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ORIGINAL ARTICLE

Relationship Between Customer Expectations and Financial Performance of Food Industry Businesses in a Customer Satisfaction Model

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Abstract

Research on customer satisfaction in repeat purchases shows that the relationship between customer expectations and customer satisfaction can be inverse to what is commonly reported. This also has an impact on the financial performance of an enterprise, which is therefore directly influenced by customer expectations. The goal of this paper is to determine whether customer satisfaction affects customer expectations and whether these expectations have a direct impact on the financial performance of an enterprise. The variables representing factors of customer satisfaction, including customer expectations, are measured using a customer survey. Business financial performance (BFP) was measured using the ROA, ROE, and Asset Turnover indicators. The model was created using Structural Equation Modelling. The research confirmed a positive direct effect of customer expectations on BFP (specifically ROA). Customer satisfaction impacted financial performance indirectly via customer expectations in two years. This suggests that the influence of customer expectations on BFP is long-term in nature, although this effect is rather weak. As customers make repeat purchases, customer expectations change. These changes reflect relationships primarily with customer satisfaction and loyalty and BFP. Customer satisfaction is shown to influence customer expectations, which in turn influence BFP. Therefore, it is advisable to focus on (raising) customer expectations in repeat purchases if the businesses want to achieve higher financial performance.

Keywords: Customer expectations, Customer satisfaction, Food industry, Financial performance, ROA

JEL classification: L25, L66, M31

Introduction

Customer expectations are a significant component of a wider framework of customer satisfaction, which may be why this variable has been subject to research since approximately the 1980s, generally in connection with customer satisfaction (see Miller, 1977, in Sachdev & Verma, 2002). Research on customer expectations has been focused either only on a specific part of business activity, such as supply (Lang & Bressolles, 2013), or on expectations regarding flexibility of deliveries (Gligor, 2018). The likely reason behind this is that customer expectations have generally been researched as part of customer satisfaction

models. Within complex models, customer satisfaction is most often affected by customer expectations (Cassel & Eklöf, 2001; Fornell et al., 1996; Wong & Dioko, 2013); however, a model has been validated in which the relationship is reversed, i.e., customer satisfaction affects customer expectations (Suchánek & Králová, 2019). Using the Kano model, Dinçer et al. (2020) investigated the relationship between customer expectations and customer satisfaction, which they then related to the performance of banks, finding that most customer expectations had a negative effect on customer satisfaction. However, the relationship between customer expectations and satisfaction is not nearly as clear (Johnson et al., 1996). The purpose

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of this paper is therefore to clarify the relationship between customer expectations and customer satisfaction; and highlight its implications for business financial performance.

The relationship between customer expectations and business performance has been investigated in the context of CRM facility management (Hoots, 2005) or in relation to ROI within training programs in SMEs (Satiman et al., 2015). Growth of financial performance based on growing customer expectations has been proven in the supply industry by Lang and Bressolles (2013). A positive relationship between financial performance, including ROA, and (future) customer expectations has been proven (from a supply chain management perspective) across industries by Tan et al. (1998). There is no research directly addressing the relationship between customer expectations and business financial performance from the perspective of a business as a whole. Understanding customer expectations is a prerequisite to offering excellent service (Parasuraman et al., 1991), and one may assume that the same applies to products. In this paper, understanding customer expectations is considered equivalent to finding out what affects these expectations.

As customer expectations increase in connection with increasing expected price (Hua et al., 2009), the conclusion may be drawn that (at least in the tourism industry) business profitability will grow in tandem with customer expectations (assuming that growing prices will lead to growing revenues). The relationship between customer expectations and financial performance is therefore considered positive. As such, factors and variables which affect customer expectations are assumed to (indirectly) also affect business financial performance. This highlights the importance of testing possible alternative connections between investigated variables in such a way that managers obtain a complex view of all existing connections between important variables and factors which affect business financial performance (through either customer expectations, satisfaction, or loyalty). If it is the goal of a manager to achieve predicted profits, they must be able to make decisions regarding customer satisfaction which will truly lead to achieving that goal.

Prior consumer expectations of a service measured after a service encounter will be affected by the type of experience, but consumers tend to shift their prior expectations to ensure their overall evaluation of the experience is justified (Clow et al., 1998).

This leads to the question of whether customer expectations will remain stable over time or unstable in the case of products (food), because the stability of customer expectations can change (Lin

& Lekhawipat, 2016; Rufin et al., 2012). There are a number of approaches to measuring customer expectations, which change depending on whether they concern a product (Bayraktar et al., 2012; Bridges et al., 1995; Suchánek & Králová, 2019) or service (Eren, 2021; Parasuraman et al., 1991; Robledo, 2001). Moreover, some of these approaches focus on parts of the business, e.g., purchase intention (Mauri & Minazzi, 2013), employees (Choi et al., 2014), innovations (Berraies & Hamouda, 2018), etc., rather than the business as a whole. However, from a financial performance perspective, it is imperative to evaluate the business as a whole based on its output, which is the product and its evaluation by the customer (Neely et al., 1995). As such, efforts to research the effect of customer expectations on business financial performance as well as factors and variables which affect customer expectations should be based on a validated complex model of measuring customer satisfaction. Such a model should contain a number of factors, including customer expectations (compare with Anderson et al., 2004; Eklof et al., 2020; Juhl et al., 2002).

Current research on long-term (cumulative) customer satisfaction constructs and tests (among others) the effect of customer expectations on customer satisfaction and business financial performance (Anderson et al., 2004; Eklof et al., 2020). However, these models do not take into account the fact that the reasons to buy may change with each repeated purchase, leading to changes in individual variables (compare with Lin & Lekhawipat, 2016; Rufin et al., 2012). These models (Anderson et al., 1994, 2004; Eklof et al., 2020) assume that the causal relationships between variables including customer expectations do not change, in other words that they are stable in time. Some results suggest that this may not be the case (Lin & Lekhawipat, 2016; Rufin et al., 2012). If the causal relationships that affect customer expectations do change, the question is which relationships change and in what direction. This means that it is necessary to find out whether some relationships within the complex model of satisfaction are oriented in a different direction.

We are currently unaware of any research on customer expectations using complex models of customer satisfaction and their effect on business financial performance. It is not obvious whether there are alternative causal relationships within the complex model of customer satisfaction which may affect business financial performance. Furthermore, it is not obvious how these relationships may be oriented (whether they are positive or negative), nor how strong their effect on business financial performance may be. We believe that this prevents managers

from making correct decisions in the long term (repeatedly).

By reformulating the relationships between the variables (product knowledge) and factors (perceived quality, perceived value, customer expectations, competitiveness, customer satisfaction, and customer loyalty) within the customer satisfaction model, this paper contributes to the theory primarily by testing the direct effect of customer satisfaction on customer expectations as well as by testing the direct effect of customer expectations on business financial performance. Thus, the goal of this paper is to determine whether customer satisfaction affects customer expectations in the food industry and whether these expectations have a direct effect on business financial performance within the customer satisfaction model.

This research on customer expectations and business financial performance was conducted in two parts. The first part investigated the customer satisfaction model; the other part investigated business financial performance. The same approach was used by [Dutta and Dutta \(2009\)](#). Their research was focused on customer expectations and financial performance, but they did not address this relationship directly, i.e., how customer expectations affect financial performance. Rather, they looked for differences in customer expectations and financial performance across various groups of businesses—banks ([Dutta & Dutta, 2009](#)). The uniqueness of the approach of this paper lies in connecting investigated customers with businesses—the respondents were customers of the investigated businesses. Customer expectations were investigated using a complex model of customer satisfaction.

The paper is organized as follows: the Literature review section analyses relationships between complex models of customer satisfaction and business financial performance, especially with regard to the orientation of this relationship and the method of measurement. The Method section outlines variables and factors which are part of the model constructed in the Model section. This section also contains the hypothesis. This is followed by the Results section, where the results of the research are presented, and the Discussion section, which outlines the implications of the results, which are also juxtaposed with current literature. Implications for theory and practice of food industry businesses are presented in the Conclusion.

1 Literature review

Complex models of customer satisfaction are composed of a variety of factors connected by positive and negative causal relationships. The models gener-

ally differ from each other in specific factors and in the existence of certain causal relationships. However, all investigated models included customer expectations (see, e.g., the EPSI model in [Eklof et al., 2020](#); Swedish National Index in [Anderson et al., 1994](#); American Customer Satisfaction Index in [Anderson et al., 2004](#)). Customer satisfaction may in some cases ([Ali et al., 2020](#); [Chi & Gursoy, 2009](#); [Galbreath & Shum, 2012](#); [Jyoti et al., 2017](#)) be measured as a separate multi-dimensional construct; however, customer expectations are always one of the dimensions. It is therefore possible to focus on the relationship between these models (or constructs) and business financial performance since customer expectations have (within the model or construct) an effect on performance.

