

**EMPIRICAL EVIDENCE FOR THE RELATION BETWEEN CUSTOMER
SATISFACTION AND BUSINESS PERFORMANCE**

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ERIM REPORT SERIES <i>RESEARCH IN MANAGEMENT</i>	
ERIM Report Series reference number	ERS-2001-32-ORG
Publication	May 2001
Number of pages	19
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REPORT SERIES *RESEARCH IN MANAGEMENT*

BIBLIOGRAPHIC DATA AND CLASSIFICATIONS		
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Library of Congress Classification (LCC)	5001-6182	Business
	5546-5548.6	Office Organization and Management
	5548.7-5548.85	Industrial Psychology
	HF 5415.32 HD 58.7	Consumer Behavior Organizational Behavior
Journal of Economic Literature (JEL)	M	Business Administration and Business Economics
	M 10	Business Administration: general
	L 2	Firm Objectives, Organization and Behaviour
	L 22	Firm Organization
European Business Schools Library Group (EBSLG)	85 A	Business General
	100B	Organization Theory (general)
	240 B	Information Systems Management
	100 X 280 N	Organization Development Consumer Behaviour
Gemeenschappelijke Onderwerpsontsluiting (GOO)		
Classification GOO	85.00	Bedrijfskunde, Organisatiekunde: algemeen
	85.05	Management organisatie: algemeen
	85.08	Organisatiesociologie, organisatiepsychologie
	85.40	Marketing
	85.10	Strategisch Beleid
Keywords GOO	Bedrijfskunde / Bedrijfseconomie	
	Organisatieleer, informatietechnologie, prestatiebeoordeling	
	Consumentengedrag, Tevredenheid, Prestatiebeoordeling	
Free keywords	Customer satisfaction; customer behaviour; business performance improvement	
Other information		

Empirical evidence for the relation between customer satisfaction and business performance?

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Abstract

This paper focuses on the analysis of empirical data on customer satisfaction and the relationship with hard organisational performance data. The organisation is a Flexcompany with its headquarters in The Netherlands, but also operating in other countries in Europe. The empirical data on customer satisfaction and business performances stem from 1998 and 1999.

Based on the empirical data it can be concluded that it is possible to find evidence for the hypothesis that there is a positive relationship between customer satisfaction and organisational performance indicators, although the relationship is not very strong.

Various factors might influence the timelag between a change in customer satisfaction and an expected effect in sales, margin, or other output indicators. However, the analyses do give answers to questions related to the quality dimensions as underlying factors behind the items in the customer satisfaction questionnaire and some indications for the changing behaviour of the customer in relation to his perception.

Introduction

Service quality has become important in many ways for most organisations, still the general view is that organisations don't take it too seriously. According to Zemke (1990): "Nothing is as common today as the organisation committed more to lip service than customer service; more interested in advertising than action". Capodagli and Jackson (1998) point in the same direction: "All too many companies seem to consider customers as nothing more than a necessary nuisance. Oh, they may say otherwise, but they don't deliver. If the road to hell is paved with good intentions, then the road to business failure is littered with placards proclaiming 'the customer is always right'".

One of the reasons is that the relationship between customer satisfaction (as a result of service quality) and business performance is not always very clear. The link between customer satisfaction and profits is neither straightforward nor simple (Zeithaml, 2000). Three major problems in measuring the relationship are (1) the timelag between measuring customer satisfaction and measuring profit improvements, (2) the number of other variables influencing company profits like price, distribution, competition etc and (3) the fact that other variables (e.g. behavioural issues) should be included in the relationship because they explain the causality between satisfaction and results.

Zeithaml (2000) gives an excellent overview of findings of research on aspects of the relationship between customer satisfaction and organisational performance. Positive evidence on the direct relationship between customer satisfaction and organisational performance is found by e.g. Koska (1990) and Nelson et al (1992) in hospital settings with higher profitability; Aaker and Jacobson (1994) found better stock return linked to improved quality perceptions; Anderson, Fornell and Lehmann (1994) found a significant association between customer satisfaction and accounting return on assets; Ittner and Larckner (1996) found that shareholder value is highly elastic with respect to customer satisfaction.

