



THE GLOBAL ALLIANCE IN MANAGEMENT EDUCATION

A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the NOVA – School of Business and Economics.

BRF S.A. – INNOVATION IN DIGITAL FOOD SERVICE

Development of an online solution to integrate small foodservice clients in an online

basis relationship model

written by

JESSICA HOLZBACH (2109)

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Constança Casquinho

Milton Sousa.

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Abstract

The multinational food processing company BRF S.A., which is routed in Brazil, faces the challenge to keep up with the recent innovations within the foodservice market. This work project is set up as a case study, which investigates how to digitize the relationship between BRF and its business clients, with the aim to uncover cost efficiencies and increase customer satisfaction. The focus of this project is to innovate the state of the art in sales and customer service by the usage of the Design Thinking methodology.

Keywords: BRF S.A., Foodservice, Digital Innovation, CRM, Big Data, Design Thinking, Case Study, e-CRM

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Abbreviations

Арр	Application
В	Billions
BRF	BRF S.A.
BRL	Brazilian Real
B2B	Business-to-Business
B2C	Business-to-Consumer
CEMS	CEMS Management Alliance of Business Schools
CRM	Customer Relationship Management
e-CRM	electronic – Customer Relationship Management
FAQ	Frequently asked questions
ICT	Information and communication technology
IT	Information technology
MIS	Management information systems
Nova SBE	Nova School of Business and Economics
РМО	Project Management Office
PRINCE	Project in controlled environments
RQ	Research question
U.S.	The United States of America
UX	User experience

1. Brief context

"If you think of [opportunity] in terms of the Gold Rush, then you'd be pretty depressed right now because the last nugget of gold would be gone. But the good thing is, with innovation, there isn't a last nugget. Every new thing creates two new questions and two new opportunities."

Jeff Bezos, founder of Amazon

A. Client

BRF S.A., formerly known as BRF- Brasil Foods S.A., (BRF) is one of the major players within the field of meat production and sales. The Brazilian company is the result of the mega-merger between Sadia and Perdigao in 2009. Its products include poultry, pork, beef and other processed food types, which are sold in over 120 countries in the world. While it is headquartered in São Paulo, it employs more than 105,733 people as of December 2015, whereof 97,000 are direct employees (BRF SA 2015).

The company currently operates 35 plants and 20 logistic centers within 10 states of Brazil, while additional 13 production centers are located internationally with a focus on the Arabic region. With the help of 37,000 suppliers, of which 20,000 are included into the value chain of BRF, a total of 243,000 clients are served under the flagship brands Sadia and Perdigão, but also Qualy, Chester, Dánica, Perdix, Paty and Vieníssima (BRF SA 2015).

The merger of the former competitors was officially completed in 2012 and the financial performance of the joint company looks promising: the enterprise value as of May, 8th, 2016 was 13.37B and generated revenues of 9.04B with a profit margin of 9.66% for the financial year 2015 (Yahoo! Finance 2016).

The following academic work, as well as the carried out business project focus on the national operations of the company (Brazil), within the field of foodservice and innovation. Within

this business unit, the business project was conducted as a pilot within B2B "Pizzeria" clients of BRF.

B. Market overview

According to Yahoo! Finance, BRF S.A. is categorized into the consumer goods industry, operating in the meat products sector. The market consists of few multinational players, among which BRF is considered the 10th biggest in terms of market capitalization. Its biggest competitors in international markets are Smithfield Foods Inc., Tyson Foods Inc., DANONE Ltda. and Itambe Ltda. Nationally, within the foodservice segment Nestlé-, Vigor- and Seara Foodservice are major competitors and serve as a reference for benchmarks.

The foodservice "pizzeria" market is characterized by few multinational clients, such as Pizza Hut and Domino's and a majority of independent small businesses. The total market volume sums up to 648 million BRL spread over 36,000 pizza clients in whole Brazil. Out of these, 6,699 are registered and repetitive customers of BRF, while 91.8% of them are located in the São Paulo area. This gives BRF a market share of around 18.6% in terms of client base.

C. Client history and current situation

Starting as a small family business back in 1934, the company rapidly expanded its geographic reach, its product offering and client base. The Brandalise and Ponzoni families, which founded the small grocery store, managed it up until 1994, when they had to sell their 80.4% stake due to liquidity problems. The new owners, eight different pension funds, replaced the existing management team and reorganized the company. They continued the internationalization strategy and started selling processed food products under a new international brand – Perdix. With the acquisition of Batavia and Parmalat Brasil in 2006, a period of mergers and acquisitions started: In 2007, companies from diverse backgrounds and

product offerings, such as Sino dos Alpes Alimentos, Valore Participacoes e Empreendimentos, Paraiso Agroindustrial Unilever N.V.'s margarine business were included into the corporate umbrella, while in 2008, international acquisitions, such as Dutch company Plusfood Groep, were the main targets (MarketLine 2015). Another big milestone of the history of the former "Perdigao Agroindustrial" was the take-over battle with its biggest competitor at the time being, Sadia S.A. (Wheatley 2009). Initially, Sadia was the bigger and stronger player within the food market and attempted to takeover Perdigao, but after a bet on foreign exchange rates went wrong, it experienced liquidity problems. Seizing this opportunity, Perdigao made an offer to take-over Sadia, which was commonly accepted by the board in June 2009. The only hurdle left, was the Brazilian anti-trust agency Cade, as described in the Wall Street Journal article, "BRF Brasil Foods Deal Passes With Restrictions" (The Wall Street Journal 2011). The new joint company would "control more than half of the market for most processed foods, and upwards of 80% in the case of some food items" (The Wall Street Journal 2011) and therefore had to face some legal restrictions, like selling of current assets and suspending certain brands for up to five years. However, the expected synergies of 500B BRL should outweigh these costs.