The effect of customer satisfaction models on financial performance is assumed to be positive ([Eklof et al., 2020](#)). In service industries, specifically the banking sector, a positive relationship has been found between the EPSI model and financial performance measured using ROA, ROE and other financial indicators ([Eklof et al., 2020](#)), ROI, and the Swedish National Index ([Anderson et al., 1994](#)) or based on Tobin's Q and American Customer Satisfaction Index—ASCI ([Anderson et al., 2004](#)). The models in these investigations also included customer expectations, which positively, directly as well as indirectly ([Anderson et al., 1994, 2004](#)), or only indirectly affected customer satisfaction ([Eklof et al., 2020](#)), thereby also positively influencing (indirectly) business financial performance.

A positive effect of customer satisfaction on financial performance was also proven by [Berraies and Hamouda \(2018\)](#) in the services industry (banking) using a variety of financial indicators, including ROA and ROE. These indicators were, however, evaluated in connection to the previous time period subjectively by bank managers in comparison with competition. A positive relationship between customer satisfaction and subjectively measured financial performance has also been found by [Eren et al. \(2013\)](#) in banks and by [Agus et al. \(2000\)](#) in manufacturing.

Research by [Anderson et al. \(2004\)](#) demonstrated a positive effect of customer satisfaction (using ACSI, i.e., including the indirect effect of customer expectations) on business financial performance also in the food manufacturing sector, where this relationship was much weaker than in services (almost half as strong compared to banks, more than half as strong compared to retail).

The literature demonstrates that a direct relationship can be seen when studying the general satisfaction of customers, where customer satisfaction is measured as a singular construct which also includes

customer expectations (Ali et al., 2020; Berraies & Hamouda, 2018; Chi & Gursoy, 2009; Jyoti et al., 2017). Relationships between satisfaction measured in this way and business financial performance have been found to be mostly positive, with the exception of Wiley (1991) and Foster and Gupta (1997), who represent older research from the retail sector. A negative relationship can be expected in the services industry (Brown & Mitchell, 1993), specifically for discount stores and shoe stores (Anderson et al., 2004). In the food industry, a positive relationship between customer satisfaction and financial performance can be expected.

When customer satisfaction is viewed as a singular construct, customer expectations represent a significant component of customer satisfaction (Galbreath & Shum, 2012). However, upon closer look it becomes clear that the construct also includes a number of other variables (e.g., competitiveness, loyalty, perceived value) which otherwise constitute part of a complex model of customer satisfaction, meaning that they are standalone constructs (Chi & Gursoy, 2009; Galbreath & Shum, 2012). If customer expectations represent an integral part of their satisfaction (as a standalone construct), then they positively and directly affect financial performance in the context of modelling Corporate Social Responsibility (CSR) (Ali et al., 2020; Galbreath & Shum, 2012) or employee satisfaction (Chi & Gursoy, 2009) or Total Quality Service—TQS (Jyoti et al., 2017).

On the contrary, if customer satisfaction is measured using a specialized structural model in which satisfaction, expectations, loyalty, perceived value, perceived quality, competitiveness, etc. are standalone constructs, then the effect of customer satisfaction is indirect, via customer loyalty (Anderson et al., 2004; Eklof et al., 2020; Juhl et al., 2002). Perceived quality can be understood as an assessment of the recent experience of consuming the product (Fornell et al., 1996) or as a form of overall product evaluation (Snoj et al., 2004). This evaluation is subjective, i.e., it is the customer's perception (Mitra & Golder, 2006). This paper thus approaches perceived quality from the marketing perspective (Stylidis et al., 2020). Perceived value is related to the consumer's experience, knowledge, purchase and use of the product, and consumer perception; it cannot be objectively determined by the business and represents a trade-off between the benefits and sacrifices perceived by customers in the business offering (Snoj et al., 2004). Perceived value thus represents the overall mental evaluation of a particular product (Yang & Peterson, 2004). Competitiveness (of a product) is based on the assertion that the customer buys a product based on a comparison of the values of competing products

(Dubrovski, 2001). Customer loyalty can be defined as the tendency or behavior to prefer the same product for repeated purchases, i.e., the consumer's desire and behavior to opt for the same product when making a purchase (Khan, 2013).

The relationship between customer satisfaction, loyalty, and financial performance found through a specialized structural model is positive, meaning that an increase in customer satisfaction leads to an increase in loyalty, which causes an increase in financial performance. In these models, customer expectations are a standalone construct which, directly or indirectly, positively affects customer satisfaction, and thus positively and indirectly affects business financial performance (Anderson et al., 2004; Eklof et al., 2020; Juhl et al., 2002). In food manufacturing enterprises, where customer satisfaction is measured using a specialized structural model, a positive and indirect relationship between customer expectations, their satisfaction, and financial performance can therefore be expected.

Financial performance is usually measured objectively using accounting data, since these data are relatively reliable (Tosi et al., 2000). Financial measurement of business performance based on accounting data is also relatively widespread (Gunasekaran et al., 2005; Gupta & Galloway, 2003).

On the other hand, it is relatively common in research to use subjective methods of measuring financial performance (Berraies & Hamouda, 2018). This kind of measurement is generally performed in cases where objective data are unavailable (Zulkifli & Perera, 2011) or unreliable (Dess & Robinson, 1984), or due to the possibility to compare business performance across industries and contexts (Song et al., 2005). However, subjective measurement may be disrupted by the opportunism of evaluators or by cognitive restrictions (Bol, 2008). Research has proven that the results of objective and subjective measurement correspond to each other (Dess & Robinson, 1984; Wall et al., 2004). There is even research suggesting a strong correlation between these two methods of measurement (Dawes, 1999).

In the context of customer satisfaction, business success is dependent on sales volume and consequently profit and viability (cf. Neely et al., 1995). This makes business viability indicators, specifically ROA, (cf. Anderson et al., 1997; Terpstra & Verbeeten, 2014; Yeung et al., 2002) key variables when evaluating business performance. However, authors also use ROE in the context of customer satisfaction (Heath & Seldin, 2012; Ilyas et al., 2018). There are several variables to choose from when measuring financial performance, for example, a combination of absolute indicators and ratios (for details see, e.g., Chia et al.,

2009) or several ratio indicators (Eklof et al., 2020; Jantarakolica et al., 2017; Sun & Kim, 2013).

2 Materials and methods

This research employs a specialized model of customer satisfaction in order to investigate the relationship between customer expectations and select financial indicators: ROA, ROE, and Asset Turnover (ATO). The modelling was done in accordance with Eklof et al. (2020), i.e., an initial model of partial variables which affect and are related to customer expectations and satisfaction was created. This was followed by an investigation of the relationship between the respective variables and select financial indicators. As such, three independent models were constructed for this research for ROA, ROE, and ATO, respectively. Furthermore, models were created for two time periods, the current time period (the year 2016, when data about customer expectations and satisfaction were collected) and for the following time period (year 2017). This was based on Mittal et al. (2005), whose research suggests that customer satisfaction (measured by ASCI, which also includes the construct of customer expectations) has a long-lasting effect on business financial performance. From this follows the possibility of a difference in the strength of the dependence between customer expectations and financial performance within the customer satisfaction model across time periods.

Customer satisfaction was measured using a survey. This survey consisted of six sections based on the respective factors of customer satisfaction. These were: general customer satisfaction (CS), product competitiveness (C), product perceived value (PV), product perceived quality (PQ), customer expectations (CE), and customer loyalty (CL).

Product knowledge (PK) was added to the factors above. This variable was measured using only a single question (as such, it is not a construct). Questions in the survey and factor creation, including identification and validation of the relationships between the factors, are based on research by Suchánek and Králová (2019).

The survey was answered by a random and representative (according to the age (18+), gender, and region) sample of 1530 adult citizens of the Czech Republic.

All the survey questions were designed as scale variables ranging from 1 to 10, with higher values indicating a more positive assessment of the business in terms of satisfaction. Respondents assessed 102 businesses so that each business was represented by one product and assessed by fifteen respondents. Then answers from respondents evaluating the same product

were averaged so that each business was associated with the averaged satisfaction variables. In this way the respondents' data and business data were combined.

The criterion for business selection was the availability of balance sheets and profit and loss statements to allow the calculation of financial performance indicators. Due to the fact that the research focused on customer satisfaction with the company's product, it was necessary to exclude companies dealing only with the resale of products manufactured by their parent company and companies operating as a sales representative in the Czech Republic. Furthermore, businesses that produce products for industrial processing and not for consumption by consumers were excluded from the survey. The resulting sample thus comprised a total of 102 companies out of the starting 4255 companies.

