmbH is analysed in detail using various analysis tools such as

1. Business model canvas, which uses nine different domains that look into business’s cost and revenue aspects.
2. Porter’s five forces which takes a holistic approach to analyse the industry, the business is working on.
3. SWOT analysis that gives an insight at the internal and external factors of the business that can affect its performance in the market.

# Business Model Canvas

**Key Activities**

* **Creating customised cooking recipes and meal plans based on customer requirements.**
* **Research and technological development of AI app by development engineers in addition to the regular nutrition and diet plan provided by the health experts and nutritionists which involves researching the plethora of nutrition and diet plans which suits various customer groups based on their experience.**
* **Effective Digital platform using AI and Industry 4.0 technologies to give real-time nutrition and diet plan information and gathering user health data. And track real time progress of customers.**
* **Real-time Maintenance of AI app and server and fixation of bugs by the service team to facilitate smooth user interface for the customer.**
* **Strong Marketing and Campaigning Team ensuring wide spread reach across various digital platforms and community groups motivating potential customers.**

**Key Partners**

Foodpunk GmbH have partnered with several IT solution based technical giants to deliver their key activities. These partnerships include, Cloudfare and AWS for data storage, VueJS for java scripting to create web interface, and Zendesk, Magneto and Recharge to support their user interface. In addition to this, they have partnered with E-Commerce websites such as Amazon to home deliver some of their products.

**Key resources**

The major resources required to setup Food punk services include powerful AI tool supported by well-crafted website and mobile applications. To keep this system running the company has well equipped human resource which include nutritionists, bio-medical scientists, pharmacists, social media mangers, operations manager, software developers, customer support, recipe developers and chefs.

**Value proposition**

The companies major value proposition is to provide customers a tailor-made nutrition plan, which ensures that personal goals is effectively done, whether its losing weight or getting muscle or getting fitter, thereby increasing your ability to concentrate and your performance will increase, thereby ensuring improvement in health and complexion of customers,  In addition, you get to know your body and its needs in a completely new way and become a professional when it comes to healthy and conscious nutrition It also offers flexible diet plans which is particularly suitable for everyday use. In addition to that they offer customers options for customization in the app to manage their weekly diet plan where they can select and swap the varieties of recipes and create the shopping list with ease. They have an editorial staff that create and analyse various seasonal dishes on a monthly basis, which brings variety to your diet plan where customers can enjoy their food with good fat content ensuring good health condition of customers with daily tracking of their health. Additionally, they sell low-carb snacks, nutritional supplements, spices, baking mixes, magazines and books.

**Customer Relationship**

Customers can access the Food Punk application by getting a subscription to an Individual Nutrition program. Customer acquisition is also fairly easier in case of Food punk owing to their unique business model and the value propositions. Customers can submit inquiries concerning any nutrition plan by filling out the form, describing their worries in a closed community and they will be addressed as soon as possible for various concerns. This might regard any allergic substances in a plan, change of ingredients in a recipe and so on.

**Channels**

Foodpunk has been very active on social media platforms in building a community that shares nutrition plans and motivate each other. It is very well established on Facebook having over 75,000 followers and having the application being over 10000 times downloaded in various devices. It has a YouTube channel wherein nutritionists and experts from other background give insights about the nutrition plan and weight loss plans. This in turn helps in building a widespread community that food punk caters to. It has an application in Android and IOS devices wherein the customer can get their own nutrition plan according to their needs. They also have online specific stores and other e-commerce platforms.

**Customer Segment**

All the individuals who are interested in taking up nutrition plan are potential customers of Food punk. However, they can categorized into following groups based on the age, health conditions and desired nutrition requirement.

* Individual Customer or Member with family with no age limit (from youngsters to elderly people)
* Customer groups for losing weight fast, without exercise, without hunger,loosing belly fat, for intermittent fasting.
* Customer groups for Intestinal cleansing diet plan, weight, keto diet plan , low carb diet plan.
* Customer groups for people with Lipoedema disease.
* Customer groups for who want to detox their body, total body reset, intestinal cleansing diet plans.
* Customer groups for people with specific allergies to certain kinds of food.
* **Customer groups for people with health problems like autoimmune diseases and other ailments.**

**Cost Structure**

The company's initial setup expenditures include paying doctors, nutritional experts, and getting an AI-based tool to analyse customer data. Further R&D costs, Data handling costs, Sales and Marketing costs, IT infrastructure costs, technical support charges and product development charge itself forms the cost structure for our company.