Today, almost five years after the merger and the formation of BRF S.A., the company is known to be one of the leading firms with Brazilian heritage, a major employer and praised for its innovativeness and good strategic decision-making.

This is testified by the unexpected high revenues, of 1,415 billion BRL (\$357 million), surpassing forecasts for 866 million BRL by Reuters (Reuters 2016). Net income for BRF rose by 43% compared to the same period one year ago and the company continues with its expansion plans to Mexico and Asia, especially Malaysia and China. It developed a detailed strategy in order to become "the most inspiring and relevant food company in the world"

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build on "a business model geared toward(s) final consumers, based on strong brand and on an agile, flexible, efficient, and global value (supply) chain" (BRF SA 2015).

D. The business project challenge

The consumer goods industry, especially the field of foodservice, is one of the few, which has not been digitally disrupted yet. The creative destruction which happened to the taxi industry due to incumbents like Uber is yet to come for food: AmazonFresh, UberEats and others gain rapid growth in terms of market share over traditional supermarkets and slowly transform the B2C market in terms of preferences and shopping behavior (Rory et al. 2014; Stern 2016). Nonetheless, the B2B market, concerning food delivery for foodservice companies, such as restaurants, bakeries, or hotels, is still very traditional: A huge sales force visits the customer on a weekly base and tries to sell current products accompanied by cross-selling and promotions.

The business project challenge is to develop a digital, online solution that integrates small foodservice clients into an "online basis relationship model" (BRF S.A. 2016). This is part of the main objective to develop an actionable e-commerce strategy for BRF at its foodservice channel, delivering a final presentation with clear go to market action plan. The project is part of several initiatives launched within the field of e-commerce and innovation.

2. Reflection on the work done

A. Problem definition

In extension to the briefly described business challenge, several "symptoms" were identified, with latest industry trends and tendencies, which lead to the increase in competitiveness within the industry. Porter's five forces helped to uncover the following problems, which together lay ground for the previously defined business challenge and sum up to be the major challenge for the client:

1. Increasing competitive pressure from existing competitors

Although BRF is the market leader and well recognized for its innovativeness, it has several national as well as international competitors that hope to gain ground. Especially within the field of foodservice, the market showed a growth rate from 2013 to 2014 of over 8.8%, which offers opportunities that need to be unleashed (BRF SA 2015). Major competitor Nestlé Foodservice has already launched a website for professional clients, including inspirational content, contact possibilities as well as various Apps for download and the possibility to buy online (Nestlé 2016).

2. Increasing pressure to innovate due to new entrants

The second trend that could cause problems for BRF, if they would not undertake the business project, arises from the new wave of digitization: major consultancy insight publications, expect the food industry to be the next market going through "creative destruction" (Lutz et al. 2015; Schumpeter 2013). The amount of start-ups founded within food tech rose by 152% in 2015 (CB Insights 2016), bringing new innovative solutions to existing problems (Tech.co 2016).

3. Increasing costs of raw materials and wages decrease profit margins

Furthermore, BRF in general "largely depends on raw material(s), which are subject to price fluctuations" (MarketLine 2015). "Therefore, rise in raw material prices could negatively impact the company's margins and profitability" (MarketLine 2015). Other major cost drivers of the business unit of foodservice are salaries and wages for its sales force. What is more,

actual selling expenses rose by 14% from 2014 to 2015, also affected by higher salaries due to a new, collective wage agreement and the restructuring of the existing sales team (BRF SA 2015, 73). Since estimated forecasts do not see a termination of the rising costs, it is important to find ways to increase efficiency and effectiveness, as well as define new ways to reduce costs.

4. Changing preferences and expectations of customers

Customer behavior has been observed to change a lot due to the ongoing digitization in many aspects of daily life (Rezabakhsh et al. 2006). The following three trends are the underlying basis for changed preferences as well as expectations of BRF's customers. First, an increasing number of consumers within Brazil have access to internet. The amount of mobile phone internet users is expected to grow from 93.5 million in 2015 to 120.8 million in 2017, mirroring the trend of multi device usage and device switching, which are already well established in other developed countries and Europe (eMarketer 2016). Second, the cost of new, digital communication channels is significant lower than the cost associated with traditional communication channels. A study of McKinsey found cost reduction for chat at 56% of baseline, online forums and FAQ at 12% and community solution at only 9% of baseline costs of traditional communication channels (Banfi, Gbahoué, and Schneider 2015). Third, a study in the U.S. found that 55% of the customers chose online channels as their preferred method of purchasing goods, over 41% that prefer to buy in a physical store and 4% that like to order with a catalog. Together with the relative high price sensitivity of customers in foodservice, it can be concluded, that the future will be digital and online.

