MASTER THESIS

Assessing students' satisfaction with on-campus cafeterias in Dutch universities from Fryslan region

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Declaration

I herewith declare that:

1. This work is composed by me.

2. This work has not been accepted in any previous application for a degree or diploma by me or anyone else.

3. The work of which this is a record is done wholly by me.

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Abstract

While there has been an increase of research into service quality, food and beverage quality, price fairness and customer satisfaction, few have combined these dimensions and less have done so in the context of a university's cafeteria.

As a constant increase in the number of international students in Dutch universities has been registered in the past years, universities are fighting to maintain the level of students' satisfaction through different amenities. Therefore, in order to assess what is the level of students' satisfaction with on-campus cafeterias in Dutch universities, a total of 123 valid and completed data were collected and analyzed using SPSS.

The findings show that service quality dimensions (tangibility, reliability, responsiveness, assurance, empathy), food & beverage quality and price fairness have a direct and positive impact on the overall student satisfaction with on-campus cafeteria. Accordingly, based on the findings and limitations of this study, several suggestions for practice and future research were drawn.

Keywords: service quality, f&b quality, price fairness, customer satisfaction, student satisfaction, SERVQUAL, SERVPREF, DINESERV

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Chapter 1 - Introduction

1.1 Research background

A significant increase in globally mobile international students has been registered during the time period 2000-2013, reaching a total number of no less than 4 million undergraduates (Choudaha, 2017). Consequently, institutions of higher educations have increased their investments, facilitating the preparation of students for the labor market (Van Mol et al., 2020). Empirical evidence has found that students are undertaking studies in foreign universities as the employment outcome becomes more favorable (see e.g. Cammelli et al. 2008; Di Pietro 2015; Kratz and Netz 2018; Messer and Wolter 2007; Waibel et al. 2018).

When it comes down to international labor market and higher education rankings, the Netherlands is seen as a high performer (Van Mol et al., 2020). In 2020, the country ranked number 5th on the Global Innovation Index ("Release of the Global Innovation Index 2020: Who Will Finance Innovation?", n.d.) and 4th on the Global Competitive Index ("Global Competitiveness Report 2020", n.d.). The same trend seems to be visible for Dutch institutes of higher education, as the Netherlands ranked 10th on the U21 Ranking of National Higher Education Systems 2020 ("U21 Ranking of National Higher Education Systems 2020 | Universitas 21", n.d.).

In their 2019 report, Nuffic stated that the Dutch Government together with the European Commission has actively promoted the internationalization of Dutch higher education through various policies for the past 25 years. On the same report, it was shown that foreigners make up to 11.5% of the total amount of students enrolled in Dutch institutes of higher education, an increase by 1% compared to the previous year (Nuffic, 2019).

1.2 Research context

In this ever-growing competitive market, Dutch universities will have to compete with each other in order to attract foreign students through various benefits. Some of the offerings may be assessed in terms of tuition fees, scholarships, facilities, etc. However, due to an increased amount of foreign student enrollments, Dutch universities will have to upgrade the campus amenities and provide a choice for dining through on-campus cafeterias.

Cafeterias and food catering services can be found in a wide selection of institutes, from hospitals and nursing homes, to schools, universities, company headquarters, prisons and many more. In a continuously growing market, service quality and customers' satisfaction are some of the key elements providing a long-run competitive advantage to service businesses (Ling Dyana Chang et al., 2014). With an increasing amount of student enrollments in higher education institutes around the world, the demand for foodservice providers has reached all-time heights, foodservice operators being held under pressure to meet and exceed the requirements of students (Li, 2008). This phenomenon has caught the attention of scholars who dedicated themselves to understanding which are the key factors in driving student satisfaction with regards to on-campus university cafeterias and not only.

As their choice is not limited to on-campus foodservice providers, students can access off-campus competitors if their needs are not met (Eckel, 1985). Consequently, Saglik et al. (2014) argued that in order to survive on the current competitive market, foodservice operators should pay close attention to the quality of service delivered as foodservice quality is held in high regards by students (Raman & Chinniah, 2011). Besides quality requirements, beverage quality and price represent important drivers of students' satisfaction (Joung et al. 2011).

1.3 Purpose of study

The extant literature has assessed the level of students' satisfaction with regards to university cafeterias in countries such as Egypt, Malaysia and Norway (El-Said & Fathy, 2015; Ling Dyana Chang et al., 2014; Liang & Zhang, 2009). However, no published research has assessed the level of quality of foodservice providers in Dutch universities and its effect on students' satisfaction, leaving a gap in the body of knowledge. The purpose of this study is to address this issue through three main objectives. The first step will be to investigate different service attributes influencing university students' perceptions and their dining experience. Second step will analyze the impact of the identified attributes on student satisfaction. Lastly, in order to assess the main factors influencing students' satisfaction with on-campus cafeterias, a comparison between different service attributes on student satisfaction will be done.

Chapter 2 - Literature Review

2.1 Service Quality Models

In recent decades the perceived quality of products and services gained a crucial role in the way companies are conducting business. This phenomenon has changed and shaped the business environment, some scholars labeling it as "Quality Era" (Peeler, 1996). Quality is perceived as a multi-dimensional tool that can only be applied once the important aspects of quality are identified.

Zeithaml et al. (1988) defined service quality as a customer's judgement of the overall performance of the service. Parasuraman et al. (1985) argued that evaluating the quality of a service is significantly more challenging than evaluating the quality of a product from a customer's perspective. This happens because evaluating the former requires not only the judgement of the service itself but also the process of delivering the service. Further, the service quality is assessed by customers through the comparison between their expectations built prior to consuming the service and the actual perception after the service has been consumed (Setó-Pamies, 2012). If a company fails to meet the expectations of customers about a certain service, then the perceived service quality is low. In contrast to the previous statement, if the customers' expectations are met or surpassed, the perceived service quality will be high (Akbaba & Kilinc, 2001). This results in scholars using the term "perceived quality of service" rather than "quality of service".

Throughout the recent decades, researchers have dedicated extensive amounts of time and resources in developing models that could allow them to measure service quality. Thus, in 1985, Parasuraman et al. have successfully managed to create the GAP model, aimed at measuring the difference between customers' expectations and perceptions through ten dimensions: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, knowledge and tangibility. Later studies have narrowed down the aforementioned dimensions into a new set of five dimensions, giving birth to the SERVQUAL instrument focusing on tangibility, reliability, responsiveness, assurance and empathy (Zeithaml, Berry & Parasuraman, 1988). As a response to SERQUAL, Cronin & Taylor (1992, 1994) developed the SERVPREF scale that only considers the performance of service regardless of consumers' expectations. In their work, the two researchers brought strong arguments backed by the available literature of their time, suggesting that service quality should be treated and measured as an attitude, rather than

the satisfaction paradigm SERVQUAL scale is based on. Further, Cronin & Taylor (1994) argued that the SERQUAL scale is performant only in certain industries, and it should not be used as a broad measurement of service quality. In their research, the aforementioned authors proposed SERVPREF to be the most representative tool in analyzing a wider spectrum of industries by treating service quality as an attitude while measuring the dimensions of expectations, performance, importance and other measures (ex. future purchase behavior, overall quality, satisfaction).

However, SERVQUAL is the most generally accepted and practiced instrument in assessing service quality across a broad spectrum of services (F&B, travelling, banking, etc.). Similar scales have been developed by researchers, such as LODGSERV, aimed at measuring service quality in the context of banquette halls and hotels (Barsky, 1992; Knutson et al., 1990). Combining and refining the scales of SERVQUAL and LODGSERV, Stevens et al. (1995) created the DINESERV scale, an instrument comprising of 29 statements aimed at measuring the level of service quality in a restaurant and other foodservice operations (El-Said & Fathy, 2015).

