

Analysis of customer satisfaction in the Centre for Health Science

Štěpán Frk, DiS.

Bachelor work
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Zásady pro vypracování:

1. Prostudujte uvedenou literaturu týkající se zvoleného tématu.
2. Vypracujte dotazník pro zjištění spokojenosti zákazníků.
3. Proveďte průzkum spokojenosti interních a externích uživatelů Centre for Health Science.
4. Posuďte výsledky výzkumu a doplňte informace z dalších zdrojů.
5. Navrhněte opatření pro zvýšení spokojenosti uživatelů centra.

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[1] Hill, N., Brierly, J., MacDoughall, R. How to measure customer satisfaction. Hampshire, UK: Gower Press, 1999. 136 p. ISBN 0-566-08193-8.

[2] Horovitz, J., Jurgens-Panak, M. Total customer satisfaction. 8. edition. London, UK: Pitman Publishing, 1994. 456 p. ISBN 0-273-03447-2.

[3] Wellémin, J. H. Customer satisfaction through total quality. Brickley, UK: Chartwell-Bratt Ltd, 1990. 117 p. ISBN 0-862-38272-6.

[4] Bailey, D. Internal customers: 21 tried and tested training activities for improving internal customer care. Cambridgeshire, UK: Wyvern Business Training, 1992. 135 p. ISBN 1-872-48306-2.

[5] Řezanková, H. Analýza dotazníkových šetření. 1. vydání. Praha, ČR: Professional Publishing, 2007. 212 s. ISBN 978-80-86946-49-8.

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ABSTRAKT

V mé bakalářské práci se zabývám měřením spokojenosti zákazníků. Konkrétně zjišťuji spokojenost uživatelů Centre for Health Science v Inverness ve Skotsku, se službami které jsou zde poskytovány. Dále analyzuji jejich potřeby a preference, zvláště ty týkající se komunikačních médií. Provedl jsem dotazníkový průzkum mezi interními a externími uživateli centra a tyto informace jsem doplnil on-line průzkumem zaměřeným na pořadatele konferencí v centru. Informace, které jsem získal, budou sloužit nově vzniklé řídicí společnosti, ve které jsem vykonával roční praxi, a ostatním poskytovatelům služeb k jejich zdokonalení.

Klíčová slova: průzkum spokojenosti zákazníků, dotazník, online průzkum, služby

ABSTRACT

In my Bachelor work I am dealing with customer satisfaction measurement. Concretely I am polling satisfaction of the users of the Centre for Health Science in Inverness, Scotland with services provided here. I am also analysing their needs and preferences especially regarding communication media. I have executed a questionnaire survey amongst internal and external users of the centre. Information I have gained will be used by the recently established management company in which I have done my one year business placement and by others service providers for improving customer satisfaction.

Keywords: customer satisfaction survey, questionnaire, online survey, service

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Motto

“The problem is not that there are problems. The problem is expecting otherwise and thinking that having problems is a problem.”

Theodore Isaac Rubin

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INTRODUCTION

The thesis was written during my one year business placement in the Centre for Health Science (CfHS) management team. The new CfHS management company was established during my placement and I have transferred there from Highlands and Islands Enterprise who has built the Centre to establish knowledge based economy in the region. The intention of my bachelor work is to find out information about customer satisfaction in the CfHS, which will help the new company get quicker familiar with the environment and what people's perceptions are of the Centre.

The theoretical part explains the importance of high customer satisfaction and how nowadays it is a powerful tool for differentiating, gaining new customers, supporting loyalty and building the brand. The motivational section is followed by practical guidelines for measuring customer satisfaction. This is focused on a questionnaire survey, which is going to be my main tool for pulling together the data about satisfaction of the users of the Centre. One chapter is explaining the importance of very satisfied customers called advocates. At the end of the theoretical part I have included a short section about statistic measurements I have used during the process.

The analytical part of my bachelor work starts with the Centre for Health Science background and brief text about the CfHS Company. I explain who is providing the services in the Centre and who receives it. There are many services provided by other organizations and my intention is to pass the results of my survey onto them to enable them to improve customer satisfaction. I describe the process of the customer satisfaction measurement I have done to gain the information revealing the levels of the customer satisfaction about various services provided in the Centre. I also describe the process of selecting questions. The analytical part of the thesis has many charts which provide the results in a user friendly way.