5. Threat of innovative substitutes from big technology companies

Having discussed the existing customers, new entrants, suppliers and customers, it is also necessary to have a look at possible substitutes. Especially huge technology companies and start-ups backed by venture capital firms could come up with complete substitutes to the existing way of selling products. The internet of things, for example, already brought out a new, automated and self-ordering fridge for home usage, that goes online and orders missing pieces according to previously defined preferences (Bohn 2016). This idea could be transferred to the B2B pizzeria client, in the sense of a self-intelligent warehouse.

B. Methodology

I. Methodology and business project setup

The project progress followed a predefined methodology, commonly used in IT and innovation projects. Besides an onboarding and a debriefing phase, the project was divided into five thematic phases, inspired by the design thinking method, first mentioned by Peter Rowe in his book Design Thinking (Rowe 1991).

The first phase, consisting of three weeks, focused on understanding the business by conducting a benchmark analysis within the foodservice industry and researching existing state of the art digital solutions for e-commerce and customer relationship management within foodservice.

Within phase two, which lasted one week, a field research enabled a better and profound understanding of the foodservice client.

Phase three build up on existing research in order to select digital solutions according to predefined selection criteria (time, money and material), while the following week, within phase four, a first prototype was developed in line with current user experience (UX) trends.

The last phase served as a quality improvement cycle, reiterating and improving the existing solution.

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Final strategic recommendations were developed and presented in the debriefing phase to wrap up and hand over the project.

II. Research questions and hypothesis

The business challenge and previously defined problems serve ground for the following qualitative research questions in the explorative case setting of BRF. Throughout the following analysis, these questions will be addressed accordingly and their solutions are addressed within section "Recommendations to the company".

RQ1: What is the process to set up an integrated, digital solution within the field of *CRM* for small foodservice clients at *BRF*?

RQ2: How can such an online-based relationship model look like?

III. Analysis and findings

As outlined before, the project consists of five phases, which will be elaborated in closer detail. Phase one to three will address research question one, while phase four is related to the second research question. Only within phase five, final managerial recommendations were derived.

1. Phase 1 – Understanding the business and benchmark analysis (Research)

After gaining a better understanding of the company, mainly by analyzing the annual report and clarifying information within the first kick-off meeting, a benchmark analysis in three different categories, nationally as well as internationally, was conducted. Within the field of foodservice, five international and five national competitors were analyzed according to their key performance indicators in the respective field. First insights showed, that all of the ten companies have existing website solutions with recipe tips for commercial clients, while five already offer Apps for their clients. Up until the day the study was conducted, only one company offers direct sales through online channels. The digital content, user experience and design vary heavily among international as well as national players. Moreover, the three major customers (Pizza Hut, Dominos, Braz) within the pizza industry were analyzed and showed high degree of digitization. Especially concerning the ordering process, best practice examples could be derived: it is important to reduce the ordering process to a minimum, while only asking for relevant information. The user experience (UX) should be lean and intuitive. The third category for best practice examples focused on the digital journey of foodservice solutions and e-commerce in general. A map of the digital foodservice consumer journey, highlighting solutions that make foodservice day-to-day business easier, faster as well as more efficient, engaging and cheaper was identified and gave first insights about future features that could be included into the proposed platform.

2. Phase 2 – Understanding the foodservice client (Design Thinking)

After the external market research of the status quo within the industry was conducted, an internal analysis followed. To better understand the end-user and target of the new relationship platform, the design thinking process was applied. It consists of five consecutive phases, (1) emphasize, (2) define, (3) ideate, (4) prototype, and (5) test. As a first step, it was important to fully understand the current experience of a sample of BRF pizzeria clients through observation and interviews on a day-to-day sales route. As a result of this field trip, it was possible to develop a persona – a technique commonly used in web projects (Jan-Philip 2016) – accumulating the users main characteristics, his/her needs and the potential to create value for them. Additionally, the velocity analysis was conducted in order to quantify the use cases of a possible application. Ultimately, a business process analysis as well as a customer

touch point analysis were applied to map the current and design the future customer journey, which is in line with the defining phase of design thinking.

First findings showed, that the persona, the common pizzeria owner, is an innovative businessman who owns a pizzeria restaurant of medium size. He takes care about everything himself and innovates by finding new ways to lower barriers for customer to buy pizza at his restaurant. He is technological informed and performs most of his tasks on his smart phone. In regards to his explicit and implicit needs, a typical user requires low prices, easy and intuitive communication, availability and accessibility in case of any problems and a fully integrated solution into his own business (see appendix 1 – Persona analysis and findings).