Other research (Buzzell and Gale (1987); Jacobson and Aaker (1987); Gale (1992); Hallowell (1996); Fornell (1992)) is showing that higher customer satisfaction translates into higher than normal market share growth, the ability to charge a higher

price, improved customer loyalty with a strong link to improved profitability, and lower transaction costs. Customer satisfaction is also found to be strongly correlated with repurchase intentions, the willingness to recommend the company, and to improved cross-buying (Reichheld (1996b); Cronin and Taylor (1992); Parasuraman, Zeithaml and Berry (1988); Zeithaml, Berry and Parasuraman (1996); Anderson and Sullivan (1993); Verhoef, Franses and Hoekstra (1999)).

From customer satisfaction to managing for business performance improvement

One reason that organisations don't take customer satisfaction very seriously might be the difficulty in measuring the relationship between customer satisfaction and profit, however, another reason is the difficulty in translating the customer satisfaction data into action within the organisation. Most customer satisfaction measurements are based on short lists of items which have been defined inside-out. Those measurements don't improve the knowledge about what customers really find important and how customers build their perception.

In service environments customer satisfaction will be built on a combination of technical quality aspects and functional quality aspects (Gronroos, 1984). Technical quality or the quality of the output corresponds to traditional quality control in manufacturing, it is a matter of properly producing the core benefit of the service. Functional quality or process quality is the way the service is delivered, it is the process in which the customer is a participant and co-producer and in which the relationship between service provider and customer plays an important role. Technical quality is related to what the customer gets (transaction satisfaction), functional quality is related to how the customer gets the result of the interaction (relationship satisfaction).

Another approach is to identify more clearly what quality dimensions play a role in the development of customer's perception. Parasuraman et al (1988) developed the general perspective for service organisations, building on empirical research in various service sectors. They came to five overall quality dimensions which have general applicability in the service sector:

- Tangibles: physical facilities, equipment, and appearance of personnel;

- Reliability: ability to perform the promised service dependably and accurately;
- Responsiveness: willingness to help customers and provide prompt service;
- Assurance: knowledge and courtesy of employees and their ability to convey trust and confidence;
- Empathy: caring, individualised attention the employees provide their customers.

By developing knowledge from the customer satisfaction data about the way customers perceive quality (outside-in) it will be possible to take more concrete actions for continuous improvement. Customer satisfaction measurement is the one thing, managing for improvement is what really counts for on the long term.

Start Flexcompany

The data that are available form a unique database in many views.

First of all the organisation, Start Flexcompany, is a service organisation at the far extreme end of the manufacturing/service continuum. Start is an intermediary organisation with the aim to create the link between the person looking for a job (the flexworker) and the company that is looking for new employees (the customer). In the past the ultimate aim of flexcompanies has been to help people in a job and thereafter the role of the agency was finished. More recently, Start has redefined its role because of developments in the employability market and in changes in the demands of the flexworkers. The new philosophy of Start is to become a partner for flexworkers in their long term career, and thereby being able to satisfy customers better. The service excellence program as it has been started in 2000 within Start is a way to create future business performances through a service quality leadership approach, focused on getting highly motivated, satisfied and quality orientated employees, who create happy flexworkers and happy customers.

A second point of interest is the fact that Start has already for some years gathered a lot of data on many aspects of the business. So, many data are available and can be checked, fine tuned, and validated.

Another interesting issue of the available data is the fact that the organisation wants to take the data seriously and as a starting point for actions to be developed. The customer satisfaction data therefore are important in relation to the improvement activities that have to be directed towards building the service excellence philosophy into the organisation.

Finally the data give the possibility for longitudinal research. It is expected that relationships between some of the variables will have timelags. Satisfaction or dissatisfaction will lead to a change in behaviour, and will ultimately effect in variations in the hard data e.g. sales etc. Longitudinal research might spread some more light into the notion of those timelags.

Research aim

The authors use a customer satisfaction database from Start Flexcompany, one of the major employment agencies in The Netherlands, to empirically test the relationship between customer satisfaction and business performances. The focus is to relate the customer satisfaction data gathered in 1998 with data on business performance in 1998 and in 1999. The data used as measures of business performance are: sales volume, sales margin, number of hours sold per customer, and number of placements per customer.

The hypotheses tested on the data are:

- (1) higher customer satisfaction at $t=0$ is positively correlated with higher performance (sales volume and/or sales margin) in year $t=0$;
- (2) higher customer satisfaction at $t=0$ will lead to higher performance (sales volume and/or sales margin) in year $t=1$.