The main questionnaire survey was supplemented by the brief online survey about the Centre for Health Science as a conference venue. This survey was directly targeted at people who had organised a conference or meeting in the Centre.

To summarise, this bachelor work would like to provide the CfHS management company and other service providers in the Centre with data about customer satisfaction and suggest possible improvements.

I. THEORETICAL PART

1 INTRODUCTORY THEORY

1.1 Definition of customer satisfaction

Customer satisfaction, a business term, is a measure of how products and services supplied by a company meet or surpass customer expectation. It is seen as a key performance indicator within business and is part of the four perspectives of a Balanced Scorecard.

In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy.

(Wikipedia 2008)

1.2 Definition of service

A service is the non-material equivalent of a good. A service provision is an economic activity that does not result in ownership, and this is what differentiates it from providing physical goods. It is claimed to be a process that creates benefits by facilitating a change in customers, a change in their physical possessions, or a change in their intangible assets.

By supplying some level of skill, ingenuity, and experience, providers of a service participate in an economy without the restrictions of carrying stock (inventory) or the need to concern themselves with bulky raw materials. On the other hand, their investment in expertise does require marketing and upgrading in the face of competition which has equally few physical restrictions.

Providers of services make up the Tertiary sector of industry.

(Wikipedia 2008)

1.3 Why service quality?

You are probably familiar with companies that owe their success to good service quality and are already convinced that it can make a difference in your business. In fact, companies that differentiate on the basis of service can ask higher prices for comparative products or services and achieve superior profit margins. These same companies are more resistant in economic downturns and experience greater growth in economic boom periods. They also have, on average, lower advertising costs, lower sick-leave rates and higher employee retention rates.

For these and other similar reasons, service quality excellence has become the most recent 'buzz' phrase in management circles and the strategic objective of many major firms. Adopting service quality as a basis for a business strategy is an attractive option for companies finding it increasingly difficult to compete on the basis of price or technology alone, or for any company willing to make the long-term commitment needed to create a service-oriented culture.

It is an attractive option because the long-term commitment to create the appropriate culture can pay off in the form of an even longer-term sustainable advantage over the competition. Unlike most strategies, a strategy based on excellent service quality is nearly impossible to imitate or reproduce. How can a competitor recreate the good relationship established between a client and supplier or the experience of a customer who has had a memorable dinner? Service quality converts a company from an anonymous object into a familiar face. A good service company has a personality in its customers' eyes and every good service company has a personality which is unique and different from any other.

Because service quality is difficult to imitate, a company with good service is less open to attacks by 'clone' competitors or 'heavyweight' multinationals. Even when the clones or the heavyweights finally do arrive, customers resist change. Customer loyalty is based as much on sentimental attachment and habit, as on objective evaluations of the price/quality ratio. Most customers who have already experienced good service with a company will not want to take the risk of experiencing bad service with a new company. Within a certain limits, they will be willing to pay a slightly superior price for a guarantee of good service.

Yet, few companies really do provide excellent service. Quality products are readily available, but what about quality service? An enlightening exercise is to try to think of five firms

from which you, personally, have received fault-free service more than twice. If you can think of three, you're probably receiving better service than the average European. Now, compare that with the number of firms from which you have purchased quality products - you should be able to name 10, 15, perhaps.

Service quality is hard to achieve. It's hard because service is complex and multidimensional. Selling a service means not only selling a commitment to do something, it also means selling the way in which it is done. Thus, the service quality battle is fought on two fronts - design and delivery. Companies must do both well in order to become a service leader.