The velocity analysis showed, that a possible interaction with the new platform or application would happen several times per week with several use cases (e.g. checking stock, placing order, checking order, invoicing) accessed from different device types. This justifies the existence of a web-based platform and even an Application (App) to download to mobile devices. In order to better understand the current situation, the three main business processes were mapped in a flow chart: ordering, sales and customer service (see appendix 2 - Current business processes). After taking out doubled steps, aligning inefficiencies and including value adding steps a lean future process was designed and served as a orientation and base for future technical devices that should work along this activity stream (see appendix 3 – Future business processes). The same case held true for the touch point analysis: The current process was neither stringent nor seamless and could be bundled in one future application, instead of touching five channels along seven process steps (see appendix 4 - Customer touch point analysis). By that, the customer would have a seamless customer experience along its journey and could indicate preferred communication channels for the future. Therefore, a necessity for BRF to expand its existing online communication channels to an integrated omni-channel solution exists.

3. Phase 3 – Digital solutions picking (IT project management)

After solely focusing on the business activities, those findings needed to be transformed into, and mapped onto information technology and digital features. A good electronic solution should support the workflow of business processes and establish short cuts and value adding features that allow cost and time savings.

Therefore, phase three of the design thinking process received best results through the joint brainstorming within a workshop. Aiming in "explore[ing] a wide variety of possible solutions through generating a large quantity of diverse possible solutions, allowing [...] to step beyond the obvious and explore a range of ideas" (ReDesigning Theater 2016), a wide range of pain points and possible solutions to ease up the current relationship between the users and BRF were identified. Afterwards, these were mapped on a four-by-four matrix according to their value proposition and implementation feasibility (see appendix 5 – Results of design thinking workshop). Out of all ideas, 33 were recorded and kept, while seven could be identified as "quick wins" (high value and easy to implement). In a second step, all initiatives/ features were rated on a scale from "1- low" to "9-high" once according to the required investment in time, money and material (see appendix 6 – Ranking of features). The result of this classification served as the orientation to decide which features should be implemented first, and which could wait.

4. Phase 4 – UX and prototyping (IT project management)

A clear picture of the customer and his needs, best practice examples within the industry, current and future workflows and business processes as well as prioritized technical features

to implement were the ingredients and base for establishing first prototypes of a possible digital solution within phase four.

In order to design the new App and the respective platform, a research analysis of current UX trends for mobile and web was conducted. Major trends, such as long scroll, card layouts, hero images, upwardly responsive, simple navigation and call-to-action served as formal design guidelines when developing the first mock-ups. The major business process of ordering new products was prototyped with respective mock-ups and click-through-dummies. Only by this, first results could be shown. Included new features, like the possibility to live-track the delivery truck, quick-order the same products as last weeks and get help for trouble shooting with the one-click-dial button gave a first idea of the value creation for BRF and the target user.

5. *Phase 5 – Prototyping reiteration and strategy development & recommendation*

Reiteration is a common way in agile technology and innovation projects to achieve higher qualitative results and identify flaws directly through build in feedback loops. Using this last step of the design thinking process, the prototype was shown to a small group of target users without guidance. Through observations and interviews, improvement possibilities were identified, changed within the existing click-though-dummies and incorporated into the overall proposed solution. Only after this, an actionable e-commerce and CRM strategy for the relationship platform including specific go-to market recommendations was derived.

Throughout this analysis, the outlined findings helped to answer the initial research question. The process to set up an integrated, digital solution within the field of CRM for small foodservice clients at BRF was outlined in detail, including the underlying reasoning for undertaking each of the steps. The fact that a prototype could be developed in the end, gives

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credit for this method. This already leads to RQ2, which asked, how such an online-based relationship model could look like. The prototype (see appendix 8 – Prototype of online relationship platform) is an illustrative example of how a relationship platform could look, but the detailed description of each feature (see appendix 9 – Detailed description of features) is a descriptive result, that can be used for actual implementation.

C. Recommendations to the company

Even though BRF is already an innovative company, there is room for improvement. Within the following, some additional recommendations on how to proceed with the previously briefly outlined findings and intermediary result are given.

A clear project plan is the base for a successful go-to-market strategy and consists of the following phases, commonly used in IT project planning: conception, development, testing, rollout and supporting project streams such as change management, monitoring and reporting. *Figure 1: Suggested project implementation plan*



While a first version of the concept was developed within the business project, the company can kick-start the project by dedicating a team of developer and tester for a period of about two years. The development process is divided into smaller, agile and iterating packages, each

consisting of previously defined features. In total six implementation packages were bundled, which allow a logic advancement of the platform (see appendix 7– Implementation packages). For example, starting with the "online basics" package, which proposes the development of the frame, digitization of the product catalogue, set up of a loyalty program and the feature to market new products. These are the basic requirements to develop a first beta version, while the loyalty program should serve as the convincing reason why customers should start using the app in the first place. The estimated length is 4.5 month and based on the previously defined assumptions regarding requirement investment.

The recommendation is, to launch a first beta version of the platform after the first implementation package is done and launch it in Campinas, a city close to São Paulo, which characteristics are similar to the ones of São Paulo, but smaller. Simultaneously the active change management process should be started, while it needs to be prepared in advance. Customers need support in switching to the new device and channel and active communication campaigns need to be launched to disseminate all relevant information and prevent negativity or resistance towards the change. Within parallel phase, sales representatives can act as change agents and visit the client on a less frequent base, while giving active advise to the new procedures. A dedicated helpline within the call center is one of many change management tools that help to ensure the success of the project.