2.1.1 Service Quality Dimensions

The initial SERVQUAL scale proposed by Parasuraman et al. (1985) consisted of ten potentially overlapping dimensions (reliability, responsiveness, competence, access, courtesy, communication, credibility, security, knowledge and tangibility) aimed at measuring service quality. First proposed model generated a total set of 97 items. Later adjustments purified the scale through a set of iterative sequences, narrowing down SERVQUAL to 34 items across seven dimensions. A second purification stage was then conducted for a final set of 22 items across five dimensions (Zeithaml, Berry & Parasuraman, 1988). These dimensions are as follow:

Reliability – The degree of performance of delivering a service dependably and accurately

Responsiveness – Measures the timeliness of service through the willingness and availability of an employee to deliver the service

Assurance – Knowledge of employees and their ability to convey trust

Tangibility – Personnel appearance, tools and equipment, physical facilities and other physical evidence of the service

Empathy – Caring and individualized attention

Analyzing the relationship between service quality, behavioral intentions and customer satisfaction, Kivela et al. (1999) argued that dining satisfaction greatly impacts the intentions of customers to return to the same provider. Moreover, studies show that satisfied customers are more likely to repurchase services and products from their current foodservice operators, declining the offers of competitors (Cronin & Taylor, 1992; Anderson & Sullivan, 1993; Zeithaml et al., 1996). This is a crucial concept in the context of student satisfaction as on-campus cafeterias can represent a major competitive advantage for universities attracting new students. However, if not treated accordingly, the competitive advantage can quickly transform into a drawback. Students are not limited to the foodservice providers on the university's premises as they are aware of surrounding competitors (Andaleeb & Caskey, 2007).

In understanding what are the main factors driving student satisfaction with regards to foodservice facilities, Pettijohn et al. (1997) and Qu (1997) proposed the following service quality attributes: employee appearance, friendly treatment, menu and food items knowledge, staff attentiveness and level of service. The performance of staff plays an important role in the service industry and is vital in building the degree of customers' satisfaction and the success of foodservice outlets (Ling Dyana Chang et al., 2014). Barlett & Han (2007) argued that the interaction between staff and students directly influences the students' satisfaction with the service quality. This interaction can be assessed in terms of smiles and greetings, high levels of responsiveness, cleanliness and quick service.

2.2 Food & Beverage Quality

While extensive amounts of research have been dedicated to proving the importance of service of quality in driving customers' satisfaction in the context of foodservice establishments, this concept falls second only to the quality of food. Qu (1997), argued that quality of food is the number one driver of customer satisfaction, playing a vital role in the intention to return again to a food operator. Andaleeb & Caskey (2007) found that students would prefer to opt for the on-campus cafeterias rather than other foodservice operators, only if the quality of food and beverage is satisfactory. As service quality is a key role in driving customer satisfaction and directly impacts the quality of student life at universities (Klassen et al., 2005), Ng (2005) proposed the taste, freshness and appearance as the overall attributes of food quality. Earlier studies also take into account various dimensions of food quality such as taste, size, shape, color, smell, appearance, consistency, texture and flavor (Imram,1999; McWilliams, 2000).

2.3 Price fairness

Pricing is an important factor in the decision making and buying process of students as they have to operate within a limited budget frame. This concept also applies in the choice of foodservice operators where pricing can be an eliminating factor (Li, 2008). Klassen et al. (2005) support this statement, arguing that price is the number one factor in choosing a food and beverage provider among students. Nadzirah et al. (2013) indicated that if the prices of on-campus cafeteria are too high, the students will opt for a food and beverage provider outside the limits of university campuses with products and services fitting their available budgets. In the same research, Nadzirah et al. argued that pricing is the most important factor in driving students' satisfaction; thus, the university should pay careful attention in creating menus that will allow students to stay within budget limitations and discourage them from choosing off-campus food providers.

Studies show that the main difference between service quality and customer satisfaction is that the former one is provided by the managerial skills to deliver the service while the later one is the reflection of customers' experience with the service received (Iacobucci et al., 1994). If the quality improvements do not respect the customer needs, then the customer satisfaction will not be fulfilled (Sivadas & Baker-Prewitt, 2000). Similar with these findings Liang & Zhang (2009) suggest that university cafeterias should focus on elements such as price fairness, value for money and good portion size in order to fulfill students' satisfaction.

Chapter 3 - Issues for investigation

3.1 Conceptual Model
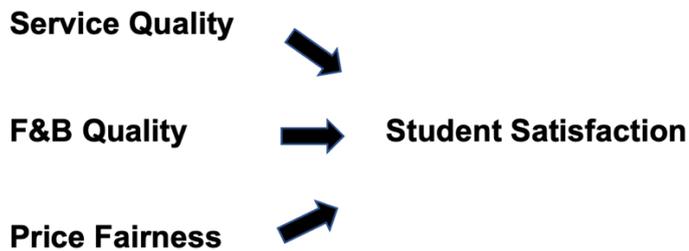
Figure 1: Factors affecting student satisfaction

In order to present the relationships between the factors introduced in the literature review, the following conceptual model has been created. This model will test the relationship between the independent variables (service quality, food and beverage quality, price fairness) and the dependent variable (student satisfaction).

3.2 Problem Statement

What is the level of students' satisfaction with on-campus cafeteria in Dutch universities?

Research questions and hypotheses

RQ1: **Does service quality drive students' satisfaction with on-campus cafeterias?**
- H1: There is a significant and positive relationship between service quality and student satisfaction.

RQ2: **Does F&B quality drive student satisfaction with on-campus cafeteria?**
- H2: There is a significant and positive relationship between food and beverage quality and students' overall satisfaction.

RQ3: **Does price affect student satisfaction with on-campus cafeteria?**
- H3: There is a significant and positive relationship between price and value, and student satisfaction.

Chapter 4 - Method

4.1   The choice of instrument

Bell et al. (2019) assessed quantitative and qualitative as the most broadly used business research designs, each of them having their own particularities. Qualitative method serves the purpose of understanding behaviours and giving birth to new theories through interpretivist, constructionist and naturalism. Quantitative method on the other hand, attempts to measure the relationship between social phenomena (Bell et al., 2019).

Based on the purpose of this study: assessing students' satisfaction with on-campus cafeteria in Dutch universities from Fryslan region, the most appropriate method is quantitative design. By assessing the degree of connection between service quality, food and beverage quality, price fairness and student satisfaction, an overview of the items affecting student satisfaction can be computed.

Further, the scope of this research requires the gathered data to be structured. This makes quantitative method the best option as the information can be easily translated into numbers, making it easier to be analysed. Another benefit of quantitative research is that sample is randomized, ensuring the validity and reliability of information (Bell et al., 2019)

4.2 About the instrument

Considering the positivist nature of the research at hand, the instrument used by the author is based on a self-completing questionnaire with close ended questions. Some of the benefits of the adopted instrument are the reduced costs of administration, fast pace of distribution, improved respondent convenience, the elimination of social desirability biased, data can be quantified, large numbers of remote participants can be reached, and it is safe and anonymous for the respondents. However, self-completing questionnaires come with their own set of disadvantages that any researcher must carefully consider. These drawbacks can be assessed in terms of possible ambiguity of questions, no possibility to access an elaborate answer, questions might not be salient with the respondents and low response rate (Bell et al., 2019).

The administration method of the questionnaires will be split in two divisions: online and offline. As this study concerns more than one university in Fryslan region, a set of online questionnaires

will be distributed amongst students of NHL Stenden and University of Groningen (Fryslan Campus) via institutional email. The access to students' institutional emails is facilitated by internal databases of each university that the researcher has direct access to. On the other hand, the possibility of on-campus distribution of questionnaires is also taken into account. The researcher is considering the national regulations with regards to studying on the campus premises implied by the Dutch Government and will approach the officials of NHL Stenden and University of Groningen for the possibility to conduct on-campus research.