(Hill, Brierly, MacDoughall 1999)

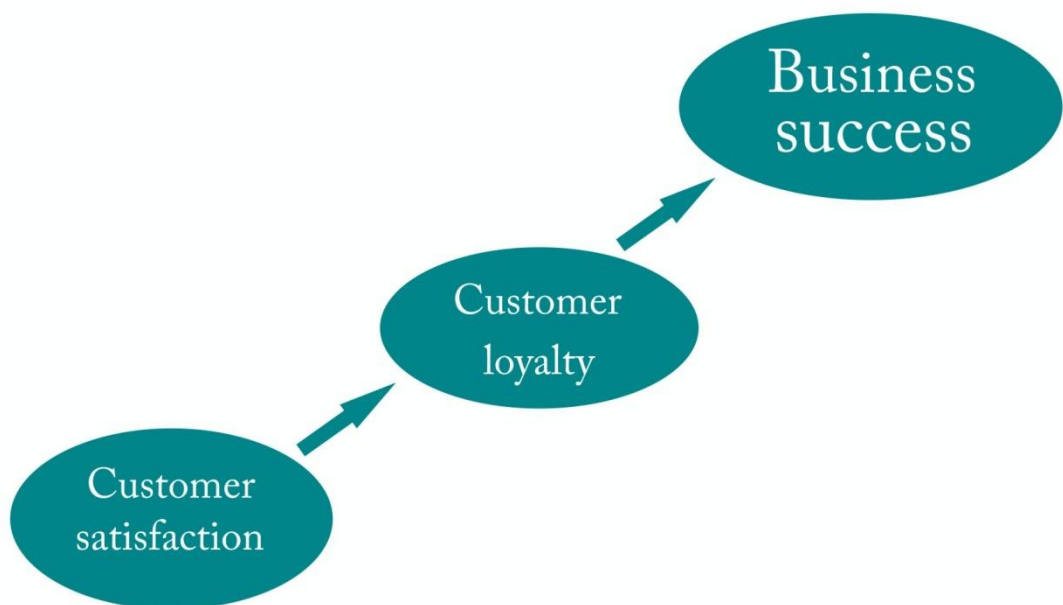
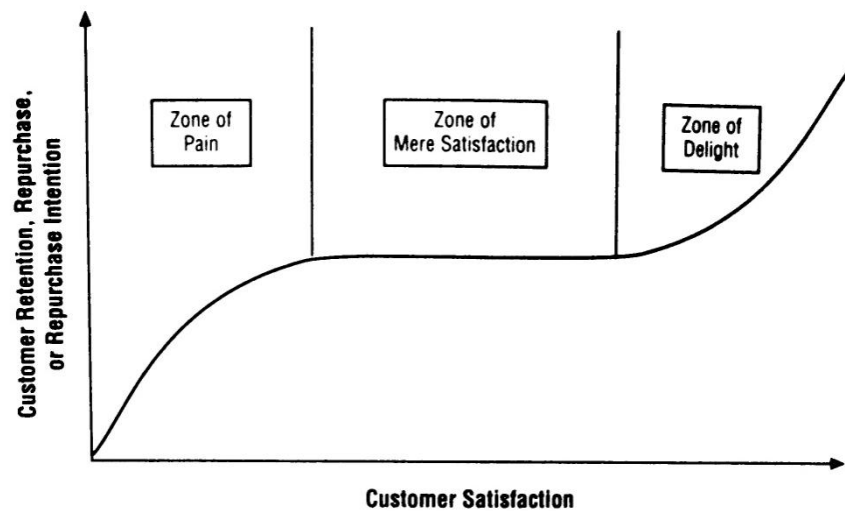


Figure 1: Effect of customer satisfaction (Source: Smith, Wheeler 2002)

1.3.1 The Customer Delight principle

Graph 1 shows a typical pattern of asymmetry observed in the Swedish Customer Satisfaction Barometer (SCSB) and American Customer Satisfaction Index (ACSI) databases. These are national databases that are constructed at the University of Michigan. The data validate that the interface between satisfaction and repurchase intent (an attitudinal indicator of retention) is asymmetric: small improvements overcoming dissatisfaction have a greater impact on repurchase intent than small improvements in mere satisfaction. The interface is nonlinear in that the impact of satisfaction on repurchase intent is greater at the extremes.



Graph 1: Satisfaction-Retention Link (Source: Keiningham, Vavra 2001)

What accounts for the postulated nonlinearity and asymmetry in the interface between satisfaction and repurchase? When repurchasing, satisfied customers are less motivated to engage in search; they are content to consider a smaller set of brands than dissatisfied customers. Delighted customers have little incentive to even consider other brands. On the contrary, by changing brands they risk losing some of their current delight. As customers cross the threshold from Merely Satisfied to Delighted, the number of competitive firms that a customer will consider drops dramatically. Competing brands are ignored in favour of the one that has delighted the buyer in the past.