Customer satisfaction was measured as the overall purchase experience (general satisfaction) in line with Fornell et al. (1996). Customer expectations were focused on examining the expected quality, considering the specifics of the product (food) in accordance with Brunsø et al. (2002). Expectations were measured based on the customer's knowledge and experience with the product in accordance with Fornell et al. (1996). Perceived product quality was examined with respect to the specific focus of the research—food. Thus, perceived quality was surveyed from a sensory perspective in accordance with Cardello (1995). Perceived value was focused on two dimensions: functional and economic value perception and performance/quality perception (Suchánek & Králová, 2019; Sweeney & Soutar, 2001). Competitiveness was focused on product image, specifically brand, general quality, and level of marketing communication. Competitiveness related to the product and was measured against competitors in accordance with Suchánek and Králová (2019). Customer loyalty was measured within the behavioral dimension according to Suchánek and Králová (2019). Specifically, behavioral loyalty was measured by repurchase intentions, switching intentions, and exclusive intentions according to Jones and Taylor (2007).

Business financial performance was assessed using accounting documents (balance sheets and profit and loss statements). These financial data, which are publicly available and whose publication is required by law, were obtained from the Bisnode database. Financial data were collected for the current time period (2016, same year as customer satisfaction data were collected) and for the following time period (2017).

Methods of Structural Equation Modelling (SEM) were used to model the relationships between satisfaction factors (CS, C, PV, PQ, CE, CL), product

knowledge, and financial indicators (ROA, ROE, ATO). Since satisfaction factors are latent variables, the measurement part of the model, which models the relationships between latent variables and manifest variables, was developed first (Suchánek & Králová, 2016). It is briefly described in the Results section. Manifest variables were represented in the research by scale questions in the survey.

The path model (Suchánek & Králová, 2019) representing the relationships between satisfaction factors formed the structural part of the SEM models. Furthermore, financial performance indicators were implemented into the derived model. The consistency of the extended model with data was evaluated.

Due to the complex nature of structural equation models, there is no overall test that would unambiguously confirm or refute the accuracy of the model (for example, on the basis of a single p -value). Instead, various indices are recommended, the value of which shows whether the hypothetical model of the relationships is in accordance with the data observed.

Schumacker and Lomax (2016) listed the most popular indices with their acceptable levels, such as the Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Standardized Root-Mean-Square Residual (SRMR), and many others. For TLI and CFI, which take values from an interval of (0, 1) where a higher value means a better model, they suggest values above 0.9. Such values reflect a good model fit. For SRMR, values lower than 0.05 indicate a good model fit. According to Hu and Bentler (1999), the acceptable range for the SRMR index is between 0 and 0.08. SEM models were estimated using the R language (R Core Team, 2021) and the lavaan package (Rosseel, 2012).

The SEM method is used to test relationships between factors researched in the context of customer satisfaction (see, e.g., Fornell et al., 1996). On the other hand, it is necessary to recognize that, due to its limitations, this method does not allow to explicitly verify causal relationships between factors that result from the model, even when the above tests are satisfied (Fang et al., 2021).

2.1 The model

“Customer expectations change rapidly and vary widely depending on the beliefs or standards the individual customer holds, including past experience as a source of revisions to these expectations” (Lin & Lekhawipat, 2016, p. 443). Memories of past experiences with a product can shape current expectations (Kangis & Passa, 1997). Expectations are also influenced by previous products received (Rust & Oliver, 1993). Thus, the quality of the product perceived by

the customer at the first purchase will influence the customer’s expectations at the next purchase.

H1. *Perceived (product) quality influences customer expectations.*

Because the research was focused on customers who purchased the products repeatedly (controlled via survey, necessary condition for including the customer in the sample), it can be expected that the customer expectations factor is affected by their experience with previous purchases. The influence of past experience on expectations has been shown in research by Zeithaml et al. (1993). The customer’s experience is based on the knowledge acquired before the purchase, during the purchase, and the use of the product after the purchase, and this knowledge is further used in the next purchase and is transferred into the customer’s expectations (before the next purchase).

H2. *Product knowledge influences customer expectations.*

“In modern organizations, knowledge is the fundamental basis of competition” (Aghamirian et al., 2015, p. 63). The impact of knowledge on a firm’s competitiveness has been confirmed by several studies (Aghamirian et al., 2015; Akhavan & Heydari, 2007). Therefore, it can be assumed that product knowledge (as a sub-component of knowledge) will also have an impact on the competitive ability of a company.

H3. *Product knowledge influences (product) competitiveness.*

Customer expectations change as a result of further purchases, and expectations are formed prior to the first purchase, as well as reflected in customer satisfaction. Before the next purchase, however, the customer has already processed the experience of buying and using the product, their satisfaction has reached a certain level, and they then transfer this level (or degree) of satisfaction into their expectations before this (next) purchase. Findings by Yi and La (2004) and Lin and Lekhawipat (2016) indicate that customer expectations are influenced by customer satisfaction.

H4. *Customer satisfaction influences customer expectations.*

Customer loyalty is a relatively stable variable (over time), especially if it is genuine (Bove & Johnson, 2009). At the same time, the relationship between customer satisfaction and customer loyalty is probably

the most stable in general, as has been repeatedly proven by research to the present time (cf., e.g., Eklof et al., 2020; Fornell et al., 1996). Thus, customer satisfaction will also influence customer loyalty in this case.

H5. *Customer satisfaction influences customer loyalty.*

Perceived product quality has an impact on a company's competitive advantage (Awang & Jusoff, 2009). The perception of the product by the customer, however, is primarily reflected in the competitiveness of the company's product and, in turn, in the competitiveness of the company as a whole.

H6. *Perceived (product) quality influences (product) competitiveness.*

Customer loyalty can be understood as a function of customer experience (Mascarenhas et al., 2006). Knowledge transfers into the customer experience (Roggeveen & Rosengren, 2022). Thus, customer loyalty may influence knowledge, especially when product knowledge is associated with repeat purchases. This relationship is supported by the findings of Suchánek and Králová (2019).

H7. *Customer loyalty influences product knowledge.*

Business performance consists of a financial part (represented by financial indicators) and a non-financial part (represented by factors related to customer satisfaction) (Neely et al., 1995). In the case of repeat (subsequent) purchases, the relationships between customer expectations and a number of other variables, including the financial part of the business performance, change. As a result, the financial performance of the business (represented by the selected financial ratios) is influenced by customer expectations. This is confirmed by the findings of Lang and Bressolles (2013), which demonstrated a direct effect of customer expectations on business financial performance.

H8. *Customer expectations influence the financial performance of the enterprise.*

The model therefore represents the relationships between the factors examined above. The individual relationships have been created using the above hypotheses, and by testing these hypotheses (using statistical tools), the functionality and robustness of the model will be further verified. The model develops relationships based on the finding that customer expectations change and that in the case of a subsequent

purchase, customer expectations may be influenced by factors that are in turn influenced by customer expectations in the first purchase, which is based on the findings of Suchánek and Králová (2019). The non-financial relationships between factors related to customer expectations are further supplemented by business financial performance measured (individually) by ROA, ROE, and ATO in the year of the customer expectation survey and in the following year to verify not only the short-term impact of the customer expectation model on financial performance, but also the long-term impact.

Thus, in the Results section, we constructed six models for years 2016 and 2017 and the three indicators used, i.e., ROA 2016, ROA 2017, ROE 2016, ROE 2017, ATO 2016, and ATO 2017. In the model, the following factors (constructs) are used: customer expectation (CE), perceived product quality (PQ), perceived product value (PV), product competitiveness (C), customer satisfaction (CS), and customer loyalty (CL). Furthermore, the model uses the product knowledge (PK) factor, which is not a construct.

3 Results

First, in the measurement part of the model, latent variables were constructed via 24 manifest variables from a questionnaire (see Suchánek & Králová, 2019) (CE1–CE4, PQ1–PQ5, PV1–PV5, CS1–CS3, CL2–CL5, C1, C2, C4), as listed in Table 1. Reliability was assessed via Cronbach's alpha coefficients (0.957 [CE], 0.949 [PQ], 0.947 [PV], 0.963 [CS], 0.853 [CL], 0.927 [C]). Validity was accepted on the basis of average variance extracted greater than 0, AVE: 0.851 (CE), 0.800 (PQ), 0.788 (PV), 0.896 (CS), 0.569 (CL), 0.763 (C). The fit indices were CFI = 0.906, TLI = 0.889, SRMR = 0.056. Thus the measurement part can be accepted as empirically verified.

In Tables 1–3 the first column (Estimate) contains the estimated parameter value for each model parameter; the second column (Std.Err) contains the standard error for each estimated parameter; the third column (z-value) contains the Wald statistic (which is obtained by dividing the parameter value by its standard error), and the last column ($P(> |z|)$) contains the p -value for testing the null hypothesis that the parameter value equals zero in the population. Two extra columns of standardized parameter values follow: in the first column (labeled Std.lv), only the latent variables are standardized. In the second column (labeled Std.all), both latent and observed variables are standardized.

The research then proved an indirect effect of customer satisfaction on financial performance measured using ROA 2016, via customer expectation; see Table 2

Table 1. Latent variables in measurement model.