Some of the customer satisfaction measures reflect customer behaviour, e.g. making complaints, and making use of other flexcompanies. Therefore it is also possible to analyse the data in a way to identify the extent to which these behavioural aspects explain the changes in the business performance.

Empirical data

The Flexcompany is using a questionnaire survey in relation to measuring customer satisfaction. The data used for the analyses have the following structure in the questionnaire:

- 13 questions to be answered on a five point scale concerning various satisfaction items;
- one question (yes/no) about having made complaints; furthermore three questions (with a five point scale) about the way the complaints have been handled and solved;
- one question (yes/no) about using other flexcompanies besides Start; and connected to this, if the other flexcompany serves better or not than Start Flexcompany;
- a question on the overall satisfaction with the services offered by Start Flexcompany.

The questionnaire is sent out to the customers (representative(s) of companies that buy temporarily staff) through one of the more than 500 branches in The Netherlands. The responses are then gathered and sent to headquarters where these responses are summarised once a year.

Yearly approximately 4000 responses are available on customer satisfaction of the intakers of flexworkers. For this paper we take the sample of approximately 900 responses received in 1998 and in 1999 for which it is possible to identify the link to the specific customer in order to be able to relate the customer satisfaction data to the business performance.

The data on customer satisfaction have been analysed through factor analysis in order to find underlying concepts or dimensions of customer satisfaction (Parasuraman, Zeithaml and Berry (1988)). It is necessary to look at customer satisfaction from the point of view of the customer. Following (Parasuraman, Zeithaml and Berry (1988)) customer satisfaction is the outcome of the comparison between expected quality and

perceived quality. There is the problem as indicated by Gutek et al (2000) that measures of customer satisfaction often do not distinguish between satisfaction with the firm and with the service provider.

The data on business performance are taken from 1998 and 1999. Every customer organisation has a unique code which makes it possible to select the business performance data in relation to the specific responses. Although the coding system makes identification possible, in the specific situation of the employment agency there is the problem that more than one branch might have contacts with more than one representative from a specific large company. In our sample we identified the one-to-one relationship and deleted the responses where it was not possible to create the direct relationship between the customer satisfaction response and the hard data on business performance of the company of the respondent.

In the questionnaire there are two questions which reflect the behaviour of the customer:

- making complaints
- switching behaviour/making use of other employment agencies

Through the analyses it might be possible to identify the role of these behavioural factors as the mediators between satisfaction and business performance.

Analyses of the data

Descriptive analyses on the sample

In table 1 the mean and standard deviations are summarised for the data from the customer satisfaction surveys in 1998 and 1999.

Table 1: Descriptive statistics of the variables (1998 & 1999)

item	description	N	mean	std dev
Satisfaction items:				
Q01_1	It is easy to contact the Start location by telephone (1-5 scale)	880	4.59	.64
Q01_2		875	4.50	.71
Q02_1	Start employees have the right attitude	873	4.39	.71
Q02_2		873	4.31	.73
Q03_1	Start employees have enough knowledge	864	4.09	.78
Q03_2		868	4.02	.79
Q04_1	Start employees understand your organisation	869	4.05	.87
Q04_2		867	4.02	.84
Q05_1	Start employees do everything to get the right person on the right	857	4.07	.81
Q05_2		855	3.95	.84
Q06_1	Start has a dedicated contactperson for your organisation	867	4.36	.89
Q06_2		872	4.29	.87
Q07_1	Important appointments are confirmed and documented	836	4.13	.94
Q07_2		833	4.04	.92
Q08_1	The selected candidates fit in the agreed profile	849	3.71	.80
Q08_2		837	3.60	.80
Q09_1	The vacancies are filled within agreed periods	844	3.58	.99
Q09_2		826	3.38	1.03
Q10_1	The flexworkers are motivated	849	3.81	.81
Q10_2		843	3.65	.81
Q11_1	The invoicing process is good	843	4.15	.92
Q11_2		843	4.06	.94
Q12_1	Start develops the right solution for your human resources problems	787	3.71	.85
Q12_2		805	3.58	.87
Q13_1	At Start you get value for your money	831	3.77	.75
Q13_2		833	3.67	.78
Complaints items:				
Q15_1	Did you make a complaint about the service of Start (0=no; 1=yes)	851	.13	.34
Q15_2		846	.12	.33
Q15a_1	Your complaint has been solved rapidly by Start	204	3.66	1.04
Q15a_2		216	3.44	1.04
Q15b_1	Your complaint has been solved with satisfaction	200	3.72	1.11
Q15b_2		211	3.51	1.06
Use of other employment agencies:				
Q16_1	Did you make use this year of other employment agencies (0=no;	806	.72	.45
Q16_2		790	.75	.43
Q16a_1	How do you rate the service of other agencies in relation to Start	688	3.26	.67
Q16a_2		700	3.29	.74
Overall satisfaction:				
Q19_1	How do you rate the overall service of Start (1-10 scale)	850	7.66	.81
Q19_2		858	7.43	1.30