**Revenue Streams**

They have raised funding over seed round on 20th October 2018 and “dotcom Ventures Holding” invested in the company for an undisclosed amount. Although now they have introduced crowdfunding where investors can invest a minimum of 10,000 euros for a minimum tenure of 1 year along with monthly interest payment which can be cancelled at the end of the quarter. And in return the company provides an attractive 5% interest pa and is also giving in-app benefits. The company has already reached 20.000 euros out of its current goal of 300k euros. Their main revenue source is through subscription charges and product sales.

They have strategically partnered up with several physicians, personal trainers and physiotherapists who further add value to this revenue stream by referring their clients to this program.

**What makes this business model special?**

After analysing the business canvas model, the business has a strong customer acquisition and retention rate. They have been able to build an excellent online community based on trust.

Having an AI powered Digital Platforms is like essentially having and AI Nutritionist in your pocket which reduced the lead time to get the required result at the least possible time. Highly experienced professionals who give valuable feedback to the customers and also are able to constantly address customers problem through their online platform makes this business model special.

**How is it different from traditional competitors?**

Traditional business who can be considered as competitors include local gyms, dieticians and nutritionists will have to work on building communities and trust through face-to-face communication which adds to the time constraints and adds to their inability to give personalised solutions adds to their costs resulting in high pricing. Any chances of human errors can be completely erased and an efficient result can be obtained at a minimum lead time. Better customer support and guidance, better community reach, data tracking and monitoring of health makes this different to traditional business models.

# Porter’s five force

Fig. Porters Five Forces analysis for Foodpunk GmbH

**Bargaining power of Buyers** - High

Diet and Healthcare Application Industry is a highly price sensitive market. Customers are easily distracted by attractive prices and offers. Additionally, if customers feel reluctant to this new change, they always have the option to move to traditional approach such as consulting dieticians and nutritionists. This gives the buyers good bargaining power and can be concluded as high bargaining power of buyers.

**Threat of new entry – High - Medium**

The entry obstacle for any new entrant into the food industry would be creation of website and mobile application, use of AI tool, and mainly gathering and building of large community. Any traditional player, or a business in another similar category with an already existing community that is larger than Foodpunk GmbH will be a threat for the business. By analysing all these aspects, the threat from new entrants to the food industry for Food punk can be considered high-medium.

**Threat of Substitute Products: Medium**

The main challenge is the adoption of change in the daily behaviour and sticking to this plan every day. If substitute products are creatively able to tackle this adoption problem, then those products will definitely prove problematic to Foodpunk GmbH. Additionally, competitors can build better community by investing heavily in marketing which will be challenging to deal with. Because of these factors, it can be concurred that the threat of substitute products is medium

**Rivalry among existing Competitors: Medium - Low**

As of now Foodpunk GmbH has relatively less competition in the market, as the idea of AI tools to provide daily meal plans is relatively new. If an competitors can come up with an AI tool that is far more powerful in terms of dealing with the issue and can provide better results, then it will definitely be a challenge for Foodpunk GmbH. Considering these factors, it can be cumulatively said that, rivalry among existing competitors is medium - low.

**Bargaining power of suppliers Low**

The company mainly needs resources from IT solutions to keep their AI tools and other IT infrastructure running and other small suppliers who can provide materials for their bk

Baking products, nutrition supplements etc, both of these industries are saturated and can be easily replaced. This gives very low bargaining power of suppliers.

1. **Role of digitalization for the success of business model**

Diagram

Description automatically generated

The whole model of Foodpunk GmbH can be broken down into three phases in terms of digitalization.

**Cloud**: The customer data is collected and stored in a cloud database which can be accessed at any time and is secured from cyber-attack risks. They have partnered with technology giants such as Cloudflare and Amazon aws for their servers, storage and networking.

**Artificial Intelligence**: The Artificial intelligence tool integrates the data from the cloud and constant data from the nutritional experts and then creates a database structure to provide customer specific tailor made diet plans within a short period of time. They have partnered with Vue.js for developing efficient web user interface.=

**Digital User Interface:** The customer gains access to customizable diet plans in the app by selecting options from a database created by the AI tool. They have partnered with Zendesk, Magneto to constantly develop the platform and provide user-friendly interface to the customers.