Factors	Estimate	Std.Err	z-value	P(> z)	Std.lv	Std.all
Customer expectations						
Customer Expectation1	0.904	0.076	11.913	0.000	0.904	0.909
Customer Expectation2	0.913	0.075	12.114	0.000	0.913	0.918
Customer Expectation3	0.940	0.074	12.759	0.000	0.940	0.945
Customer Expectation4	0.914	0.075	12.123	0.000	0.914	0.918
Perceived Quality						
Perceived Quality1	0.927	0.074	12.456	0.000	0.927	0.932
Perceived Quality2	0.900	0.076	11.831	0.000	0.900	0.905
Perceived Quality3	0.857	0.081	10.525	0.000	0.857	0.839
Perceived Quality4	0.806	0.081	9.912	0.000	0.806	0.810
Perceived Quality5	0.952	0.073	13.074	0.000	0.952	0.957
Perceived Value						
Perceived Value1	0.903	0.076	11.840	0.000	0.903	0.907
Perceived Value2	0.924	0.075	12.335	0.000	0.924	0.929
Perceived Value3	0.886	0.077	11.475	0.000	0.886	0.891
Perceived Value4	0.826	0.081	10.230	0.000	0.826	0.830
Perceived Value5	0.876	0.078	11.239	0.000	0.876	0.880
Customer Satisfaction						
Customer Satisfaction1	0.969	0.072	13.525	0.000	0.969	0.973
Customer Satisfaction2	0.902	0.076	11.893	0.000	0.902	0.907
Customer Satisfaction3	0.954	0.073	13.150	0.000	0.954	0.959
Customer Loyalty						
Customer Loyalty2	0.601	0.091	6.592	0.000	0.601	0.604
Customer Loyalty3	0.888	0.077	11.471	0.000	0.888	0.892
Customer Loyalty4	0.481	0.095	5.083	0.000	0.481	0.483
Customer Loyalty5	0.935	0.075	12.531	0.000	0.935	0.940
Competitiveness						
Competitiveness1	0.868	0.076	11.466	0.000	0.868	0.889
Competitiveness2	0.963	0.073	13.233	0.000	0.963	0.967
Competitiveness4	0.765	0.084	9.127	0.000	0.765	0.769

and Fig. 1. Moreover, the research proved an indirect effect of customer satisfaction also via customer loyalty and product knowledge, which affect customer expectations, and via associations with perceived product quality (associated with perceived product value, which also associates with customer satisfaction), which also affects customer expectations. A direct effect of customer satisfaction on financial performance was not proven; on the other hand, the

effect of customer satisfaction was shown to possibly be multi-layered, i.e., that satisfaction may affect expectations either directly or indirectly through a number of other factors.

Each relationship in the model in Table 2 is statistically significant at the level of significance 0.05 ($p = 0.004$), except the association between product competitiveness (C) and financial performance, portrayed

Table 2. Results of the structural part including financial performance ROA in 2016.

	Estimate	Std.Err	z-value	P(> z)	Std.lv	Std.all
CL						
CS	2.859	0.483	5.923	0.000	0.944	0.944
C						
PK	1.086	0.175	6.223	0.000	0.437	0.435
PQ	1.474	0.220	6.708	0.000	0.593	0.593
CE						
PK	1.018	0.229	4.454	0.000	0.219	0.218
PQ	1.777	0.827	2.150	0.032	0.382	0.382
CS	2.192	0.835	2.624	0.009	0.471	0.471
PK						
CL	0.180	0.038	4.774	0.000	0.547	0.549
ROA 2016						
CE	0.066	0.023	2.866	0.004	0.308	0.309

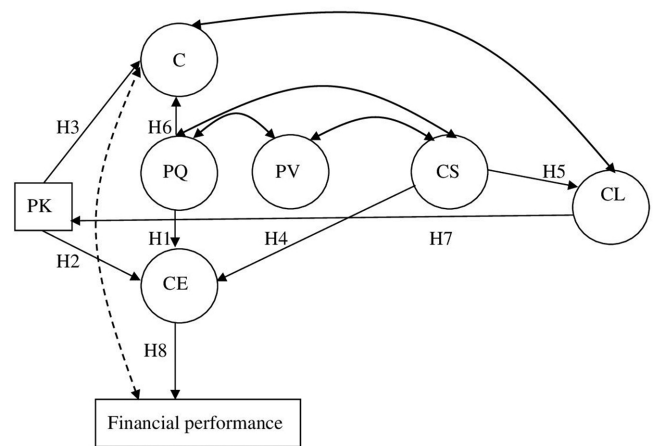


Fig. 1. Model of customer satisfaction and business financial performance (measured by ROA) in the years 2016 and 2017.

by the dotted line, which is positive (just like all other relationships), but statistically significant only at the level of significance 0.1. The CFI of the model is 0.900; TLI = 0.886; SRMR = 0.063. Thus the model based on hypotheses H1–H8 can be accepted as empirically verified.

During further testing of the effect of customer satisfaction on all three financial indicators, the effect of satisfaction on ATO 2016 was questionable (in terms of statistical significance, $p = 0.032$) due to the resulting tests, which are liminal (CFI = 0.899; TLI = 0.885; SRMR = 0.063). ATO 2016 appears to be indirectly dependent on customer satisfaction through customer expectations, as is the case for ROA 2016. However, the effect of customer expectations on ATO 2016 was considerably lower (beta coefficients are 0.066 on ROA 2016 and only 0.048 on ATO 2016). The effect of customer expectations on ROE 2016 was questionable too but even a bit smaller than ATO 2016 (in terms of statistical significance, $p = 0.501$) due to the resulting tests, which are liminal (CFI = 0.895; TLI = 0.881; SRMR = 0.063).

The year 2017 shows similar results. The best results were again achieved by the model which includes ROA 2017 ($p = 0.000$; CFI = 0.906; TLI = 0.893; SRMR = 0.061), where the financial indicator is directly affected by customer expectations. The strength of the effect is somewhat higher than in 2016; see Fig. 1 and Table 3. Thus the model based on hypotheses H1–H8 can be accepted as empirically verified.

During further testing of the effect of customer satisfaction via customer expectations on all three financial indicators, the effect of expectations turned out questionable for ROE 2017 (in terms of statistical significance, $p = 0.008$) due to the resulting tests, which are liminal (CFI = 0.899; TLI = 0.885; SRMR = 0.065), but it was higher than in 2016. The effect of modelled satisfaction on the ATO 2017 financial indi-

cator via customer expectations was questionable too due to the resulting tests, which are liminal ($p = 0.052$; CFI = 0.903; TLI = 0.889; SRMR = 0.063) but even a bit smaller than ROE 2017.

The effect of customer expectations on ATO was, however, considerably lower (0.099 in case of ROA 2016 and only 0.045 in the case of ATO 2016). Comparing between the years 2016 and 2017, the effect of customer expectations on ATO was somewhat lower in 2017, making it insignificant in 2017.

For the year 2017, a statistically significant effect of customer expectations on ROE was considerably lower than in the case of ROA (estimated coefficients were 0.099 for ROA and only 0.064 for ROE). The influence on ROE, however, appears stronger in 2017 than the effect on ATO. Thus, in 2017, customer satisfaction, via customers expectation, proved to affect only ROA significantly as well.

4 Discussion

The results correspond to the results of Eklof et al. (2020) and Anderson et al. (1994) in the sense that a relationship was proven where financial performance measured using ROA was dependent upon customer satisfaction. In contrast to the research cited above, this research shows an indirect effect of customer satisfaction via customer expectations. Customer satisfaction affects customer expectations directly, and the two are associated indirectly, not only via customer loyalty and product knowledge on the one hand, but also through perceived product quality on the other (together with association with the perceived value of the product). A direct relationship between customer expectations and financial performance corresponds to research by Lang and Bressolles (2013); however, this research expands it to the business as a whole.

Furthermore, a greater indirect effect of customer satisfaction (although in this case not via loyalty, but rather via expectations) on financial performance in the following investigated time period (2017) was confirmed. This finding corresponds to the results of Mittal et al. (2005), who proved an indirect effect of customer satisfaction on financial performance in the long term. The present research suggests that customer expectations also affect financial performance in the long term. In contrast with research by Mittal et al. (2005), as well as the effect of customer satisfaction, the relationship between expectations and performance is a direct one.

Contrary to Eklof et al. (2020), the dependence was confirmed in two time periods only for ROA, in a single time period (current year, 2016) for ATO, and in a single time period (following year, 2017) for ROE.

Table 3. Results of the structural part including financial performance ROA in 2017.