(Source: Keiningham, Vavra 2001)

2 LOYALTY MUST BE DESIGNED AND CREATED

Loyalty must be designed and created. The end result of designing customer loyalty into a business model is about building a brand and creating advocates for that brand. The customers experience is the ultimate builder of a brand and the ultimate driver of brand loyalty. The experience and the brand, what the organization stands for, become so intertwined that they can no longer be separated or torn apart by a competitor. Creating loyalty is about being intentional, consistent, different, and creating value. The companies that succeed consistently in designing loyalty follow these steps:

Define customer values

1. Identify target customer segments.
2. Define what target customer's value and determine mills which values drive buying and loyalty behaviour.
3. Create a differentiating brand promise.

Design the Branded Customer Experiences

4. Develop a profound understanding of the customer's experience.
5. Design critical touch points and employee behaviours to deliver the brand promise.
6. Develop a comprehensive change strategy to implement the new customer experience.

Equip people and deliver consistently

7. Prepare managers to lead the delivery of the customer experience.
8. Equip employees with the knowledge, skills, and tools needed to deliver the brand promise at every customer touch point.
9. Reinforce performance through leadership action and measurement.

Sustain and enhance performance

10. Use customer and employee feedback to maintain a line of eight to the customer and continuously enhance the customer experience.

11. Align business metrics, HR systems, and business processes with the delivery of the customer experience.
12. Continuously communicate progress and results to embed the Branded Customer Experiences as the way you do business.

(Smith, Wheeler 2002)

2.1 Where Am I Going, and Why Do I Want to Get There?

Customer Satisfaction Is the Name of the Game

Why is customer satisfaction so important? You've probably heard the golden rule of customer care many times before. It costs five to ten times more to get a new customer than it does to keep an existing one. The question is how do you keep your existing customers? In a nutshell, you do it through a focus on customer care.

Customer-care focused organizations have developed study after study showing the correlation between customer satisfaction and market share and revenues.

IBM recently conducted an empirical research study which showed that the satisfaction level of their customers has a direct impact on the organization's market share.

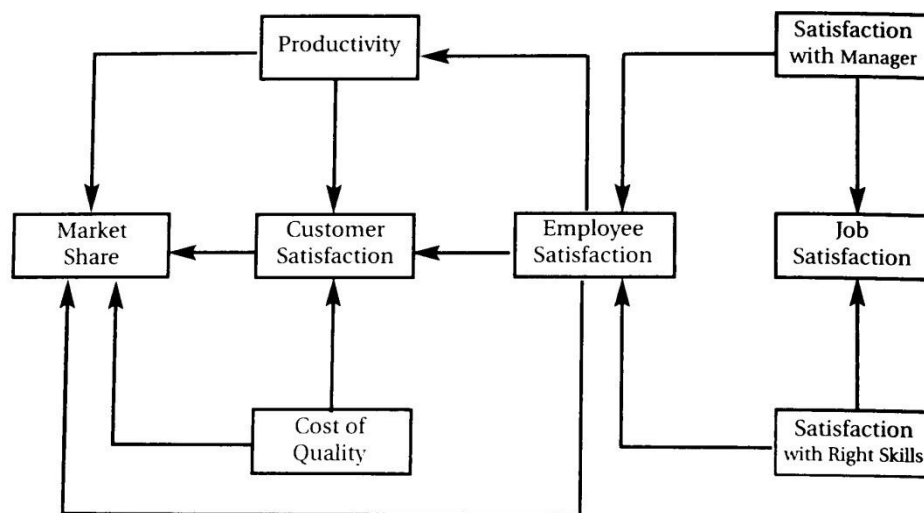


Figure 2: The Drivers of Customer Satisfaction and Market Share
(Source: Brown 1999)

In this study, based on interviews with customers and employees, the organization identified that key drivers for increased market share were productivity, cost of quality and importantly customer satisfaction.