- Q01_1 = question 1 in 1998; Q01_2 = question 1 in 1999 etc.

- Scoring is on a five point scale from 1 (= fully disagree) to 5 (= fully agree) if not defined otherwise.

- Not all questions of the questionnaire have been used for the analyses; still, the original numbering have been followed.

Factor analyses on the customer satisfaction data

The factor analyses of the 13 satisfaction items gave two factors, which have been labelled:

- Service Quality (SQ), covering: easiness to contact Start by telephone; employees having the right attitude; employees having good knowledge; understanding the client; getting the right person on the right place; dedicated contactperson; confirmation of important arrangements; and good invoicing process. Service Quality has to do with the way the employees of Start are delivering the service, and is very much alike the functional quality as defined by Gronroos (1984). It shows the satisfaction with the relationship between the customer and the Start employee.
- Matching Quality (MQ), covering: candidates fit in agreed profile; vacancies are filled within timelimits; motivation flexworkers; right solution for human resources problems; value for money; and also getting the right person on the right place is adding to this factor (this last mentioned item also loads on the service quality factor). Matching Quality is the technical quality as defined by Gronroos (1984) and is related to what the customer gets, e.g. in this situation it is the quality of the flexworker and the fit of the flexworker with the problem of the customer company.

The analyses are summarised in table 2. There is a small difference between the factoranalyses on the data in 1998 and 1999; the item related to the invoicing process (Q11) has a factor loading less than .400 on each of the two factors in 1998, while in 1999 this item contributes more strongly to the service quality factor. The factor analysis presented in table 2 is done on the subsamples of 1998 and 1999 for which data on organisational performances are also available. For control purposes the factor analyses also have been done on the total samples of 1998, 1999, and 2000 of the customer satisfaction data, and the same factor constructs have been found everytime for Service Quality and Matching Quality, showing that these constructs are valid over time.

Table 2: Factor analyses on the satisfaction items (1998 & 1999): factorloadings (>.400)

	F1 (SQ) 1998	F2 (MQ) 1998	F1 (SQ) 1999	F2 (MQ) 1999
item	Service quality	Matching quality	Service quality	Matching quality
Q01	.672		.659	
Q02	.784		.763	
Q03	.735		.670	
Q04	.759		.654	
Q05	.609	.485	.521	.601
Q06	.585		.647	
Q07	.593		.540	
Q08		.705		.739
Q09		.759		.721
Q10		.754		.773
Q11	.396		.513	
Q12		.679		.654
Q13		.705		.715
KMO test	.920		.910	
% variance explain	54.76%		53.62%	
Cronbach alfa	.84	.87	.85	.86
Mean	4.23	3.76	4.15	3.62
Std dev	.56	.64	.56	.65

Organisational performance

Data are available on sales per customer, sales margin per customer (sales minus costs of the flexworkers, e.g. salary, social security and taxes), number of placements per customer and number of hours sold per customer. For reasons of confidentiality the descriptives are not presented here. The standard deviations related to the mean values of sales and margin are very high (2 to 3 times the level of the mean value) indicating that there is not a normal spread in these data. Therefore, we excluded all values equal to zero or less, and defined categories for sales and for margin which had than a roughly equal number of respondents.

Ten categories for sales are defined between 1 and 1,000,000 NFL salesvolume per year per customer; nine categories for margin are used between 1 and 100,000NFL

margin per year per customer. In this way the extremes have been excluded in terms of sales volume and margin.

Tests on the relationship between customer satisfaction and business performance

In table 3 the relationship between perceived service quality in 1998 and perceived matching quality in 1998 is summarised based on the correlation with sales volume, sales margin, number of placements and number of hours sold for the company of the respondent in 1998 and in 1999. It was assumed that there might be a timelag between perceived customer satisfaction and the effects in terms of doing more business based on a higher level of satisfaction.