	Estimate	Std.Err	z-value	P(> z)	Std.lv	Std.all
CL						
CS	2.851	0.481	5.928	0.000	0.944	0.944
C						
PK	1.141	0.184	6.214	0.000	0.436	0.435
PQ	1.578	0.235	6.704	0.000	0.603	0.603
CE						
PK	1.014	0.223	4.548	0.000	0.225	0.224
PQ	1.733	0.783	2.213	0.027	0.384	0.384
CS	2.095	0.788	2.658	0.008	0.464	0.464
PK						
CL	0.182	0.038	4.791	0.000	0.550	0.552
ROA 2017						
CE	0.099	0.025	3.991	0.000	0.448	0.450

Another difference lies in the considerably greater effect of modelled total satisfaction via customer expectations on the ROA indicator. Considering the statistical significance of results and the size of corresponding coefficients, it seems that the effect of customer satisfaction on financial performance in terms of ROA is much greater than on performance in terms of ROE and ATO. The results also suggest that the ATO indicator has a lagged impact on business performance, which is consistent with the research of [Patin et al. \(2020\)](#), and specifically on ROE, which is consistent with the research of [Boyd et al. \(2007\)](#).

The effect of customer satisfaction via expectations was found to be weak (in both investigated time periods), which corresponds to the findings of [Anderson et al. \(2004\)](#), [van der Wiele et al. \(2002\)](#), as well as [Eren et al. \(2013\)](#) and [Kyengo et al. \(2019\)](#). The latter authors, however, in contrast to this research, proved a weak effect of customer satisfaction on financial performance via customer loyalty. As opposed to research by [van der Wiele et al. \(2002\)](#), this research proved a stronger effect of customer satisfaction on business performance in the later year compared to the current year.

The results confirm that in research on long-term (cumulative) customer satisfaction, a key role is played by customer expectations, through which business managers may positively affect total financial performance (ROA). As such, in pursuit of higher financial performance, it is important to evoke customer expectations by way of customer satisfaction, and then reinforce these expectations via growing levels of product knowledge, which corresponds with the conclusions of [Ruffin et al. \(2012\)](#) and [Yi and La \(2004\)](#). The extent of product knowledge may be increased by binding the customer to the business (i.e., encouraging repeated purchases), or by having the customer themselves convince friends and acquaintances to buy the product, who thereby increase their product knowledge and their expectations. A change in customer expectations as a result of a change in customer satisfaction, via customer loyalty and product knowledge, can be expected to take some time. This may be the reason why the effect on business financial performance is clearly observable as late as the following year, 2017, when the effect of customer expectations on the ROA indicator was greater.

However, in view of the limitations of the SEM method mentioned in the Materials and methods section and also in view of the fundamental changes in the causal relationships between the researched factors of customer satisfaction and customer expectations, it will be necessary to confirm the established causality using more appropriate statistical tools.

When considering management interventions, whether the goal is increasing customer expectations directly or indirectly through satisfaction, loyalty, product knowledge, or perceived quality, these measures must be given time to develop and produce results in terms of financial performance (ROA). That being said, the cost of any interventions focused on increasing customer satisfaction and expectations must be properly compensated by way of an adequate increase in revenue. That by itself, however, is not enough. The increase in revenue must be greater than the increase in costs, otherwise, neither profit nor ROA will increase.

It must be noted that an increase in sales will lead not only to increase in revenue, but also to increase in direct costs (costs associated with production and distribution). It has been proven that costs associated with increasing customer satisfaction reduce business financial performance ([Anderson et al., 1997](#); [Ittner & Larcker, 1998](#)). The costs expended on increasing customer satisfaction and expectations will represent additional costs (either direct, e.g., discounts, or indirect, e.g., advertising); sales volumes will thus need to be proportionally greater, so that these additional costs are covered, or considerably greater, so that profits are increased and business financial performance is not impeded.

5 Conclusion

Several findings stem from researching relationships between factors of customer satisfaction and financial performance (represented by a select indicator) within the complex model. Not only do customer expectations have a direct significant impact on customer satisfaction, but other factors also affect customer satisfaction through customer expectations. In contrast to models of other authors, customer expectations do not affect customer satisfaction and thereby financial performance; instead, customer satisfaction affects customer expectations, and through these expectations it also affects financial performance. This is caused by the subject of research being the customer who purchases the product repeatedly. As such, the customer is unable to separate and identify expectations they had before the (first) purchase and those they had after the purchase ([Ruffin et al., 2012](#)). It is important to note, from a long-term perspective of customer expectations, that these expectations are not necessarily constant and change over time, which affects business financial performance.

Furthermore, the research demonstrates the importance of clearly defining the investigated factors, as well as questions which lead to the construction

of those factors. Questions in our survey focus on the evaluation of expectations regarding future purchases, whereas questions in the research by [Fornell et al. \(1996\)](#), which has been adapted by a number of authors, are specifically aimed at evaluating expectations regarding a purchase which took place in the past. As such, it seems that [Fornell et al. \(1996\)](#) and other researchers investigated different expectations from those investigated in this research. Considering the above, it is a matter of debate whether they took an appropriate approach in their measurements.

If the evaluation of customer expectations is affected by previous purchases, it is logical that it is affected by product knowledge. Increased product knowledge, obtained through an increased number of purchases, has a positive effect on customer expectations. Therefore, if the customer purchases the product more, their expectations increase, which positively affects business financial performance. This product knowledge is positively affected by customer loyalty, i.e., their willingness to purchase the product again and recommend it to others. As such, it seems that it is important to investigate product knowledge as a standalone variable, as it has an important place in the model of customer satisfaction. The importance of clearly defining variables and factors is made apparent here yet again, as product knowledge as we have measured it is generally measured within the factor of perceived quality (cf. [Fornell et al., 1996](#)). This general practice obscures the impact and importance of this variable within the latent factor.

Considering the definition of customer expectations, it is no surprise that perceived product quality affects these expectations (and not the other way around). If previous purchases and product knowledge affect customer expectations, it is logical that product quality and its perception will affect them.

Contrary to standard models, perceived quality, perceived value, and customer satisfaction affect each other, which means that there is no causal link between these factors (in standard models, perceived quality affects perceived value, which affects customer satisfaction—see [Fornell et al., 1996](#)). The nature of this relationship may be caused by the construction of the perceived value factor, which is much more complex (5 variables are used here) compared to standard indices, where only one variable ([Askari-azad & Babakhani, 2015](#)) or two variables ([Fornell et al., 1996](#)) are used. Another and likely more important reason for the nature of the relationship is the construction of the perceived value factor, which in our research focuses not only on the perception of the ratio of price and quality, but also on the ratio of price and functionality of the product and its attributes, as well as the ratio of costs and functionality of the

product and its attributes. [Fornell et al. \(1996\)](#) and [Eklof et al. \(2020\)](#) construct the perceived value factor exclusively based on the ratio of price and quality.

Results show that perceived product quality is also affected by product price (through perceived value) as product-related costs. Changes in the customer's perception of product price or the perceived ratio of costs and quality translate into changes in perceived product quality. This corresponds well with the significant sensitivity of Czech customers to changes in price, as found by [Tomeš et al. \(2016\)](#). The same reciprocal relationship exists between perceived product value and customer satisfaction. It is especially important to note the reciprocal effect of customer satisfaction on perceived product value, meaning that greater customer satisfaction improves perceived product value. From the perspective of customer expectations, perceived product value is of lesser importance. What is important is customer satisfaction and perceived product quality, through which perceived product value can be affected and which directly influence customer expectations.

In order to correctly assess customer satisfaction, it is necessary to correctly define the investigated factors, including their mutual relationships, i.e., the relationships between factors depend on the definitions of those factors. Although the investigated factors seem to be the same as those investigated in other studies, they may in fact be significantly different. This affects the mutual relationships between factors of customer satisfaction and the extent to which they are known. By aggregating individual variables during the creation of latent factors, important information may be lost. This does not happen if those variables are investigated as standalones. As such, it is important to carefully consider which variables are to be investigated as standalones and which may be aggregated into a single factor.

It seems appropriate to understand customer expectations as an evaluation of expectations after a purchase. This leads to the creation of different relationships between customer expectations, customer satisfaction, and other factors. It is necessary to consider that customer expectations are not constant and change over time. One may therefore expect that this will lead to changes in a number of other factors as well, which are in direct relationships with customer expectations, such as financial business performance. Product knowledge appears as especially important to monitor, as it is relevant to customer satisfaction and business competitiveness. Perceived value may have a different position in the system of factors, in the sense that there is a mutual effect with other variables (perceived quality and customer satisfaction) without a causal link between these variables. This

leads to a reduced importance of perceived value as a factor.

It also seems that product competitiveness (assessed as perceived product image) is affected by perceived quality and product knowledge. The relationship between customer satisfaction and loyalty seems stable without regard to used factors, variables, or their definitions. On the other hand, it must be noted that their position in the model of customer satisfaction is somewhat different, i.e., they are not among the key variables which are affected by the assessed factors and which then affect financial performance (this is especially applicable to customer loyalty).