The survey contents

In order to collect the data systematically, the questions were grouped in seven main sections represented by Service Quality Dimensions (Tangibility, Reliability, Responsiveness, Assurance and Empathy), Food & Beverage Quality and Price Fairness. The last two sections are composed of the Overall Satisfaction and Background Data collecting demographic information about the respondents. These sections are in line with the concepts introduced in the conceptual model. In total, the questionnaire is composed of a final set of 42 questions. The last 2 questions will gather general information about the respondents, while the rest are created in order to test the level of agreement on each scale.

Due to its popularity and general acceptance, SERVQUAL is the main scale used by researchers in assessing customer satisfaction across several industries. However, Cronin & Taylor (1992, 1994) found multiple flaws of the scale and developed the SERVPREF scale that only considers the performance of the service, regardless of customers' expectations. LODGSERV and DINESERV are two scales developed with the purpose of assessing customer satisfaction in various businesses across hospitality industry which are essential for the current study, however, both of them are based on the SERVQUAL scale. In this regard, the researcher will make use of several items found in the aforementioned scales while making sure to treat quality as an attitude (SERVPREF), rather than a satisfaction paradigm (SERVQUAL).

Extra data:

With regards to extra data, overall satisfaction and background information fall into this category. According to Bell et al. (2019), the questions that are most salient with the respondents must be addressed first in order to secure the interest and attention. Consequently, this means that personal information such as age or social background should be

asked at the end of the questionnaire. Moreover, data about the overall satisfaction can only be gathered once the questions about service quality dimensions, food & beverage quality and price fairness have been answered.

This research will make use of a 5-point Likert scale for the analysis of items presented in the questionnaire. The levels will be categorized as follow:

1 – "Strongly Disagree"

2 – "Disagree"

3 – "Neutral"

4 – "Agree"

5 – "Strongly Agree"

4.3 Reliability and validity

Although they are analytically distinguishable, reliability and validity are related as validity presumes reliability (Bell et al., 2019). Further, Bell et al. (2019) stated that reliability is concerned with the level of consistency a concept is being measured while validity indicates how accurately an indicator is able to measure that concept. Therefore, if reliability is not considered, the indicator will not be able to measure the concept truthfully, failing validity.

In order to ensure the reliability and validity of the research at hand, the content and structure of the questionnaire will be built based on similar items, tested and proved successful by researchers in the field of customer satisfaction. After receiving feedback and a final approval from the supervisor, the researcher will ask volunteering students of NHL Stenden to run a preview test and provide feedback with regards to the comprehensiveness of the questionnaire and possible issues preventing future respondents from providing an answer. Further, the researcher must ensure that trustworthy sources are being approached for the data collection process. The final step consists of removing all the invalid and incomplete data from the final pool of responses, keeping the integrity of the data analysis. After completing these steps, the reliability and validity of this research are established.

Concept	Working definition	Subdimensions or explanation	References
Tangibility	Student experience with regards to the tangible elements of the canteen	- Personnel appearance - Physical facilities - Physical evidence of the service	Zeithaml et al. (1988), Stevenes et al. (1995)
Reliability	Student experience with the reliability of the canteen's employees	- Degree of performance of delivering a service dependably and accurately	Zeithaml et al. (1988), Stevenes et al. (1995)
Responsiveness	Student experience with the responsiveness of canteen's employees	- Timeliness of service - Willingness and availability of an employee to deliver the service	Zeithaml et al. (1988), Stevenes et al. (1995)

Assurance	Student experience with their interaction with the canteen's employees	- Knowledge of employees - Employee ability to convey trust	Zeithaml et al. (1988), Stevenes et al. (1995)
Empathy	Student experience with the level of empathy coming from the canteen's employees	- Employee caring and individualized attention towards guest	Zeithaml et al. (1988), Stevenes et al. (1995)
Food & Beverage Quality	Student perception with regards to the quality elements of food and beverage items	- Taste - Freshness - Appearance - Flavour - Diversity	Klassen et al., (2005), Imram (1999), McWilliams (2000)
Price Fairness	Student perception with regards to the fairness of the received products based on their price	- Value for money - Portion size	Liang & Zhang (2009)

Overall Satisfaction	Overall satisfaction of students with the level of food and beverage quality, service quality and price fairness	- Overall satisfaction with quality of food - Overall satisfaction with quality of beverage - Overall satisfaction with the service quality - Overall satisfaction with the prices of food and beverage	
Background Information	Personal information of the participants	- Gender - Age group - Recommendation intention - Intention of future purchase	

4.5 Population, Sample, Sampling Method

The population this research is focusing on is represented by university students in Fryslan region, the Netherlands, following bachelor and master studies.

Self-completing questionnaires will be distributed amongst students using a probability sampling which will aid in generalizing the sample. The questionnaires will be shared both online and offline to reach a wider pool of respondents. For the offline version, a simple random technique is adopted; the researcher will go on the campus premises of NHL Stenden and University of Groningen (Fryslan Campus) on a series of two consecutive weeks. For the online version, the questionnaires distributed to NHL Stenden students will be done according to a simple random technique while snowball sampling will be used for University of Groningen Fryslan Campus due to access limitations. These questionnaires will be shared on the personal institutional emails of the students using the internal databases of the universities. Approaching students from different universities will ensure the representativeness and wideness of sampling frame (Bell et al., 2019).

Snowball sampling comes with its own limitations as the results cannot be generalized, however, due to COVID-19 pandemic, this is the only option the researcher can reach the students. A total number of at least 120 valid questionnaires is expected.

4.6 Procedure and Data Collection

During the selection process of the universities, all institutions of higher education in the region of Fryslan, the Netherlands, have been assessed. Further, taking into consideration several limitations such as time, mobility and financial costs, the range of universities was narrowed down to those having their campuses based in the city of Leeuwarden. After several considerations with regards to the accessibility to students from across various universities, the author settled on two universities, namely NHL Stenden and University of Groningen (Fryslan Campus). For the offline distribution the researcher will go on the campus premises of the aforementioned institutions and share the questionnaires amongst students present in the cafeterias. Different days and time frames will be selected in order to ensure the characteristics of a probability sampling.

For the online distribution, the researcher will access the internal databases of the institutions of higher education and send the questionnaires via the institutional emails of students. For NHL Stenden, a simple random technique will be applied, while for University of Groningen, the researcher opted for snowball technique.

In order to gain access and approval to conduct the research on the campus of NHL Stenden, the researcher will contact Mrs. Douwina IJntema. At this moment in time, the author is in talks with representatives of University of Groningen.

As this is a cross-sectional research portraying a specific point in time, only correlational inferences can be assessed (Bell et al., 2019). As presented earlier, some issues that may arise in the data collection process are the middle bias and low response rate due to lack of interest towards the topic.

4.7 The analysis methods and application of methods

After receiving a total number of 120 valid surveys, the numerical data will be analysed using the Statistical Package for Social Science (SPSS), version 27. Bell et al. (2019) regards SPSS as the most widely used program for the analysis of quantitative data.

Firstly, using the descriptive statistics of SPSS, the Mean and Standard Deviation will be applied, allowing the frequency of each factor to be analysed (Leech, Barrett & Morgan, 2013). Further, the mean value and standard deviation of the scale items will be generated.