D. Concerns

As in any change project, there are certain risks attached to it. To mitigate these, a structured risk management approach is needed. The first out of six steps is to ask, which risks can be identified. Serving as an example, one out of ten identified risks is highlighted in the following, by giving specific recommendations on how to deal with:

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1. Risks associated with change in human resource structure

The previously described project brings huge changes in several areas of the company, but especially within the current human resource structure. The role and responsibilities of the current sales representatives within the foodservice unit will change over time: As of today, the "classic salesman" performs weekly onsite visits of a few dedicated clients. He is responsible for the supervision of the client relationship and has to have good interpersonal and communication skills. Within the following years, after first launching the new application and digitalizing the whole customer relationship, the sales representatives become sales managers. This means, they control and monitor a bigger client base via digital tools, function as change agents, quality gatekeepers and point of contact for problems. Therefore, their skillset needs to be enlarged towards affinity for digital devices and problem solving. Ultimately, former sales representatives should be turned into digital supervisors. In this goal scenario, sales, ordering, delivery and service processes are fully digitized and the role of the new "CRM-Managers" is to supervise, monitor and analyze a huge client bases in order to generate customer insights with the aim of increased customer satisfaction. Additional skills must include the capability of managing client portfolios and performing digital analysis and analytics. These changes are accompanied by several risks. The fact that less sales force is required in future could lead to layoffs, which could result in image and reputational losses, a difficulty to recruit new talent with required skills, difficulty to train existing employers and possible negative spill over effects accompanied by employee churn. In order to prevent this, it is required to analyze these consequences in concrete numbers and define steps to control these effects, for example through internal change management, change agents, active communication and/or the offer of alternative employment. Moreover, it is important to involve the affected group from the beginning to gain their trust and commitment.

E. Individual Contributions

The previously described business project and its results were achieved by a group of four CEMS students from different universities. Rather than having a strict role allotment from the beginning, all team members were jointly responsible for the generated output. Nevertheless, each participant was able to add value by contributing with own ideas, organizing and distributing work, individually performing tasks and reviewing the work. Therefore, the following table describes my personal and individual contributions over the 5 project phases, categorized by the type of contribution:

Individual Contribution	Initiated/ idea	Organized	Performed	Reviewed
Kick Off Phase	 Create a ppt. presentation, incl. brief presentation of the team (background, skills) a first project plan, and open questions 	 Set up of working structure: Google Drive Account Facebook Group Whatsapp Group Finance Account 	 Brainstorming for open questions Slides for presentation 	
Phase 1	-	-	-	 Status presentation
Phase 2	 Interview questionnaire PERSONA analysis 	•	 Client visit Observation of processes Client interviews Customer touch- point map Current client processes Slides for status presentation 	 Client visit documentation Future client processes
Phase 3	• Feature analysis	Design Thinking workshop	 Design Thinking workshop Workshop documentation Workshop analysis Slides for status presentation 	• Status presentation
Phase 4	Creation of mock ups and click-through dummies with Balsamiq	•	 Research best practice and benchmarks in UX Slides for status presentation 	Mockups
Phase 5	•	Meeting with academic supervisor	 Recommendations Implementation plan Slides for final presentation Customer journey Risk management approach 	• Final presentation
Wrap Up/ Report	•	Communication with BRF and academic supervisor	• Slides for final report	• Final report and presentation

Table 1: Individual contribution over the five project phases per type

3. Academic discussion

A. Linkage with Master in Management

The business project is linked to several disciplines of the Master of Science in Management program at Nova SBE. Especially Strategy 1 and 2, Advanced Marketing, Entrepreneurship and Management Seminar were helpful to prepare for the challenge. By far the most overlap was with the field of Customer Relationship Management as well as Big Data. Therefore, recent and relevant theories will be elaborated in further detail within the following academic discussion.

The main purpose of this section is to review the current status of CRM research, to highlight the major theoretical concepts and perspectives on CRM, to explain the emerging field of e-CRM and digitization, to recap the trends and topics of data mining and outline the relation between those two fields of research. In addition to this a future research outlook will be given.

B. Relevant theories and empirical studies

During the past decades, the customer relationship management approach (CRM) gained increased attention among practitioners and academics (Sin, Tse, and Yim 2005; Romano and Fjermestad 2001b; Wilson, Daniel, and McDonald 2002). It originally evolved as a subdisciple of Management Information System (MIS) research (Romano and Fjermestad 2001a) and is closely related to "reference disciplines, such as marketing, computer science, library science and psychology" (Romano and Fjermestad 2001a).