Even though the association between product competitiveness and business financial performance was shown to be on the weaker side, considering the hopeful results and especially the direct nature of the association, it would be appropriate to verify the statistical significance of this relationship through further research, either in the food industry or in other industries. Further research would do well to also focus on other indicators of financial performance (ROE, ATO) since the results of the model including ATO seem quite hopeful.

The limitations of the research are especially the focus on food companies in the Czech Republic, the use of only individual financial ratios for the examination of financial performance, and the static nature of the model. The number of respondents (both enterprises and their customers) is also a limitation. It is shown that the model of customer satisfaction is not static, so it is proposed to dynamize the whole model, i.e., to combine the standard model, where customer expectations influence customer satisfaction, and our model, where the opposite is the case, including the dynamization of financial performance. Due to the fact that we have been able to demonstrate the influence of customer satisfaction or, here, customer expectations on various financial performance indicators, we propose the use of a summary indicator and either multicriteria decision making (e.g., TOPSIS method) or a summary model based on Altman's z-score. All this using more businesses and their customers.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Agus, A., Krishnan, S. K., & Kadir, S. L. S. A. (2000). The structural impact of total quality management on financial

- performance relative to competitors through customer satisfaction: A study of Malaysian manufacturing companies. *Total Quality Management*, 11(4–6), 808–819. <https://doi.org/10.1080/09544120050008255>
- Aghamirian, B., Dorr, B., & Aghamirian, B. (2015). Customer knowledge management application in gaining organisation's competitive advantage in electronic commerce. *Journal of Theoretical and Applied Electronic Commerce Research*, 10(1), 63–78. <https://doi.org/10.4067/S0718-18762015000100006>
- Akhavan, P., & Heydari, S. (2007). Customer knowledge management approach to gain competitive advantage. *Journal of Modiriate Farda*, 5(18), 24–40.
- Ali, H. Y., Danish, R. Q., & Asrar-ul-Haq, M. (2020). How corporate social responsibility boosts firm financial performance: The mediating role of corporate image and customer satisfaction. *Corporate Social Responsibility and Environmental Management*, 27(1), 166–177. <https://doi.org/10.1002/csr.1781>
- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53–66. <https://doi.org/10.1177/002224299405800304>
- Anderson, E. W., Fornell, C., & Mazvancheryl, S. K. (2004). Customer satisfaction and shareholder value. *Journal of Marketing*, 68(4), 172–185. <https://doi.org/10.1509/jmkg.68.4.172.42723>
- Anderson, E. W., Fornell, C., & Rust, R. T. (1997). Customer satisfaction, productivity, and profitability: Differences between goods and services. *Marketing Science*, 16(2), 129–145. <https://doi.org/10.1287/mksc.16.2.129>
- Askariyazad, M. H., & Babakhani, N. (2015). An application of European Customer Satisfaction Index (ECSI) in business to business (B2B) context. *Journal of Business & Industrial Marketing*, 30(1), 17–31. <https://doi.org/10.1108/JBIM-07-2011-0093>
- Awang, Z. H., & Jusoff, K. (2009). The effects of corporate reputation on the competitiveness of Malaysian telecommunication service providers. *International Journal of Business and Management*, 4(5), 173–178. <https://doi.org/10.5539/ijbm.v4n5p173>
- Bayraktar, E., Tatoglu, E., Turkyilmaz, A., Delen, D., & Zaim, S. (2012). Measuring the efficiency of customer satisfaction and loyalty for mobile phone brands with DEA. *Expert Systems with Applications*, 39(1), 99–106. <https://doi.org/10.1016/j.eswa.2011.06.041>
- Berraies, S., & Hamouda, M. (2018). Customer empowerment and firms' performance. *International Journal of Bank Marketing*, 36(2), 336–356. <https://doi.org/10.1108/IJBM-10-2016-0150>
- Bol, J. C. (2008). Subjectivity in compensation contracting. *Journal of Accounting Literature*, 28(1), 1–24.
- Bove, L. L., & Johnson, L. W. (2009). Does "true" personal or service loyalty last? A longitudinal study. *Journal of Services Marketing*, 23(3), 187–194. <https://doi.org/10.1108/08876040910955198>
- Boyd, S., Boland, M., Dhuyvetter, K., & Barton, D. (2007). Determinants of return on equity in US local farm supply and grain marketing cooperatives. *Journal of Agricultural and Applied Economics*, 39(1), 201–210. <https://doi.org/10.1017/S1074070800022847>
- Bridges, E., Yim, C. K., & Briesch, R. A. (1995). A high-tech product market share model with customer expectations. *Marketing Science*, 14(1), 61–81. <https://doi.org/10.1287/mksc.14.1.61>
- Brown, K. A., & Mitchell, T. R. (1993). Organizational obstacles: Links with financial performance, customer satisfaction, and job satisfaction in a service environment. *Human Relations*, 46(6), 725–757. <https://doi.org/10.1177/001872679304600603>
- Brunso, K., Fjord, T. A., & Grunert, K. G. (2002). Consumers' food choice and quality perception (MAPP Working Paper 77). Aarhus School of Business. <https://pure.au.dk/portal/files/32302886/wp77.pdf>
- Cardello, A. V. (1995). Food quality: Relativity, context and consumer expectations. *Food Quality and Preference*, 6(3), 163–170. [https://doi.org/10.1016/0950-3293\(94\)00039-X](https://doi.org/10.1016/0950-3293(94)00039-X)
- Cassel, C., & Eklöf, J. A. (2001). Modelling customer satisfaction and loyalty on aggregate levels: Experience from the ECSI pilot study. *Total Quality Management*, 12(7–8), 834–841. <https://doi.org/10.1080/09544120100000004>