Secondly, SPSS's reliability analysis will be conducted to measure the overall consistency of the items used to define a scale. Due to the usage of a Likert scale allowing respondents to provide multiple perspectives, issues with regards to inconsistency and measurement error may arise (Gliem & Gliem, 2003). Bell et al. (2019) acknowledged Cronbach's Alpha as the most commonly used method to be applied when a study has multiple indicators, allowing a good assessment of the internal reliability of a survey. The Alpha (α) value will help in sorting out the inappropriate items in a certain dimension. The range of Cronbach's alpha reliability coefficient (α) is between 0 and 1. The closer to 1 Cronbach's alpha value stands, the stronger the covariance and internal consistency of the items measured is. Although there is no standard for a good α coefficient, George & Mallery (2003) argued that a value between $1 - 0.9$ is excellent,

0.9 – 0.8 is good, 0.8 – 0.7 is acceptable, 0.7 – 0.6 is questionable, 0.6 – 0.5 is poor and any value lower than 0.5 is unacceptable.

It is important to mention that, besides Cronbach's alpha, the item-total correlation coefficient can also be applied in measuring the reliability. Churchill (1999) stated that the item-total correlation value is used in testing if there is an inconsistency between any item tested and the average score in the performance.

Thirdly, correlation statistics is used to establish the link between two or more variables and the strength of their relationship (Bell et al., 2019). In this study, it will be used to check if there are any significant relations between the transformed mean value of each dimension and the students' satisfaction with on-campus cafeteria. The correlation between each dimension of dependent variables and each dimension of the independent variables will be tested. Further, a correlation statistic will be run after grouping the dimension of dependent variables. Consequently, the same procedure will be applied on the grouped dimension of the independent variables. This will allow the formulated hypotheses to be tested effectively.

The value of the correlation is developed as "Pearson's r" value. Correlation's coefficient (r) value always ranges from -1 to 1. If the value of the (r) coefficient is above zero, this indicates a positive relation between the variables, while a value below zero indicates a negative relation between variables (Rumsey, 2016). The closer to -1 or 1 the (r) coefficient comes, the stronger the relationship between variables.

Lastly, a regression analysis will be run to assess the relationship among two variables, as correlation statistics only describes the linear relationship between two variables. In addition to calculating the relationship between independent variables and a dependent variable, regression is also used to define the overall fit of the model and the contribution of each predictor to the total variance (Laerd, 2013). In this statistics test, the value of R represents the multiple correlation coefficient indicating the quality of the predicted model. According to Laerd (2013), R^2 represents the coefficient of determination showing the proportion of the variance in the dependent variable.

Regression analysis will be used in this study first to assess the degree of significance the overall satisfaction has on students' satisfaction with on-campus cafeteria. Further, the value of each dimension (Tangibility, Reliability, Responsiveness, Assurance, Empathy, F&B Quality and Price Fairness) will be tested to see the degree of direct influence on students' satisfaction.

4.8 Ethical considerations

The research process can raise several ethical issues as the results may have positive or negative impacts on respondents. Therefore, strict ethical rules need to be assessed and applied in order to protect the legitimacy and integrity of the participants. One of the most important and generally accepted rules is that no harm should arise during and after the research process. This harm can be represented on both physical and mental levels such as stress, social acceptance, self-esteem or damages to existing or further employment opportunities (Bryman & Bell, 2011). It is thus the responsibility of the researcher to ensure that no harm will come to the participants involved in the research.

When conducting a research, ethical considerations represent one of the most influential factors as there are increasing concerns with regards to personal privacy and credibility. In this regard, Creswell (2009) and Israel & Hay (2006) advise researchers to ensure the protection of participants in all stages of the research.

In the email sent to students the research topic will be introduced and privacy and confidentiality clauses will be disclosed. For the offline questionnaires, a verbal agreement from the participants will be required. The collected data will be handled with the utmost care, respecting the anonymity of respondents.

Some issues with respect to anonymity may arise from the distribution of online questionnaires using a snowball technique. However, the person who will grant access to the databases of University of Groningen has been vetted by the researcher and has sign an agreement of respecting the anonymity or the participants.

Chapter 5 – Results

5.1 Demographic information

In this research, a total number of 123 participants answered the online survey distributed by the author. Out of this number, a total of 101 surveys were completed online and 22 offline. The reason for this is because the online survey was directly distributed to the participants via a QR code that the students had to scan. For those participants without a device with a built in QR scan, the physical questionnaire was given. All distributed surveys have been integrally completed; hence all the collected data was used in the statistical analyses. Table 1, table 2 and table 3 below will introduce the demographic information of participants with regards to gender, age and location.

Gender		Frequency	Percent
Valid	Man	39	31.7
	Woman	81	65.9
	Prefer not to say	2	1.6
	Other	1	.8
	Total	123	100.0

Table 1: Respondents' gender

Out of 123 valid participants, there are 81 women accounting for 65.9% of the responses, while the number of men is 39, making up for 31.7%. There are also 2 respondents who preferred not to disclose the information with regards to their gender and 1 respondent which identified as another gender than those available.

Age		Frequency	Percent
Valid	16	1	.8
	17	1	.8
	18	7	5.7
	19	20	16.3
	20	23	18.7
	21	16	13.0

22	16	13.0
23	12	9.8
24	3	2.4
25	11	8.9
26	1	.8
27	4	3.3
28	1	.8
29	3	2.4
30	1	.8
34	1	.8
38	2	1.6
Total	123	100.0

Table 2: Respondents' age

When it comes to age, there are two predominant groups, mainly 19 (N=20, 16.3%) and 20 years old (N=23, 18.7%). However, to majority of the respondents are ranging from 19 to 23 years old (N=87, 70.8%).

Location		Frequency	Percent
Valid	Groningen	50	40.7
	Stenden	73	59.3
	Total	123	100.0

Table 3: Respondents' university

Only the students from the two of the biggest universities in Leeuwarden were approached in this study, as this paper concerns only the Fryslan region. Hence, the students from NHL Stenden account for the largest group of respondents (N=73, 59.3%) while University of Groningen (Fryslan Campus) falls second with an N=50, 40.7%.

5.2 Descriptive statistics

According to the conceptual model (figure 1), there are 3 independent variables and 1 dependent variable built to measure the level of student satisfaction with on-campus cafeteria. The independent variables are represented by Service Quality with Tangibility, Reliability, Responsiveness, Assurance and Empathy as sub-dimensions, Food & Beverage Quality and Price Fairness while the dependent variable concerns the overall level of student satisfaction.

A descriptive analysis has been conducted in order to gain access to the rating of each variable in general, thus calculating the N-number of respondents, mean and standard deviation values. This calculation was done based on a 5-point Likert scale used in the survey.