Table 3: Correlation between satisfaction and organisational performances: significant correlationcoefficient (1998 & 1999)

Flexworkers 1998	Sales volume 98 (categories)	Margin 98 (categories)	Placements 98 (>0)	Hours sold 98 (>0)
Service quality 98 (factor construct)	.091**	.101**	-.003	.029
Matching quality 98 (factor construct)	.013	.021	.011	.017
Overall quality 98 (Question 19)	.067**	.070**	-.007	.021
Flexworkers 1998	Sales volume 99 (categories)	Margin 99 (categories)	Placements 99 (>0)	Hours sold 99 (>0)
Service quality 98 (factor construct)	.058**	.052*	-.016	.000
Matching quality 98 (factor construct)	.029	.027	.039	.031
Overall quality 98 (Question 19)	.033	.034	-.005	.009

* = significance level p<.05 (2-tailed); **=significance level p<.01 (2-tailed)

From the correlations we can conclude that there is a significant correlation between perceived customer satisfaction and sales volume and margin in the same period (cross-sectional correlation) for service quality and for the overall quality perception.

Matching quality is coming out as a 'dissatisfier', something that is expected to be delivered without having further impact on the quality perception of the customer. It is also difficult to differentiate from the competitor on the issue of matching; all flexcompanies face the same problems in finding people and have the same problems caused by market conditions. Customers might notice a difference in service quality between one or the other flexcompany.

What is even more interesting coming out of table 3 is the fact that service quality makes sense over time. Service quality is significantly correlated to sales volume and margin in the next year period. This indicates that service quality really can make a difference and improve business results significantly. The level of correlation is not very high, however, a few percent increase in sales and margin as a result of an investment in service quality could mean a very good ROI!

Another conclusion drawn from table 3 is that although there is a positive relation between service quality and sales and margin, the number of placements and or the number of hours sold does not have to change. This might be an argument to support the idea that higher service makes it possible to have a higher price for the service delivered.

Test on the behavioural aspects

Other behavioural effects were included in the questionnaire which can be analysed further. These are: the items around complaints and the item about the use of other employment agencies.

In table 4 the relationships between (1) having complaints and (2) use of other flexcompanies, are correlated to quality perception indicators and to organisational performances.

Table 4a: The correlations between behavioural items and quality indicators

item		Service Quality 98	Matching Quality 98	Overall Quality 98
Q15-1	Made complaints in 1998	-.127**	-.160**	-.246**
Q16-1	Made use of other agencies in 1998	-.061**	-.185**	-.177**

** = significance level $p < .01$ (2-tailed)

The correlations between behavioural items and quality indicators-'99 did not give significant results

Table 4b: The correlations between behavioural items and organisational performance indicators

item		Sales 98	Margin 98	Places 98	Hours 98
Q15-1	Made complaints in 1998	.071**	.035	.156**	.135**
Q16-1	Made use of other agencies in 1998	.159**	.185**	.086**	.082**

item		Sales 99	Margin 99	Places 99	Hours 99
Q15-1	Made complaints in 1998	.084**	.043**	.132**	.108**
Q16-1	Made use of other agencies in 1998	.157**	.186**	.060**	.082**