 The customers get details of their health reports and have access to an online digital community where like-minded people meet and  share their inputs towards healthier eating, which all can be accessed by a mobile phone having their application installed on it.

1. **Typical Competitors**

**Similar Business Models**

**Weight Watchers** –

WW (formerly Weight Watchers), promote healthy lifestyle choices among millions of individuals a global wellness company. Members use their comprehensive digital app, skilled coaches, and entertaining activities and thereby providing a patient specific nutrition plan.

**Dissimilar Business Models**

**Noom**- Noom initially focused on weight control, which was created utilizing behavioural science concepts with a blend of psychological, technological, and human coaching, to reach their individual health and wellness goals.

**Trifecta Nutrition** - Trifecta Nutrition delivers weekly boxes of healthy, pre-cooked meals to your door. The company offers meals for breakfast, lunch, and dinner, all developed by a team of dieticians so, in theory, you could eat Trifecta for every meal if you wanted.

**Eating Well** - Eating Well has been a leading publisher of journalism about food, nutrition, and sustainability. The company's goal is to spread mouth-watering recipes from all over the world while honouring the farmers, artisans, and chefs who work so hard to produce the food we eat.

SWOT Analysis

# *Strength is* the major characteristics of the business that give it an upper hand over others, In case of FoodPunk, it is a business leader to introduce AI based service business model (diet and nutrition plans) along with customized products , giving it an upper hand over its competitors in food and healthcare industry.

* One of the First mover to integrate AI in the food meal plan industry.
* Affordable yearly plans with flexible meal options.
* Unbiased Large online community where like-minded people share regular feedbacks and motivate people in a positive manner.
* Working capital is low.
* Wide spread reach on all digital platforms.
* The application interface is highly user friendly and provides support and solutions to the customers via a questionnaire form.
* Having access to data base of customers it provides an opportunity for the research team to continuously update meal plans, nutrient rich foods and help the customers achieve their goal effectively and scale the business model from the insights gained from the data analysis.

2.**Weakness** means the characteristics that place the business at a disadvantage relative to others due to the following reasons

* Data privacy and security, there is a chance of losing confidential information related to customers and a possibility of a data breach from the company personals.
* Food punk service-based business model is highly reliable on AI tools for customer interactions rather than on the more traditional face-to-face interactions with customers, raises the risk of a communication breakdown.
* With more customers adds more data, which over time raises the cost of maintenance and additional resources required to maintain them.
* Difficult to target customer groups belonging to middle-aged and elderly people about the usage of the software.

*3,* ***Opportunities***are the elements in the environment that the business could exploit to its advantage, be it to expand the business, overtake the competitors or to adapt the technologies.

* With the technological advancements in the field of AI and industry 4.0 bringing new user interfaces for customers over the time.
* They can focus on broader customer segments and expand their business into phycological behavioral change such as chronic and non chronic conditions.
* Investing in new technology and R&D provides opportunities to sync their app to wearable products opening up a new market segment.
* Scaling up their Customized product delivery options reaching various widespread community customer groups.

*4.****Threats*** are the elements in the environment that could cause trouble for the business or project and may disrupt the successful operation of the organisation.

* The business model relies heavily on Industry 4.0 tools, and if similar competitors like Weight watchers are able to develop a more efficient tool, it will lead to strong competition in the market.
* The idea of getting meal plan from an AI is new in the market and people will be reluctant to this change.
* Following proper meal plans on a daily basis needs thorough determination, if that is lost it will lead to loss of customers.
* The new cultural trend that is currently against obesity crisis, if dies down will lead to higher customer acquisition costs and low customer retention rate.
* Foodpunk gives meal plan based on AI tool which works on the data fed, if incorrect data was fed and the AI tool it provides an incorrect meal plan, which will lead to unnecessary complications and negative reviews will affect heavily

# Conclusion

With the current technological advancements using AI tools and other Industry 4.0 tools, it is proven to be a boon to Foodpunk GmbH, as it provides effective solutions with shorter lead times. Foodpunk GmbH has a strong position in the industry considering it is a part of a market which is not so easy to enter and given the company’s head start, it has a strong lead compared to many of its competitors., Foodpunk GmbH aims at increasing its customer base over the following years by building trust and customer relationship through its various channels.

To conclude, Foodpunk GmbH functions on a strong business model and continues to move in a more profitable and flourishing direction.

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