One major problem of published CRM research is, that there is no widely accepted definition of the approach. Different perspectives on the subject lead to different opinions, for example, whether it is about integrated business processes (Reinartz, Krafft, and Hoyer 2004; Payne and Frow 2005), customer centric strategies (Sin, Tse, and Yim 2005; J Chen and Karen

Popovich 2003), or knowledge management (J Chen and Karen Popovich 2003; Zablah, Bellenger, and Johnston 2004). The most popular perspective, also applied by Wikipedia ("Customer Relationship Management" 2016), sees "CRM as a matter of technology enabled customer information management system" (Lantos and Landrigan 2005; Wahlberg et al. 2009). According to the latter, CRM can be divided into Strategic CRM, Analytical CRM, Operational CRM, and Collaborative CRM.

The second major problem of CRM research is the rapid development of electronic-CRM or electronic-CRM (e-CRM) and its intuitive acceptance by public and private sectors, which left little time for the discipline to develop and mature in the academic domain. The term e-CRM refers to the general trend of digitalization of the classic CRM approach and would historically belong to the category of collaborative CRM. Nowadays, digitalization cannot be researched individually as previously suggested by Wahlberg in his 2009 published article, but should be approached within the categories of digital strategy (strategic e-CRM), data analytics (analytical e-CRM), operations (operational e-CRM) and in collaborative interaction (collaborative e-CRM).

Recent developments and increasing importance and popularity serve as a motive for further study within the outlined categories (Romano and Fjermestad 2001b). Therefore, the major theoretical concepts within each field will be elaborated.

The most popular field of research is Strategic CRM. Its theories imply a customer centric approach amplified within the company strategy, vision and mission statement. It requires a seamless integration of all customer facing activities and an integrated view across different business units onto the customer. Another concern of strategic CRM is the implementation of those initiatives, in terms of requirements, environment, support and process (J Chen and Karen Popovich 2003; Wahlberg et al. 2009).

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While strategic CRM only included classical communication channels, such as call centers, sales forces, fax and telephone, strategic e-CRM includes internet, mobile and many more. In contrast to these strategic approaches, only few articles have been released within the field of operational CRM. It mainly deals with "ICT based support" for business activities facing the customer, specifically sales, service and customer support. Therefore, an important aim is to monitor and improve the performance of customer service and sales force, keeping in mind that those are the human point of contacts between the company and the customer (Liu and Comer 2007; Mills 1999).

The third branch of CRM, which shows a lack of publications compared to strategic and analytical CRM, is the so-called Collaborative CRM. Topics within this field include the integration and exploitation of new communication channels, enabled through recent developments in ICT. Additional sub topics, such as self-service and e-learning are part of the collective (Neville, Heavin, and Walsh 2005).

The fourth branch, which is almost as popular as strategic CRM, is analytical CRM. It is dominated by the concept of Big Data and data mining, thus the collection and analysis of large quantities of data to retrieve significant patterns and/or relationships (Wahlberg et al. 2009; Gandomi and Haider 2015). While analytics and data mining are no recent discovery, but can be referred to the 1990s (Diebold 2012), the term "Big Data" only became popular in 2011. The current hype might be started by the promotional activities of "IBM and other leading technology companies who invested in building the niche analytics market" (Gandomi and Haider 2015) and the increasing digitalization of business processes within companies (Bharadwaj et al. 2013). While the dissemination of customer insights within the company belongs to this sub category, the majority of research deals with predictive modeling. On the one hand, these models should help to predict purchasing behavior, customer loyalty and potential customer churn in order to tailor initiatives that either support or prevent such

events. On the other hand, predictive models are employed to perform accurate customer segmentation. Within this process, customers are clustered into different sub groups, unified by common characteristics, that help to "personalize and add value to offerings" for customers, but also the company (Wahlberg et al. 2009). Both ways of application portend quantifiable gains and competitive advantages for the organization, which has access to and makes use of customer-centric information (Manyika et al. 2016).

The previously mentioned trend of digitizing most of the business processes has the benefit to automatically generate and store data along any customer journey across different communication channels. Companies such as Amazon, Facebook and Google are true Big Data champions, which know how to tailor their offerings and monetize their customer insights. They even go a step further and offer their customer data to third parties, allowing them to build a more holistic customer approach (Padmanabhan, Zheng, and Kimbrough 2006).

This section presented an introduction to the interrelation between the emerging MIS subfields of analytical CRM and Big Data. While both disciplines are settled in the field of management information systems, it seems that Big Data is not exclusively subordinate to CRM research, but also mentioned and studied by distant field of researches, such as supply chain management, health care, and politics. This leads to the conclusion, that Big Data is rather a "tool" used in CRM research than a stand-alone research area. Therefore, the relationship can be determined as the following: the application of Big Data and data mining techniques within CRM research to generate customer insights that ultimately add value for the customer and the company is defined as analytical CRM.

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C. Implications for theory and future research

The lack of a common perspective on CRM, the few publications and delay in academic research due to the rapid advancement in new technologies depicts a somewhat immature area (Neville, Heavin, and Walsh 2005; Boulding et al. 2005; Lin, Su, and Chien 2006; Padmanabhan, Zheng, and Kimbrough 2006; Zablah, Bellenger, and Johnston 2004; Payne and Frow 2005; Sin, Tse, and Yim 2005; Harrison-Walker and Neeley 2004; Ryals 2005; Romano and Fjermestad 2001b; Wilson, Daniel, and McDonald 2002; Arnett and Badrinarayanan 2005; Reinartz, Krafft, and Hoyer 2004; Wahlberg et al. 2009; J Chen and Karen Popovich 2003). This holds a number of opportunities for additional research, especially exploratory case studies across different industries, which manage to benefit from trends, such as increased storage possibilities, higher speed and broader access to the internet. Consequently, the increasing number of communication channels, Internet users and mobile accesses have the potential to influence the classic view of the CRM approach.