** = significance level $p < .01$ (2-tailed)

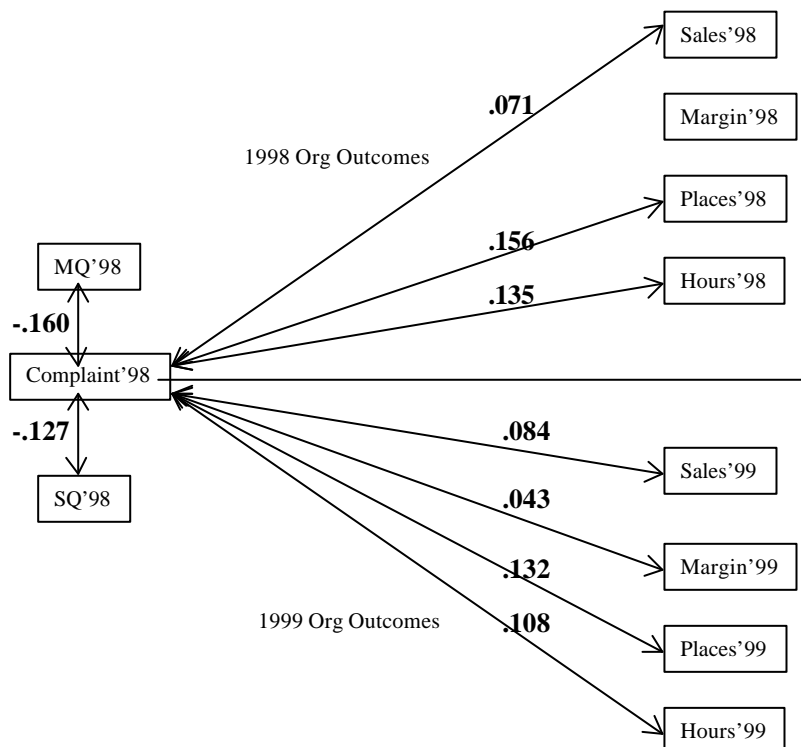


Figure 1: The relationships between perception, complaints, and organisational outcomes

From table 4a/b (illustrated in another way for making complaints in figure 1) it is concluded that there is a negative correlation between making complaints and using other flexcompanies on the one hand and quality perceptions on the other hand. One explanation is that for example if matching quality is low because of the flexcompany not being able to find the right candidates, the customer will try to find good candidates through other flexcompanies.

What is of interest is the positive correlations between making complaints and making use of other flexcompanies on the one hand and organisational performances on the other. This significant positive correlation might be explained because larger customers (measured against sales, margin, placements, hours sold) might be more committed to get problems solved because they expect a long term relationship. Those important (because of size) customers complaint more, and it is important to pay attention to those complaints and treat those in the right way, otherwise the flexcompany might loose those committed customers.

Table 5a: The correlations between complaint handling items and quality indicators

item	Complaint handling:	Service Quality 98	Matching Quality 98	Overall Quality 98
Q15A-1	Handled with speed in 1998	.338**	.298**	.419**
Q15B-1	Handled with satisfaction in 1998	.367**	.363**	.482**

** = significance level $p < .01$ (2-tailed)

The correlations between complaint handling items and quality indicators-'99 gave significant results only for Overall Quality 99.

Table 5b: The correlations between complaint handling items and organisational performance indicators

item		Sales 98	Margin 98	Places 98	Hours 98
Q15A-1	Handled with speed in 1998	.154**	.157**	.036	-.005
Q15B-1	Handled with satisfaction in 1998	.207**	.187**	.098	.067
item		Sales 99	Margin 99	Places 99	Hours 99
Q15A-1	Handled with speed in 1998	.116	.119	.081	.007
Q15B-1	Handled with satisfaction in 1998	.149*	.119	.125*	.073

* = significance level $p < .05$ (2-tailed), ** = significance level $p < .01$ (2-tailed)