Items	N	Mean	Std. Deviation
Service Quality			
Tangibility			
Stenden's/Groningen's canteen has a visually attractive dining area.	123	4.06	.716
Stenden's/Groningen's canteen has staff members who are clean, neat, and appropriately dressed.	123	4.31	.770
Stenden's/Groningen's canteen has a menu that is easily readable.	123	3.67	.988
Stenden's/Groningen's canteen has a dining area that is comfortable and easy to move around in.	123	4.15	.725
Stenden's/Groningen's canteen has dining areas that are thoroughly clean.	123	4.17	.797
Stenden's/Groningen's canteen has comfortable seats in the dining room.	123	3.41	1.100
Reliability			
Stenden's/Groningen's canteen quickly corrects anything that is wrong.	123	3.27	.840
Stenden's/Groningen's canteen is dependable and consistent with their service quality.	123	3.68	1.043
Stenden's/Groningen's canteen serves your food exactly as you ordered it.	123	4.02	.967
Responsiveness			
Stenden's/Groningen's canteen, during busy times, has employees shift to help each other maintain speed and quality of service.	123	3.24	.926
Stenden's/Groningen's canteen provides prompt and quick service.	123	3.75	.972

Stenden's/Groningen's canteen gives extra effort to handle your special requests.	123	3.53	.952
Assurance			
Stenden's/Groningen's canteen has employees who can answer your questions completely.	123	3.63	.953
Stenden's/Groningen's canteen makes you feel comfortable and confident in your dealings with them.	123	3.97	.829
Stenden's/Groningen's canteen has personnel who are both able and willing to give you information about menu items, their ingredients, and methods of preparation.	123	3.79	.960
Stenden's/Groningen's canteen makes you feel personally safe.	123	4.18	.769
Stenden's/Groningen's canteen has personnel who seem well trained, competent, and experienced.	123	3.62	1.028
Empathy			
Stenden's/Groningen's canteen has employees who are sensitive to your individual needs and wants, rather than always relying on policies and procedures.	123	3.38	.996
Stenden's/Groningen's canteen makes you feel special.	123	2.84	1.019
Stenden's/Groningen's canteen anticipates your individual needs and wants.	123	3.34	.957
Stenden's/Groningen's canteen has employees who are sympathetic and reassuring if something is wrong.	123	3.63	.823
Stenden's/Groningen's canteen seems to have the customers' best interests at heart.	123	3.68	.986
Food & Beverage Quality			
Stenden's/Groningen's canteen provides a good taste of food items.	123	3.82	.975
Stenden's/Groningen's canteen provides a good taste of beverage items.	123	3.54	.926
Stenden's/Groningen's canteen provides an attractive display of food items.	123	3.86	.978
Stenden's canteen provides an attractive display of beverage items.	123	3.60	.921
Stenden's/Groningen's canteen ensures the freshness of food.	123	3.91	.849
Stenden's/Groningen's canteen ensures the freshness of beverages.	123	3.77	.787
Stenden's/Groningen's canteen provides an appropriate flavor of food items.	123	3.76	1.025
Stenden's/Groningen's canteen provides an appropriate flavor of beverage items.	123	3.62	.901

Stenden's/Groningen's canteen provides a diversity of displayed food items.	123	3.54	1.176
Stenden's/Groningen's canteen provides a diversity of displayed beverage items.	123	3.55	.993
Price Fairness			
Stenden's/Groningen's canteen provides a suitable quality of food and beverage items for the price paid.	123	3.80	.975
Stenden's/Groningen's canteen provides a suitable amount of food and beverage items for the price paid.	123	3.72	.963
Overall Satisfaction			
Overall I am satisfied with the quality of food items.	123	3.94	.978
Overall I am satisfied with the quality of beverage items.	123	3.59	.922
Overall I am satisfied with regards to the service quality.	123	3.98	.891
Overall I am satisfied with the prices of food and beverage items.	123	3.70	1.055

Table 4: Descriptive analysis of service quality, f&b quality, price fairness and overall satisfaction

Service Quality

- Tangibility

When it comes to tangibility, this sub-dimension has scored some of the highest average mean scores in comparison with other dimensions. This indicates that students derive the biggest satisfaction from the tangible elements of their university's cafeteria with the staff's cleanliness, neatness and work uniform scoring the highest value in this sub-dimension and also in the entire concept with a mean of 4.31 (± 0.770). In addition, the standard deviation ranges from 0.716 to 1.100, showing a moderate fluctuation in the rating of satisfaction across students.

- Reliability

In terms of reliability, students perceive their university as highly reliable when it comes to the delivery of food, as the item "Stenden's/Groningen's canteen serves your food exactly as you ordered it" has the highest score of 4.02 (±0.967) in this sub-dimension. An explanation for this can be the standardized food items (mainly comprising of quick bites such as sandwiches) that

the cafeterias have to offer to their students. Thus, it becomes easy for the operators to maintain a constant speed and quality in the delivery of products.

Standard deviation ranges from 0.840 to 1.043, a fairly small variation indicating the positive satisfaction of students with the reliability of the cafeterias.

- Responsiveness

There is a slight decrease in the level of satisfaction with regards to the responsiveness compared to the previous two sub-dimensions. When faced with the questions concerning the level of responsiveness, the highest scoring item was "Stenden's/Groningen's canteen provides prompt and quick service" with a value of 3.75 (±0.972) out of 5. Although a slightly smaller score when compared to the sub-dimensions of tangibility and reliability, responsiveness provided a good scoring, showing a positive student satisfaction.

The standard deviation ranges between 0.926 and 0.972, showing a consistent and unitary opinion of students regarding the responsiveness of cafeterias.

- Assurance

With regards to assurance, this sub-dimension of service quality has scored the second-best average mean in the entire concept, with a value of 4.18 (±0.769) for the item "Stenden's/Groningen's canteen makes you feel personally safe". This indicates that students perceive, and value the personal, food and beverage safeness to be of high importance when choosing a food operator. Standard deviation stretches from 0.769 to 1.028, showing a relatively higher difference in respondents' opinion compared to the sub-dimension of responsiveness.

- Empathy

In the sub-dimension of empathy, the lowest score in the table can be identified for the item "Stenden's/Groningen's canteen makes you feel special" with a score of 2.84 (±1.019). This result shows that students perceive their university's cafeteria as nothing more than a facility of the campus which is offered by most universities in the Netherlands. Hence, eating at the

cafeteria does not provide an increase or decrease in the social status of students. With regards to the highest scoring item, the value is 3.68 (±0.986) for "Stenden's/Groningen's canteen seems to have the customers' best interests at heart" showing a moderate, positive satisfaction with the services and products delivered by their cafeteria. Standard deviation fluctuates from 0.823 to 1.019, showing a moderate difference in opinion between students.

Food & Beverage Quality

When assessing the level of satisfaction with food and beverage quality, a pattern can be identified. For the same set of questions between food and beverage, the former has always scored a slightly higher value than the latter, although, not significant enough to indicate a dissatisfaction with beverage items. The highest scoring item is registered by "Stenden's/Groningen's canteen ensures the freshness of food" with a value of 3.91 (±0.849) indicating a good satisfaction with the freshness and possibly safety of the food items sold in the cafeteria. Standard deviation ranges from 0.787 to 1.176, showing a big difference in the rating of respondents for this dimension.

Price fairness

In the dimension of price fairness, two items calculating the satisfaction between quality and quantity of food and beverage items for the price paid were addressed. A small and insignificant difference was registered between the two items, hence, "Stenden's/Groningen's canteen provides a suitable quality of food and beverage items for the price paid" scored a value of 3.80 (±0.975) while "Stenden's/Groningen's canteen provides a suitable amount of food and beverage items for the price paid" scored a value of 3.72 (±0.963). It can, therefore, be noticed that students are slightly more satisfied with the quality of the food and beverage items than with the quantity received for the price paid. Standard deviation ranges from 0.963 to 0.975 showing a consistent respondents' rating for this dimension.

Overall satisfaction

Analyzing the overall satisfaction of students, it can be noticed that they are content with the performance of their university's cafeteria. The highest scoring item indicates the satisfaction with the service quality, reaching a value of 3.98 (±0.891), followed by the satisfaction with food

items (3.94, ±0.978) and satisfaction with prices (3.70, ±1.055). The lowest scoring item in this dimension was registered by the satisfaction with beverage items for an average value of 3.59 (±0.922), however, this score does not raise any significant concerns for the cafeteria, but it indicates a rather small gap between quality of food and beverage items.

In addition, standard deviation fluctuates from 0.891 to 1.055, indicating a difference in respondents' rating with this dimension.

When analyzing the mean of all variables including independent and dependent variables, the scores range from 2.84 to 4.31. An overall positive satisfaction of students with regards to their university's cafeteria can be concluded as the majority of dimensions and their affiliated items scored a high value, over the average score of 3.0. The standard deviation of these items ranges from 0.715 to 1.176, showing a moderate difference in respondents' opinions.