4. Personal reflection

A. Personal experience

Having a background of a Bachelor of Science degree in General Management, two years of full time work experience at a management consultancy focusing on the field of digital customer management and a concentration on marketing, digital and CRM within my master in management program, I felt well prepared and comfortable with the topic of my business project. It has been my first choice, since I appreciate to develop my strength and interests within the field, in order to obtain an expert status, which might be valuable for my future career path.

Considering these circumstances and previous experiences, I decided to set up the necessary working infrastructure, like a shared Google drive folder for storing and organizing all relevant documents, a Facebook group for discussions and a Whatsapp group for instant communication, well in advance of the first kick-off meeting with the company. In this way I could share relevant key literature and publications, I still possessed due to my work in consulting, to my team members, for them to familiarize with the topic.

During the project, the PMO (project management office) activities were a critical success factor. Again, I could leverage on my PRINCE2® Certificate, a project management method that navigates for running a successful project. In this way we set up a project plan (Gant chart) from the very beginning and documented every meeting. I emphasized the need for an ongoing "open-issue" list, that helps to manage tasks and distribute responsibilities with a clear due date.

Another major personal experience during the business project was the development of different group dynamics. Since I haven't worked together with two of the three other team members, the group underwent the typical phases of forming, storming, norming and performing. Even though we didn't intentionally plan, each team member obtained a certain role over time without switching these responsibilities. While everyone could add value with his or her background, I realized that there is a need for a general manager and organizer. Therefore I distributed work, without trying to make decisions on my own. I rather consulted the whole team and proposed ideas. Having worked in consulting, I learned that you gain trust and convince people of your opinion only, by letting them develop solutions by themselves.

I. Key strengths & weaknesses observable during the project

Building on what was said previously, I believe my main strength were my professional past experience: my knowledge and experience in the digital CRM field, the setting up of consulting projects, the lead of small project teams and my structured and analytical way of

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working. Weaknesses within this specific context were the lack of Portuguese language skills to communicate with the client as well as my tendency towards impatience.

II. Plan to develop your areas of improvement

During the project I initiated the idea, to do an anonymous 360-degree feedback, after the final presentation. In this way I aim to get better insights to my fields of development and how to develop my weaknesses. Regarding the previously mentioned weaknesses, on the one hand, I started to have individual language classes, read and talk with friends in Portuguese, and deliver small documents in Portuguese. The questionnaire for the sales representatives was sent in Portuguese as well as the interview with the clients. I tackled the second factor of having a tendency towards impatience by reading a lot of self-improvement books on this topic. Several techniques, as well as example case studies are supposed to help me in the future. Moreover, I believe working in a developing country like Brazil, also helped me to better deal with this.

D. Benefit of hindsight

The client had set up the initial project scope with a very specific goal in mind: to develop a relationship platform for B2B clients. Within the kick-off meeting we got a glimpse of the current status and previous research done within this field. Unfortunately, right after this kick-off, the project leader left due to unforeseen circumstances and did not come back before the end of the project. Even though we constantly asked for access to internal documents, the company did not provide us with these. Therefore, we tried to make the best out of the situation and cooperated closely with the newly assigned company representative. Looking back, the value we added with our recommendations would have been higher, if we would have had access to internal documents (for example number of sales people, clients, cost

structure, research done so far, best practices, project scope and set up). We could have calculated a clear business case and build up on existing information.

In order to leverage the experience of the business project to the maximum, I recommend that companies generate access for students to internal systems.

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7. Appendix

Appendix 1: Persona analysis and findings

PERSONA

Eduardo is an innovative businessman who owns a pizza restaurant, which employs 25 people.

He takes care about everything by himself and innovates by finding new ways to lower barriers for customer to buy pizza at his restaurant.

le is technological informed and performs most of is to do's on his smart phone.

He is keen to try new flavors and trends. But it is important for him to use only the best ingredients. He is proud to use premium brands.