- Chi, C. G., & Gursoy, D. (2009). Employee satisfaction, customer satisfaction, and financial performance: An empirical examination. *International Journal of Hospitality Management*, 28(2), 245–253. <https://doi.org/10.1016/j.ijhm.2008.08.003>
- Chia, A., Goh, M., & Hum, S. H. (2009). Performance measurement in supply chain entities: Balanced scorecard perspective. *Benchmarking: An International Journal*, 16(5), 605–620. <https://doi.org/10.1108/14635770910987832>
- Choi, C. H., Kim, T. T., Lee, G., & Lee, S. K. (2014). Testing the stressor–strain–outcome model of customer-related social stressors in predicting emotional exhaustion, customer orientation and service recovery performance. *International Journal of Hospitality Management*, 36, 272–285. <https://doi.org/10.1016/j.ijhm.2012.09.009>
- Clow, K. E., Kurtz, D. L., & Ozment, J. (1998). A longitudinal study of the stability of consumer expectations of services. *Journal of Business Research*, 42(1), 63–73. [https://doi.org/10.1016/S0148-2963\(97\)00098-2](https://doi.org/10.1016/S0148-2963(97)00098-2)
- Dawes, J. (1999). The relationship between subjective and objective company performance measures in market orientation research: Further empirical evidence. *Marketing Bulletin*, 10, 65–75. http://marketing-bulletin.massey.ac.nz/V10/MB_V10_N3_Dawes.pdf
- Dess, G. G., & Robinson Jr., R. B. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, 5(3), 265–273. <https://doi.org/10.1002/smj.4250050306>
- Diñçer, H., Yüksel, S., & Pınarbaşı, F. (2020). Kano-based measurement of customer expectations in retail service industry using IT2 DEMATEL-QUALIFLEX. In E. Baykal (Ed.), *Handbook of research on positive organizational behavior for improved workplace performance* (pp. 349–370). IGI Global. <https://doi.org/10.4018/978-1-7998-0058-3>
- Dubrovski, D. (2001). The role of customer satisfaction in achieving business excellence. *Total Quality Management*, 12(7–8), 920–925. <https://doi.org/10.1080/09544120100000016>
- Dutta, K., & Dutta, A. (2009). Customer expectations and perceptions across the Indian banking industry and the resultant financial implications. *Journal of Services Research*, 9(1), 31–49.
- Eklof, J., Podkorytova, O., & Malova, A. (2020). Linking customer satisfaction with financial performance: An empirical study of Scandinavian banks. *Total Quality Management & Business Excellence*, 31(15–16), 1684–1702. <https://doi.org/10.1080/14783363.2018.1504621>
- Eren, B. A. (2021). Determinants of customer satisfaction in chatbot use: Evidence from a banking application in Turkey. *International Journal of Bank Marketing*, 39(2), 294–311. <https://doi.org/10.1108/IJBM-02-2020-0056>
- Eren, S. S., Eren, M. Ş., Ayas, N., & Hacıoğlu, G. (2013). The effect of service orientation on financial performance: The mediating role of job satisfaction and customer satisfaction. *Procedia—Social and Behavioral Sciences*, 99, 665–672. <https://doi.org/10.1016/j.sbspro.2013.10.537>
- Fang, C. C., Liou, J. J., Huang, S. W., Wang, Y. C., Huang, H. H., & Tzeng, G. H. (2021). A hybrid, data-driven causality exploration method for exploring the key factors affecting mobile payment usage intention. *Mathematics*, 9(11), 1185.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7–18. <https://doi.org/10.1177/002224299606000403>
- Foster, G., & Gupta, M. (1997). *The customer profitability implications of customer satisfaction* [Working paper]. Stanford Graduate School of Business and Washington University.
- Galbreath, J., & Shum, P. (2012). Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from Australia. *Australian Journal of Management*, 37(2), 211–229. <https://doi.org/10.1177/0312896211432941>
- Gligor, D. (2018). Performance implications of the fit between suppliers' flexibility and their customers' expected flexibility: A dyadic examination. *Journal of Operations Management*, 58–59(1), 73–85. <https://doi.org/10.1016/j.jom.2018.05.002>
- Gunasekaran, A., Williams, H. J., & McGaughey, R. E. (2005). Performance measurement and costing system in new enterprise. *Technovation*, 25(5), 523–533. <https://doi.org/10.1016/j.technovation.2003.09.010>
- Gupta, M., & Galloway, K. (2003). Activity-based costing/management and its implications for operations management. *Technovation*, 23(2), 131–138. [https://doi.org/10.1016/S0166-4972\(01\)00093-1](https://doi.org/10.1016/S0166-4972(01)00093-1)
- Heath, A., & Seldin, D. (2012). *How customer satisfaction drives return on equity for regulated electric utilities* [White paper]. J.D. Power and Associates.
- Hoots, M. (2005). Customer relationship management for facility managers. *Journal of Facilities Management*, 3(4), 346–361. <https://doi.org/10.1108/14725960510630524>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Hua, W., Chan, A., & Mao, Z. (2009). Critical success factors and customer expectation in budget hotel segment—A case study of China. *Journal of Quality Assurance in Hospitality & Tourism*, 10(1), 59–74. <https://doi.org/10.1080/15280080802713702>
- Ilyas, N., Ilyas, A., & Khan, O. (2018). The relationship between customer satisfaction and return on equity in banking sector. *Advances in Natural and Applied Sciences*, 12(3), 37–40. <https://doi.org/10.22587/anas.2018.12.3.5>
- Ittner, C. D., & Larcker, D. F. (1998). Innovations in performance measurement: Trends and research implications. *Journal of Management Accounting Research*, 10, 205–238.
- Jantarakolica, K., Jullobol, N., Worasesthaphong, T., & Aleenajitpong, N. (2017). *Measuring customer satisfaction index and its effect on corporate profitability*. SSRN. <https://doi.org/10.2139/ssrn.3267833>
- Jones, T., & Taylor, S. F. (2007). The conceptual domain of service loyalty: How many dimensions? *Journal of Services Marketing*, 21(1), 36–51. <https://doi.org/10.1108/08876040710726284>
- Johnson, M. D., Nader, G., & Fornell, C. (1996). Expectations, perceived performance, and customer satisfaction for a complex service: The case of bank loans. *Journal of Economic Psychology*, 17(2), 163–182. [https://doi.org/10.1016/0167-4870\(96\)00002-5](https://doi.org/10.1016/0167-4870(96)00002-5)
- Juhl, H. J., Kristensen, K., & Østergaard, P. (2002). Customer satisfaction in European food retailing. *Journal of Retailing and Consumer Services*, 9(6), 327–334. [https://doi.org/10.1016/S0969-6989\(02\)00014-0](https://doi.org/10.1016/S0969-6989(02)00014-0)
- Jyoti, J., Kour, S., & Sharma, J. (2017). Impact of total quality services on financial performance: Role of service profit chain. *Total Quality Management & Business Excellence*, 28(7–8), 897–929. <https://doi.org/10.1080/14783363.2016.1274649>
- Kangis, P., & Passa, V. (1997). Awareness of service charges and its influence on customer expectations and perceptions of quality in banking. *Journal of Services Marketing*, 11(2), 105–117. <https://doi.org/10.1108/08876049710168492>
- Khan, M. T. (2013). Customers loyalty: Concept & definition (a review). *International Journal of Information, Business and Management*, 5(3), 168–191.
- Kyengo, J. M., Muathe, S. M. A., & Kinyua, G. M. (2019). Marketing capability and firm performance: An empirical analysis of food processing firms in Nairobi City County, Kenya. *The Strategic Journal of Business & Change Management*, 6(1), 544–555.
- Lang, G., & Bressolles, G. (2013). Economic performance and customer expectation in e-fulfillment systems: A multi-channel retailer perspective. *Supply Chain Forum: An International Journal*, 14(1), 16–26.
- Lin, C., & Lekhawipat, W. (2016). How customer expectations become adjusted after purchase. *International Journal of Electronic Commerce*, 20(4), 443–469. <https://doi.org/10.1080/10864415.2016.1171973>
- Mascarenhas, O. A., Kesavan, R., & Bernacchi, M. (2006). Lasting customer loyalty: A total customer experience approach. *Journal of Consumer Marketing*, 23(7), 397–405. <https://doi.org/10.1108/07363760610712939>
- Mauri, A. G., & Minazzi, R. (2013). Web reviews influence on expectations and purchasing intentions of hotel potential