5.3 Reliability

Due to the usage of a 5-point Likert scale, a difference between respondents' opinions can be noticed in the data analysis. Therefore, a reliability analysis was conducted in order to define the overall consistency of the dimensions and their affiliated items. Using a Cronbach Alpha, the internal reliability, the strength of covariance and the internal consistency of items is calculated (Bell et al., 2019). Further, with the help of a reliability analysis, items weakening the reliability of the study can be detected and deleted if appropriate.

According to George & Mallery (2003), Cronbach's alpha coefficient (α) ranges from 0 to 1. The closer to 1 Cronbach's alpha value stands, the stronger the covariance and internal consistency of the items measured is. It is considered that a value between 1 – 0.9 is excellent, 0.9 – 0.8 is good, 0.8 – 0.7 is acceptable, 0.7 – 0.6 is questionable, 0.6 – 0.5 is poor and any value lower than 0.5 is unacceptable (George & Mallery, 2003).

The final report of the reliability analysis can be found in Table 5, including the total number of respondents, number of items and Cronbach's alpha values.

Variables	N	N Items	Cronbach's Alpha
ServQual	123	22	0.929
Food & Beverage Quality	123	10	0.873
Price Fairness	123	2	0.880
Overall Satisfaction	123	4	0.786

Table 5: Reliability analysis

As shown in Table 5, all dimensions received a good Alpha coefficient with a value above 0.8, with an exception made by Overall Satisfaction scoring a value of 0.786. After conducting the reliability analysis, no item was deleted as the value of the scale could not be improved any further, allowing all 38 items to remain intact. This ensures that the data is reliable enough for further analysis.

5.4 Correlation Analysis

One of the objectives of this study is to assess if there are significant relations among the 4 dimensions introduced in the conceptual model. In order to determine the type and strength of the relations among these factors, correlation analysis is used.

According to Bell et al. (2019), a positive correlation occurs when the value of Pearson is higher than 0. On the same note, a negative relation will be concluded if the value of "r" is less than 0. The correlational matrix below will show the strength and the relationship between the dependent and independent variables of the conceptual model.

Correlations

		ServQualTotal	FBTotal	PFTotal	OSTotal
ServQualTotal	Pearson Correlation	1			
FBTotal	Pearson Correlation	.634[**]	1		
PFTotal	Pearson Correlation	.577[**]	.645[**]	1	
OSTotal	Pearson Correlation	.747[**]	.787[**]	.778[**]	1

Table 6: Correlation analysis

**. Correlation is significant at the 0.01 level (2-tailed).

As seen in Table 6, a positive, moderate relation exists between all independent variables. The strongest correlation can be noticed between "PFTotal" and "FBTotal" (r=.645, p=<0.01), followed by "ServQualTotal" and "PFTotal" (r=.634, p=<0.01). All independent variables have a higher relation with the dependent variable of satisfaction. The strongest correlation can be identified between the factor "FBTotal" and "OSTotal" (r=.787, p=<0.01), followed by "PFTotal" and "OSTotal" (r=.778, p=<0.01). The weakest link between dependent and independent variables is represented by the correlation between "ServQualTotal" and "OSTotal" (r=.747, p=<0.01). Although service quality has the lowest link with overall satisfaction between an independent and dependent variable, the difference is not noticeable enough to raise any concerns or to conclude that service quality is significantly less important than the other independent variables.

5.5 Regression Analysis

As correlation statistics can only describe a relationship between two variables (Schroeder, et al., 2016), regression analysis is further used to predict how this relationship has linked the variables. Hence, in order to test if the dependent variable (Overall Satisfaction) can be predicted by the value of the independent variables (Service Quality, Food & Beverage quality and Price fairness) and to interpret the overall model fit, regression analysis is computed.

In this regression model, the researcher is testing if the independent variables can predict the dependent variable of this study. As noticed in the Table 7, the R value of linear regression analysis is .893 proving a strong connection between overall satisfaction and the three independent variables. The relevance of this regression model is shown by the R square with a

value of .797, indicating that the three predictors could contribute to 79.90% of the variance of satisfaction's variable. In addition, F=155.750 and p <.001, suggesting that this statistical model is reliable for the research at hand.

The strongest correlation in the table is represented by the independent variable of "Price Fairness" with regards to overall satisfaction, with a Beta (β) value of .374, followed by "Food & Beverage Quality" (β=.350) and "ServQual" (β=.309). Accordingly, all variables hold a statistical significance to the dependent variable of overall satisfaction as their p values are smaller that .001.

| Variables	Beta	Sig
ServQual	.309	<.001
Food & Beverage Quality	.350	<.001
Price Fairness	.374	<.001
R	.893	
R square	.797	
F	155.750	
Significance	<.001	

Table 7: Regression analysis
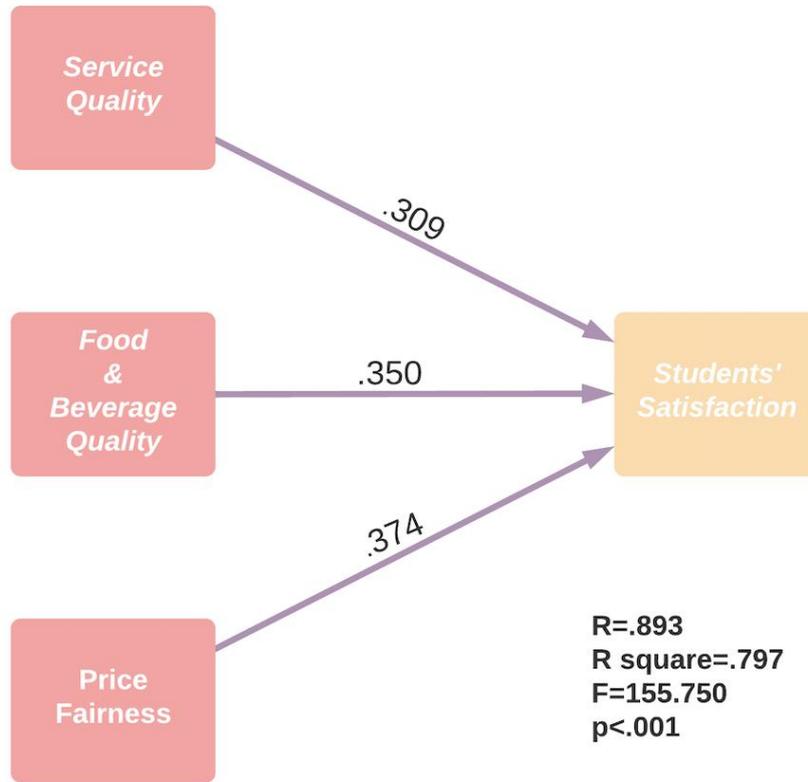
Figure 2: Predictors for Students' Satisfaction

Chapter 6 – Discussion

6.1 Review of hypotheses

RQ1: **Does service quality drive students' satisfaction with on-campus cafeteria?**

-   H1: There is a significant and positive relationship between service quality and student satisfaction.

Based on the statistical results of the correlation and regression analyses of this study, it can be concluded that service quality does have a significant contribution to student's satisfaction. Hence, this hypothesis has been approved. In other words, the higher the service quality is, the higher the satisfaction level of students becomes. There are five factors contributing to the tested value of this dimension, namely Tangibility, Reliability, Responsiveness, Assurance and Empathy, each one of them proving a strong impact on student satisfaction. Previous research state that service quality ranked as the second most important factor after food and beverage quality, indicating the customer satisfaction and intention to return to a particular restaurant (Soriano, 2002).