😕 🙄 🗹 🛛 NEEDS

- Eduardo is very price sensitive, since his business relies on small profit margins
- He prefers high quality products from BRF, but is not always happy with the offered prices
- He needs to rely on his suppliers, in terms of availability, accessibility and problem solving
- He prefers easy and intuitive way of communication as long as everything works the way it should
- Eduardo is happy to call his sales contact in case there are any problems
- He is looking forward to a solution that saves him time & costs, while being fully integrated into his own systems

CREATE VALUE



- Eduardo would be happy, if he could find a way to check himself, which products are currently available at BRF
- If there would be no stock, an information about the estimated delivery date would help
- An uncomplicated way of communication is crucial, but a more intelligent tool than WhatsApp would be preferred
- Additional features and functions, such as easy access to live information, past order histories etc. would speed up the ordering process

IIIIIII



- Eduardo would use a new tool several times per week, for example while
 - Checking stock
 - Place order
 - Checking orderChecking delivery
 - Invoicing
 - Complaints
 - Compian
 -
- He as well as his employees would access via phone as well as a stationary PC or Laptop
- Several user profiles would help to manage logins and his employees
- Eduardo would definitely download an App, that combines all this features and offers a clear value proposition



Appendix 2: Current business processes



Appendix 3: Future business processes

PROCESS CHANNEL	(77)	٢	0	2		NEO App	
1. Checking Stock						•	Customer
2. Order						•	touchpoints
3. Price Negotiation	••		•			•	future:
4. Availability check	•						no clear way
5. Delivery							• no standardization
6. Billing			10100-0010				One-stop shop solution
7. Delivery check						•	 less mistakes
8. Claim defects							
Current Touchnoints	Eutore To	urboointe	Ontional 6	utura Tauchar	l	1	

Appendix 4: Customer touch point analysis





Design Thinking Methodology Step 3: **IDEATE:** Explore a wide variety of possible solutions through generating a large quantity of diverse possible solutions, allowing you to step beyond the obvious and explore a range of ideas.

Usability & Value	Feature	Required Investmente-
High Middle Low		Low Middle High
10 9 8 7 6 5 4 3 2 1	1 Multiple User Profiles	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	2 Liveinformation (prices & availability)	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	3 One-click-contact	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	4 Express delivery	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	5 Loyalty program	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	6 Blog/ Platform for customers	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	7 Related products suggestion	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	8 Ticketing system for complaints	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	9 Product reviews & feedback	1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1	10 Accounting interface	1 2 3 4 5 6 7 8 9 10
Usability & Value	Feature	Required Investment
Usability & Value	Feature	Required Investmente- Low Middle High
Usability & Value High Middle Low	Feature 1 24/7 Hotline	Required Investment Low Middle High 1 2 3 4 5 6 7 8 9 10
Usability & Value High Middle Low 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1	Feature 1 24/7 Hotline 2 Settings to decide on preferred communication	Normalize Normalize Normalize High 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10
Usability & Value High Middle Low 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1	Feature 1 24/7 Hotline 2 Settings to decide on preferred communication 3 Eletronic invoicing	Pestimate Low Middle High 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10
Usability & Value High Middle Low 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1	Feature 1 24/7 Hotline 2 Settings to decide on preferred communication 3 Eletronic invoicing 4 Live tracking of delivery status	Pestimate Low Middle High 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10
Usability & Value High Middle Low 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1	Feature 1 24/7 Hotline 2 Settings to decide on preferred communication 3 Eletronic invoicing 4 Live tracking of delivery status 5 Monitoring of historic data	Pestimate- Low Middle High 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10
Usability & Value High Middle Low 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1 10 9 8 7 6 5 4 3 2 1	Feature 1 24/7 Hotline 2 Settings to decide on preferred communication 3 Eletronic invoicing 4 Live tracking of delivery status 5 Monitoring of historic data 6 Eletronic solution to claim defects	Image: Normal and Stress of Stres
Usability & Value Middle Low Image: State St	Feature 1 24/7 Hotline 2 Settings to decide on preferred communication 3 Eletronic invoicing 4 Live tracking of delivery status 5 Monitoring of historic data 6 Eletronic solution to claim defects 7 Individual discount table	Image: Constraint of the constrated of the constraint of the constraint of the constraint of the
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Appendix 6: Ranking of features



Appendix 7: Implementation packages

1 13 18	Online basics 16 Online product catalogue Loyalty program Marketing new products	3More options293Automated repeated orders6Electronic solution to claim defects8Dynamic search16One-click contact4Ticketing system f. complaints14One-click purchase	5Advanced options2821Monitoring of historic data9Accounting interface5Live-information (prices & availability)17Electronic invoicing22Individual discount table
2 2 12 15	Customer account 8 Multiple user profiles Preferred payment Preferred communication	4Delivery services177Delivery check10Expected delivery date11Delivery assurance	6Cust. Interaction1723 Inspirational topics and trends (blog)26 Blog/ Platform for customers 21 Online Learning Videos
	Implementat	Implementation order of packages	tion Effort

Appendix 8: Prototype of online relationship platform



Appendix 9: Detailed description of features – example

The inclusion of a loyalty program ensures high involvement of the customers



The marketing of new products is naturally integrated into the customer journey



Description	Rankings	
This feature will allow BRF to advertise no It can be implemented within the order p suggested after checkout based on the cu in the food industry. Additionally, general communicated to the customer.	Overall Ranking 19	
Usability and Feas	sibility Assessment	osability & value
Usability & Value	Required Investment	6
The application of this feature entails enormous cross selling potential for BRF. Customers have the chance to try new improved products and follow trends in the industry more easily.	The implementation of this feature will require a medium amount of time and investment. Customer preferences have to be analyzed in order to suggest appropriate new products.	Required Invest.