- customers. *International Journal of Hospitality Management*, 34, 99–107. <https://doi.org/10.1016/j.ijhm.2013.02.012>
- Miller, J. A. (1977). Studying satisfaction, modifying models, eliciting expectations, posing problems, and making meaningful measurements. In K. H. Hunt (Ed.), *Conceptualization and measurement of consumer satisfaction and dissatisfaction* (pp. 72–91). Marketing Science Institute.
- Mitra, D., & Golder, P. N. (2006). How does objective quality affect perceived quality? Short-term effects, long-term effects, and asymmetries. *Marketing Science*, 25(3), 230–247. <https://doi.org/10.1287/mksc.1050.0175>
- Mittal, V., Anderson, E. W., Sayrak, A., & Tadikamalla, P. (2005). Dual emphasis and the long-term financial impact of customer satisfaction. *Marketing Science*, 24(4), 544–555. <https://doi.org/10.1287/mksc.1050.0142>
- Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 15(4), 80–116. <https://doi.org/10.1108/01443570510633639>
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32(3), 39–48.
- Patin, J. C., Rahman, M., & Mustafa, M. (2020). Impact of total asset turnover ratios on equity returns: Dynamic panel data analyses. *Journal of Accounting, Business and Management (JABM)*, 27(1), 19–29. <https://doi.org/10.31966/jabminternational.v27i1.559>
- R Core Team (2021). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing.
- Robledo, M. A. (2001). Measuring and managing service quality: Integrating customer expectations. *Managing Service Quality: An International Journal*, 11(1), 22–31. <https://doi.org/10.1108/09604520110379472>
- Roggeveen, A. L., & Rosengren, S. (2022). From customer experience to human experience: Uses of systematized and non-systematized knowledge. *Journal of Retailing and Consumer Services*, 67, 1–7. <https://doi.org/10.1016/j.jretconser.2022.102967>
- Rosseel, Y. (2012). Lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), 1–36. <https://doi.org/10.18637/jss.v048.i02>
- Ruffin, R., Medina, C., & Rey, M. (2012). Adjusted expectations, satisfaction and loyalty development. *The Service Industries Journal*, 32(14), 2185–2202. <https://doi.org/10.1080/02642069.2011.594874>
- Rust, R. T., & Oliver, R. L. (1993). *Service quality: New directions in theory and practice*. Sage Publications. <https://doi.org/10.4135/9781452229102>
- Sachdev, S. B., & Verma, H. V. (2002). Customer expectations and service quality dimensions consistency: A study of select industries. *Journal of Management Research*, 2(1), 43–52.
- Satimam, L. H., Mansor, N. N. A., & Zulkifli, N. (2015). Return on Investment (ROI) training evaluation in Malaysian SMEs: Factors influencing the adoption process. *Development and Learning in Organizations*, 29(2), 18–21. <https://doi.org/10.1108/DLO-05-2014-0035>
- Schumacker, R. E., & Lomax, R. G., (2016). *A beginner's guide to structural equation modeling* (2nd ed.). Routledge/Taylor Francis Group. <https://doi.org/10.4324/9781410610904>
- Snoj, B., Korda, A. P., & Mumel, D. (2004). The relationships among perceived quality, perceived risk and perceived product value. *Journal of Product & Brand Management*, 13(3), 156–167. <https://doi.org/10.1108/10610420410538050>
- Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal*, 26(3), 259–276. <https://doi.org/10.1002/smj.450>
- Stylidis, K., Wickman, C., & Söderberg, R. (2020). Perceived quality of products: A framework and attributes ranking method. *Journal of Engineering Design*, 31(1), 37–67. <https://doi.org/10.1080/09544828.2019.1669769>
- Suchánek, P., & Králova, M. (2016). Concept of customer satisfaction within the structural equation modeling—Measurement part. In *Marketing Management, Trade, Financial and Social Aspects of Business Conference, Proceedings of the 4th International Scientific Conference* (pp. 231–237). University of Economics in Bratislava, Faculty of Business Economics with seat in Košice.
- Suchánek, P., & Králová, M. (2019). Customer satisfaction, loyalty, knowledge and competitiveness in the food industry. *Economic Research/Ekonomska istraživanja*, 32(1), 1237–1255. <https://doi.org/10.1080/1331677X.2019.1627893>
- Sun, K. A., & Kim, D. Y. (2013). Does customer satisfaction increase firm performance? An application of American Customer Satisfaction Index (ACSI). *International Journal of Hospitality Management*, 35, 68–77. <https://doi.org/10.1016/j.ijhm.2013.05.008>
- Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, 77(2), 203–220. [https://doi.org/10.1016/S0022-4359\(01\)00041-0](https://doi.org/10.1016/S0022-4359(01)00041-0)
- Tan, K. C., Kannan, V. R., & Handfield, R. B. (1998). Supply chain management: Supplier performance and firm performance. *International Journal of Purchasing & Materials Management*, 34(3), 1–23.
- Terpstra, M., & Verbeeten, F. H. M. (2014). Customer satisfaction: Cost driver or value driver? Empirical evidence from the financial services industry. *European Management Journal*, 32(3), 499–508. <https://doi.org/10.1016/j.emj.2013.07.001>
- Tomeš, Z., Kvizda, M., Jandová, M., & Rederer, V. (2016). Open access passenger rail competition in the Czech Republic. *Transport Policy*, 47, 203–211. <https://doi.org/10.1016/j.tranpol.2016.02.003>
- Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301–339. <https://doi.org/10.1177/014920630002600207>
- van der Wiele, T., Boselie, P., & Hesselink, M. (2002). Empirical evidence for the relationship between customer satisfaction and business performance. *Managing Service Quality: An International Journal*, 12(3), 184–193. <https://doi.org/10.1108/09604520210429259>
- Wall, T. D., Michie, J., Patterson, M., Wood, S. J., Sheehan, M., Clegg, C. W., & West, M. (2004). On the validity of subjective measures of company performance. *Personnel Psychology*, 57(1), 95–118. <https://doi.org/10.1111/j.1744-6570.2004.tb02485.x>
- Wiley, J. W. (1991). Customer satisfaction: A supportive work environment and its financial cost. *Human Resource Planning*, 14(2), 117–127.
- Wong, I. A., & Dioko, L. D. A. (2013). Understanding the mediated moderating role of customer expectations in the customer satisfaction model: The case of casinos. *Tourism Management*, 36, 188–199. <https://doi.org/10.1016/j.tourman.2012.10.010>
- Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology and Marketing*, 21(10), 799–822. <https://doi.org/10.1002/mar.20030>
- Yeung, M. C. H., Ging, L. C., & Ennew, C. T. (2002). Customer satisfaction and profitability: A reappraisal of the nature of the relationship. *Journal of Targeting, Measurement and Analysis for Marketing*, 11(1), 24–33. <https://doi.org/10.1057/palgrave.jt.5740064>
- Yi, Y., & La, S. (2004). What influences the relationship between customer satisfaction and repurchase intention? Investigating the effects of adjusted expectations and customer loyalty. *Psychology & Marketing*, 21(5), 351–373. <https://doi.org/10.1002/mar.20009>
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1993). The nature and determinants of customer expectations of service. *Journal of the Academy of Marketing Science*, 21(1), 1–12. <https://doi.org/10.1177/0092070393211001>
- Zulkifli, S. N. A., & Perera, N. (2011). A literature analysis on business performance for SMEs: Subjective or objective measures? In *Society of Interdisciplinary Business Research (SIBR) 2011 Conference on Interdisciplinary Business Research* (pp. 1–9). SSRN. <https://doi.org/10.2139/ssrn.1867874>

Appendix

Table A1. Survey questionnaire.

Variable	Questionnaire question
Product knowledge	How well do you know the product? <i>I know the product a little (I have bought the product only a few times) . . . I know the product very well (already many years)</i>
Competitiveness 1	How do you assess the image of the product with respect to its brand (tradition, reputation, prestige) in comparison with the competition? <i>significantly worse . . . significantly better</i>
Competitiveness 2	How do you assess the image of the product with respect to its overall quality (i.e., nutritional value, taste, composition, appearance or packaging, etc.) in comparison with the competition? <i>significantly worse . . . significantly better</i>
Competitiveness 4	How do you assess the image of the product with regard to the level of marketing communication (interest, how memorable, the intensity of advertising, sales promotion, etc.) which relates to the product in comparison with the competition? <i>significantly worse than the competition, I do not know any advertising, sales promotion, etc. . . . significantly better than the competition, advertising is funny, etc.</i>
Customer expectation 1	To what extent does the product meet your needs and requirements? <i>does not satisfy them at all . . . fully meets them</i>
Customer expectation 2	To what extent is the quality of the product stable over the period you have known it compared with your expectations of the characteristics of the product (i.e., no changes in taste, appearance, composition, nutritional value, etc.)? <i>product is different every time . . . product is always exactly the same</i>
Customer expectation 3	To what extent does the product meet your expectations (needs and requirements) in comparison with the promises (product information, advertising, etc.)? <i>does not satisfy them at all . . . fully meets them</i>
Customer Expectation 4	How do you evaluate the product in comparison with the expectation that you always have before its purchase and consumption? <i>product is always significantly worse . . . product is always significantly better</i>
Perceived quality 1	How do you assess the quality of the product with regard to its taste? <i>very low . . . very high</i>
Perceived quality 2	How do you assess the quality of the product with respect to its composition (ingredients, including their origin, content ratio of components, etc.)? <i>very low . . . very high</i>
Perceived quality 3	How do you assess the quality of the product with respect to its appearance? <i>very low . . . very high</i>
Perceived quality 4	How do you assess the quality of the product with respect to its nutritional value (especially in terms of functionality—energy, health, sweetness, refreshment, etc.)? <i>very low . . . very high</i>
Perceived quality 5	How do you assess the overall quality (the overall assessment of its taste, composition, nutritional value, freshness, durability, appearance, smell, or packaging, etc.) of the product? <i>very low . . . very high</i>
Perceived value 1	Compared with the price of the product (the price you usually pay), do you assess its overall quality as: <i>the price is significantly higher than its quality . . . for its quality it could be significantly more expensive</i>
Perceived value 2	Compared with the price of the product (the price you usually pay), do you assess the taste, composition, appearance, and smell of the product, i.e., the product's features, as: <i>the price is significantly higher than its quality . . . for its quality it could be significantly more expensive</i>
Perceived value 3	Compared with the price of the product (the price you usually pay), do you assess the functionality of the product (i.e., the fulfilling of those functions that you expect from the product, e.g., how it satisfies the appetite, tastes, refreshes, etc.) as: <i>the price is significantly higher than its quality . . . for its quality it could be significantly more expensive</i>
Perceived value 4	Evaluate the cost of getting the product (in acquiring or “hunting” for it, its storage, disposal, and price) in comparison with its durability, expiry date, use, freshness: <i>the costs are significantly higher . . . durability, expiry date, use, freshness, etc. is significantly higher</i>
Perceived value 5	Evaluate the overall quality of the product, i.e., the features and functionality in comparison with the overall costs of the product (including product price, storage costs, disposal, time-related costs, e.g., to opening or closing of the packaging, the time cost related to “hunting” for the product that is not always available, etc.) <i>the overall costs are significantly higher . . . the overall quality is significantly higher</i>
Customer satisfaction 1	How generally satisfied are you with the product? <i>not at all . . . completely</i>
Customer satisfaction 2	How much does your overall satisfaction with the product correspond with your expectations (the expected satisfaction)? <i>the reality is worse than my expectations . . . the reality is better than my expectations</i>
Customer satisfaction 3	What is your overall satisfaction with the evaluated product compared to the ideal product? <i>extremely low . . . extremely high</i>
Customer loyalty 2	How often do you buy a similar product from another manufacturer? <i>often—I do not care which manufacturer I buy the product from . . . never—I buy the product only from this particular manufacturer</i>
Customer loyalty 3	If there are several very similar products on offer, at a very similar price, do you always choose the evaluated product? <i>certainly not—I do not mind, I decide according to the best offer . . . definitely—I always choose the evaluated product—it is the best</i>
Customer loyalty 4	If the price of the product increased (by up to 50% of the current price), would the amount/number of the product you purchase be likely to: <i>significantly decrease . . . remain the same</i>
Customer loyalty 5	Do you or would you recommend the product to your friends, family or other customers? <i>certainly not—it is better not to recommend the product . . . definitely—I often recommend the product/it is worth letting more people know about it</i>