Accepting this hypothesis means that dimensions of the SERVQUAL model still plays important roles when measuring service quality of a hospitality organization. However, it is quite clear that the dimensions do not have the same level of importance. Tangibility dimension has a higher mean(s) than other dimensions. In this case, tangibles dimension seems to play a more important role in driving students' satisfaction in the universities in Fryslan region, the Netherlands. A reason for this can be explained by the fact that 59.3% of the respondents are students in NHL Stenden, a university specialized in offering hospitality education. Thus, these students are trained in delivering a high level of service quality, and they seem to pay a great deal of importance to the elements from the dimension of tangibility. Another explanation for this phenomenon can be the fact that tangibility is concerned with physical elements found in the cafeteria, whereas reliability, responsiveness, assurance and empathy are based solemnly on the performance of the staff. During the data collection procedure, some students shared their experience with the researcher, stating that they have never had any special requests, experienced long queues or had food and beverage items delivered in another way than

ordered. This can explain the lower performance of other dimensions in comparison with tangibility.

Thus, the results are in line with the claim of Klassen et al. (2005), proving that service quality is a key factor in driving student satisfaction, and showing the reliability of the SERVQUAL and DINESERV scales in assessing the customer satisfaction.

RQ2: **Does F&B quality drive student satisfaction with on-campus cafeteria?**

- H2: There is a significant and positive relationship between food and beverage quality and students' overall satisfaction.

Both correlation and regression analyses have supported this hypothesis, showing that Food & Beverage Quality does strongly and positively impact student satisfaction with on-campus cafeteria. This dimension has scored the highest Pearson correlation value (r=.787, p<.001) with the dependent variable and the second highest value in the regression analysis (β=.350). A reason for the high performance of food & beverage quality dimension is the fact that universities in Fryslan region offer standardized items such as quick bites (sandwiches and spring rolls), soups and smoothies, allowing the cafeteria to maintain a good consistency and a high level of quality with the products they deliver. At the same time, the standardization of food items means there is little to no room for the students to customize their order based on their health condition (ex. gluten intolerant) or values (plant-based diets).

These findings are in line with the claims of other researchers in the field of customer satisfaction, proving that items such as taste, freshness, flavor and diversity of food and beverage items have a direct impact on student satisfaction (Ng, 2005; Imram,1999; McWilliams, 2000). Moreover, Lee (2004) found that food quality scored second among a set of twelve criteria affecting student satisfaction, while other studies claimed that this dimension should be considered the most important factor in driving student satisfaction and their intention to return (Pettijohn et al.,1997; Mattila, 2001).

RQ3: **Does price affect student satisfaction with on-campus cafeteria?**

- **-** H3: There is a significant and positive relationship between price and value, and student satisfaction.

According to the results in the correlation and regression analyses this hypothesis has been supported, proving that Price Fairness has a direct, positive impact on students' satisfaction with their university's cafeteria. Further, this dimension has scored the highest Beta value in the regression analysis (β=.374) displaying the strongest link between an independent variable and the overall student satisfaction.

These findings can be explained by the fact that 70.8% of the respondents are part of the 19-23 years old age group, a fairly young age where students are not financially independent, therefore the price creates a major differentiating criterion in choosing a food service operator. It should thus be assessed that universities should continue offering food and beverage items in accordance with the monthly budgets of students and help them decline the offers of other food service operators who mainly offer unhealthy food options.

These results are in line with the claims of Klassen et al. (2005) and Nadzirah et al. (2013), proving that pricing is indeed the number one factor driving the satisfaction of students with on-campus cafeteria and showing that universities should create offers and menus having this dimension as the core of their offering. Additionally, Yuksel and Yuksel (2002), indicated that students return to the same food service operator not only because of the level of service quality and food and beverage quality, but also because they perceive the service and products to be worth the financial investment.

Table (introduce number): Overview of hypotheses' assessments

Hypotheses	Evaluation
H1: Service Quality => Student satisfaction	Accepted
H2: Food & Beverage Quality => Student satisfaction	Accepted
H3: Price Fairness => Student satisfaction	Accepted

6.2 Review of conceptual model

Based on all the statistical analyses discussed in the previous chapters, it can be seen that all dimensions introduced in the conceptual model drawn in chapter 3 have a significant relation with student satisfaction. Thus, the independent variables of service quality, food & beverage quality and price fairness have been statistically tested and proven to have a significant and positive impact on the dependent variable of student satisfaction. As a result, no element or item from the survey had to be deleted in order to increase the strength of this model.

6.3 Limitations of the study

Although careful measures were taken to ensure the quality of this dissertation, there were still limitations to this research, as with every research. The limitations this dissertation was faced with are introduced below:

- Firstly, the outbreak of COVID-19 pandemic has had major implications not only in the procedure of data collection but also in the performance of the university's cafeteria, affecting the degree of student satisfaction. Between the months of December 2020 and April 2021, all educational institutions on the territory of the Netherlands had to shut their doors as a response to a dangerous increase in the cases of patients diagnosed with COVID-19, shifting from an offline to an online education and having to close the cafeterias. Moreover, universities had to comply with governmental regulations, affecting the dining experience and certain tangible elements. When it comes to data collection, only a total number of 123 participants could be reached, significantly lowering the pool of potential respondents.

- The second limitation is concerned with the possibility of reaching a wider pool of students in the Fryslan region. From the total amount of institutions of higher education, the researcher could only approach two of the biggest universities in the region (NHL Stenden and University of Groningen Fryslan Campus). Out of these two universities, 59.3% of respondents are students in NHL Stenden while the rest of 40.7% are students from University of Groningen Fryslan Campus. Further, 65.9% of respondents were women while 31.7% were men, showing a clear dominance for the category of women and students in NHL Stenden, possibly influencing the overall results.

- Lastly, due to limitations concerning time for the data collection, the answers were collected based on online surveys, the researcher thus opting for a quantitative approach. This method does not offer any insights into the reasons of why the students graded the items the way they did.

Chapter 7 – Conclusion and recommendations

7.1 Conclusion

Institutes of higher education have seen a significant increase in the number of enrollments in the past decades, indicating that more and more people are looking to get specialized in various areas and prepare themselves for an ever-growing competitive market. As some scholars label it, "Quality Era" (Peeler, 1996) has seen the customer satisfaction become the core strategy of businesses across a wide spectrum of industries. Education does not fall sort of this category, international universities fighting to attract students from all over the world through various amenities such as on-campus cafeterias. However, there is little to no research on student satisfaction with on-campus cafeterias in Dutch universities, hence, there is a big need to assess the performance of universities in this regard and to understand which are the main dimensions affecting students' satisfaction in this area.

This research has concluded three main dimensions responsible for students' satisfaction with their university's food provider: service quality (tangibility, reliability, responsiveness, assurance, empathy), food and beverage quality and price fairness. Based on statistical analyses, when it comes to Dutch universities in the region of Fryslan, the Netherlands, price fairness proved to be the highest indicator of customer satisfaction as a big group of young students have to operate within a limited budget, followed by food and beverage quality and service quality. When looking at the five sub-dimensions of service quality, this research has found that tangibility is the highest performer in driving student satisfaction in this dimension followed by assurance, reliability, responsiveness and empathy.

In conclusion, based on the high values scored during the reliability, correlation and regression analyses, it can be assessed that there is a strong and positive level of students' satisfaction with their on-campus cafeterias in Fryslan region, answering the problem statement of this research. Further, no items or dimensions had to be deleted to increase the performance of the conceptual model, proving the strength and reliability of this study.

7.2 Recommendations for practice

Based on the previously discussed analyses and conclusion, several suggestions are drawn for the Dutch universities in Fryslan region to increase the level of student satisfaction with on-campus cafeteria.