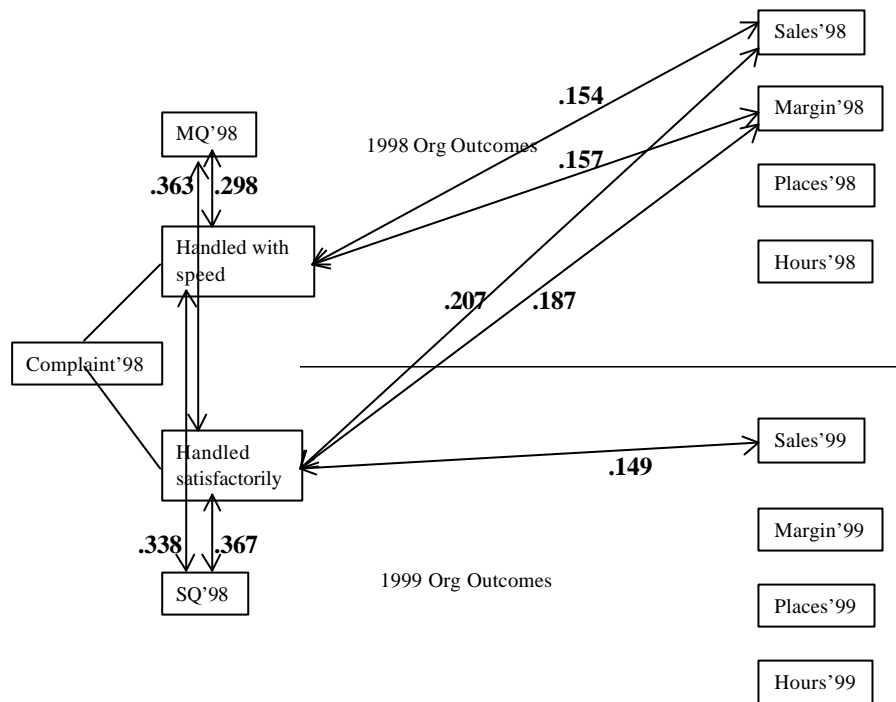


Figure 2: The relationships between handling complaints and organisational outcomes

From table 5 it can be concluded that there is a strong positive correlation between the perceived quality indicators with the way the complaints are handled by the organisation during the same time period. A fast response to complaints and being aware that the process of handling the complaints is satisfactory to the customer.

From the correlation of complaint handling items with organisational performances we found a number of significant positive correlations in the same time period. The effects of a proper treatment of complaints (fast and satisfactory) has only a significant positive effect on a very few indicators in the next time period, indicating the perceptions are more or less bound to the incidents in a short time frame linked to the measurement of customer satisfaction (illustrated in figure 2).

Discussion

The hypothesis that perceived quality is related to organisational performance indicators in the same year and/or in the next year is strongly supported by the data available from the Start Flexcompany. Service quality is significantly correlated with

sales and margin in the same timeperiod and in the next year period. Matching quality only has a significant correlation with sales and margin in the same time period.

We found significant negative correlations between behavioural items (making complaints; making use of other agencies) and perceptions on service and matching quality. These behavioural items are significantly positively correlated with the organisational performance indicators, indicating that the more important, larger customers making more complaints and are using more often also other flexcompanies.

The way the complaints are handled are positively correlated with quality perceptions, and with organisational performance indicators in the same time period. The way the complaints are handled does, however, not show a very strong long term effect on organisational performances.

The analyses on the dataset of customer perceptions about the Flexcompany have been an interesting exercise. A number of issues came up as a result of the various tests and modelling that has been worked on. Those issues are:

- The problem of linking perception data and organisational performance.

In this case the respondent is just one person or a representative of the customer who might have the relationship with employees of the flexcompany. However, the financial link between the flexcompany and the customer is based on relationships with other representatives of the customer-company.

- The problem of proxality versus distality.

Kanfer (1994) has shown the theoretical issues around the distance between variables. We try to relate quality perceptions and organisational performances, however, it can be expected that there are various intermediate variables in between these two, that really describe the causal relationships.

- The problem of specific factors influencing the variables that are studied.

In this case the economic market situation is rather special. It is difficult to find good flexworkers for which the organisation tries to intermediate towards customer companies. All competitors face the same market problems; however, this factor is very much influencing the variables that are measured while those factors are not included in the analyse.

- The problem of spread in the sample.

In the sample studied there is not a normal spread of customers. There are many very small customers, and only a few very big customer companies. For the bigger companies it is not easy to trace back the relationships between the various representatives (more than one respondent per company) and the organisational performances

- The problem of creating factorial constructs.

Although quite often it is difficult to find factorial constructs that are stable over time (Wright and Gardner, 2001), we found with our two constructs, e.g. service quality and matching quality, that they are stable over three years (the data of 1998, 1999 and 2000 gave the same results on the factor analyses).

Afterthoughts

It can be argued that quality perception will have effect in the next period in terms of sales volume, margin, placements and hours sold. However, there are also reasons to believe that the measurement of quality perceptions are very much based on the most recent experiences and are already forgotten next year. Other reasons are that quality perceptions are built not only on the service (service quality and matching quality) you deliver to the customer, but are also built on many other factors, e.g. market circumstances, competition, economic situation and changes etceteras.

An interesting idea for further research is to investigate the relationships between the changes (the delta's) in the variables measured. This will need more longitudinal research and the identification of respondents in order to be able to link the perception data and the changes in the perception data to the organisational performance data and the changes in those hard data.

The importance of measuring quality perceptions is not in measuring your score, but more important is the relationship with your customer and the knowledge you build about the issues that are really important for your customer. Becoming customer oriented does not mean that you get a high score on ratings, but that you are aware what the needs are of your customer.

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