To begin with, this research has found that price fairness is the number one driver of student satisfaction in the context of university cafeterias. This phenomenon is registered due to the big pool of young students (19-23 years of age) who are not financially independent and have to operate within a monthly budget. Thus, it is recommended for the universities to adopt a price strategy as their core competitive advantage, retaining the students and making them decline the offers of other food service operators outside the premises of the campus. In addition, the menu items should be built in such a way that end consumers do not have to suffer an increase in price. For example, educational institutions should access governmental funds, if eligible, or work with wholesalers to cut down the cost of production, further maintaining or decreasing the prices in the cafeteria

Secondly, food and beverage quality were found the be the second most important driver of student satisfaction, however the satisfaction with food items seemed to be slightly higher than the one concerning beverages. A reason for this phenomenon can be explained by the fact that universities do not produce their own beverages as they do with food. The cafeterias offer a selection of water, soft drinks and smoothies purchased by contract from different entities. It is therefore recommended for institutions of higher education to pay close attention to the diversity and quality of their beverage selection. A strategy to increase the satisfaction could be the creation of combo deals, encouraging students to opt for a menu with a drink included for a slightly lower price than if the products were to be purchased individually. It should be noted here that although price fairness is the strongest driver of customer satisfaction, cutting costs to deliver better prices should not affect the quality of food and beverage items, as they might affect the overall satisfaction level.

Another mention here is with regards to the degree of freedom students have in building or choosing their food and beverage items. Some concerns were brought up to the researcher as universities do not offer a good variety of plant-based meals (vegan) or take into consideration students with various health concerns (ex. gluten intolerant, lactose intolerant). Therefore, if universities want to increase the level of student satisfaction even further, they should come into aid to these smaller minorities and offer them more options.

Lastly, service quality has proved to be another important factor in driving satisfaction. Service quality is comprised of sub-dimensions such as tangibility, reliability, responsiveness, assurance and empathy. Out of these five sub-dimensions, tangibility scored the highest value showing that universities perform well in this dimension. However, in order to increase the level of satisfaction, universities should work on two of the lowest scoring sub-dimensions of responsiveness and empathy. The reason for the difference in performance between these sub-dimensions is because tangibility is represented by physical elements in the cafeteria whereas the rest are a result of the performance of staff (human element). Some items representing responsiveness and empathy are related to the dimension of food and beverage quality and the suggestions introduced previously can also be applied here. Thus, if more attention is paid to the minorities of plant-based consumers and food intolerance or allergens, the satisfaction of these sub-dimensions will see a score increase as well. Another way to increase the satisfaction with the level of service quality is to provide better training to the cafeteria's staff in regard to the knowledge of the products found in the food items and have a better handling of the queueing system.

7.3 Recommendations for further research

Based on the limitations of this study, several recommendations can be drawn for future researchers who are interested in the topic of student satisfaction with on-campus cafeteria.

To begin with, due to limitations concerning time, governmental regulations and accessibility to a wider pool of universities, the sample size of this study is fairly small. Hence, the findings of this study are not representative for the entire country of the Netherlands, but only for the Fryslan region. Future research can try to expand the sample size and conduct the research across multiple regions in the country.

This study is not limited only to the country of the Netherlands, and it can be adopted for any region in this world. Different levels of service quality, food and beverage quality and price fairness can be found across the world and the perception towards these dimensions might differ from country to country, region to region and culture to culture. Thus, this research could be used to assess student satisfaction with on-campus cafeteria in new markets.

On a last note, this research does not provide in-depth explanation as to why students graded the items in the survey the way they did. Future research can make use of both quantitative and qualitative methods, gaining new insights into the satisfaction of students, thus diminishing the disadvantages of both research methods.

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Appendix

Frequency Table

DD1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	39	31.7	31.7	31.7
	Woman	81	65.9	65.9	97.6
	Prefer not to say	2	1.6	1.6	99.2
	Other	1	.8	.8	100.0
	Total	123	100.0	100.0	

DD2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16	1	.8	.8	.8
	17	1	.8	.8	1.6
	18	7	5.7	5.7	7.3
	19	20	16.3	16.3	23.6
	20	23	18.7	18.7	42.3
	21	16	13.0	13.0	55.3
	22	16	13.0	13.0	68.3
	23	12	9.8	9.8	78.0
	24	3	2.4	2.4	80.5
	25	11	8.9	8.9	89.4
	26	1	.8	.8	90.2
	27	4	3.3	3.3	93.5
	28	1	.8	.8	94.3
	29	3	2.4	2.4	96.7
	30	1	.8	.8	97.6
	34	1	.8	.8	98.4
	38	2	1.6	1.6	100.0
	Total	123	100.0	100.0	

Location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Groningen	50	40.7	40.7	40.7
	Stenden	73	59.3	59.3	100.0
	Total	123	100.0	100.0	

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	123	100.0
	Excluded[a]	0	.0
	Total	123	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.929	.929	22

Service Quality Reliability analysis

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	123	100.0
	Excluded[a]	0	.0
	Total	123	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.873	.874	10

Inter-Item Correlation Matrix

	FB1	FB2	FB3	FB4	FB5	FB6	FB7	FB8	FB9	FB10
FB1	1.000	.427	.524	.331	.475	.331	.638	.341	.413	.323
FB2	.427	1.000	.301	.420	.135	.262	.318	.547	.287	.365
FB3	.524	.301	1.000	.494	.380	.278	.474	.563	.493	.467
FB4	.331	.420	.494	1.000	.247	.394	.325	.576	.411	.458
FB5	.475	.135	.380	.247	1.000	.570	.550	.330	.328	.282
FB6	.331	.262	.278	.394	.570	1.000	.380	.512	.354	.288
FB7	.638	.318	.474	.325	.550	.380	1.000	.585	.426	.338
FB8	.341	.547	.563	.576	.330	.512	.585	1.000	.365	.421
FB9	.413	.287	.493	.411	.328	.354	.426	.365	1.000	.684
FB10	.323	.365	.467	.458	.282	.288	.338	.421	.684	1.000

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	123	100.0
	Excluded[a]	0	.0
	Total	123	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.880	.880	2

Inter-Item Correlation Matrix

	PF1	PF2
PF1	1.000	.785
PF2	.785	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PF1	3.72	.927	.785	.617	.
PF2	3.80	.950	.785	.617	.

Correlations

Correlations

		ServQualTotal	FBTotal	PFTotal	OSTotal
ServQualTotal	Pearson Correlation	1	.634**	.577**	.747**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	123	123	123	123
FBTotal	Pearson Correlation	.634**	1	.645**	.787**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	123	123	123	123
PFTotal	Pearson Correlation	.577**	.645**	1	.778**
	Sig. (2-tailed)	<.001	<.001		<.001
	N	123	123	123	123
OSTotal	Pearson Correlation	.747**	.787**	.778**	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	123	123	123	123

**. Correlation is significant at the 0.01 level (2-tailed).

➜ **Regression**

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PFTotal, ServQualTotal, FBTotal[b]	.	Enter

a. Dependent Variable: OSTotal
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.893[a]	.797	.792	.34315	.797	155.750	3	119	<.001

a. Predictors: (Constant), PFTotal, ServQualTotal, FBTotal

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.019	3	18.340	155.750	<.001[b]
	Residual	14.012	119	.118		
	Total	69.032	122			

a. Dependent Variable: OSTotal
b. Predictors: (Constant), PFTotal, ServQualTotal, FBTotal

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.311	.210		-1.481	.141
	ServQualTotal	.398	.072	.309	5.551	<.001
	FBTotal	.402	.068	.350	5.884	<.001