They further discovered that the factor that affected customer satisfaction and productivity was primarily employee satisfaction. Customer satisfaction also translated into additional revenues— IBM found that a one percentage point increase in customer satisfaction levels generated \$257 million in extra revenues over a five-year period. Another study found that customers who ranked themselves as being satisfied to very satisfied—four and five on a five-point scale represented over 95 percent of all purchases.

(Brown 1999)

2.2 Customer experience Scorecard

The **customer experience Scorecard** is a management framework for more effective and responsive performance measurement systems. It is a process where the metrics are causally linked to one another, and together form a coherent system that can predict future results.

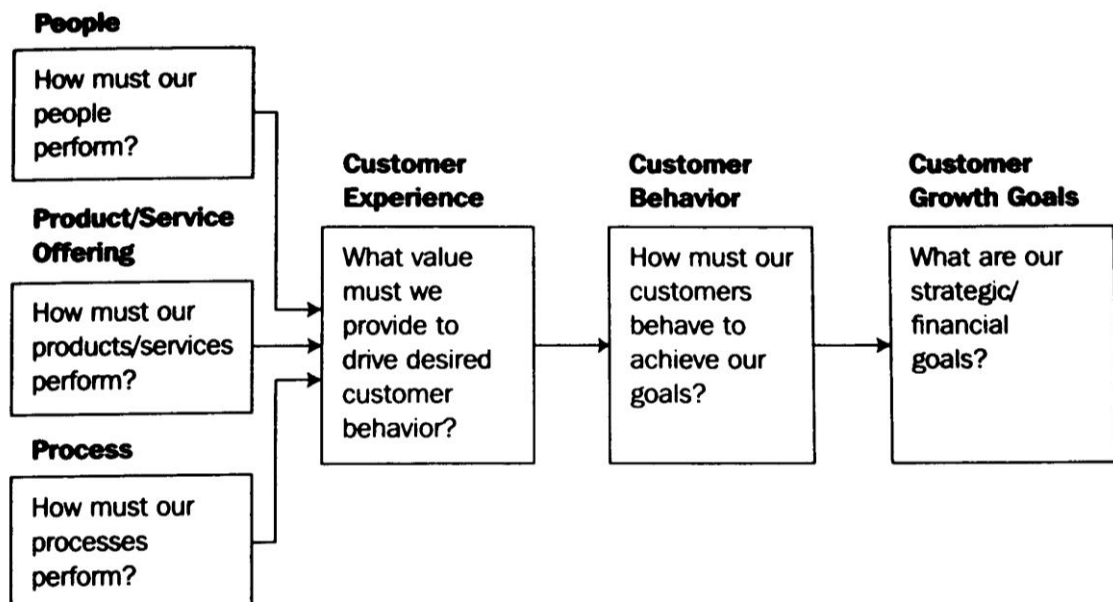


Figure 3: Customer experience scorecard framework (Source: Smith, Wheeler 2002)

It is a strategic tool that focuses the organization on customer value creation, and provides a succinct and powerful way to communicate the essence of customer focus strategy to all employees. It helps everyone understand what is critical to the company and its customers, and ultimately drives employee behaviour.

(Smith, Wheeler 2002)

Customer satisfaction measurement process



Figure 4: Customer satisfaction measurement process (Source: Smith, Wheeler 2002)

3 CONTENT OF THE QUESTIONNAIRE

It may also be useful to see who or what influences your customers' expectations, for example advertising material, comparative service levels of competitors, reputation, etc. It would also be useful to ask: why do customers defects?

There are a number of variables which can be measured as part of a customer satisfaction survey. These include not only customer satisfaction in terms of performance against service standards but also repeat business and increase in orders. Other variables which can be measured include:

- reliability - ability to keep promises on a consistent basis;
 - flexibility - speed in changing and adapting to new requirements;
 - accuracy - lack of mistakes and defects, precise corrections;
 - responsiveness - willingness to help and provide what's needed;
 - empathy - giving individual attention to customers;
 - tangibles - equipment, communication media, physical environment;
 - time - minutes, hours, on time, overtime, time saved;
 - quantity - over-budget, under-budget, profit, low,
 - quality - type of material, finish and durability.
-
- signing the request- the request should be as personal as possible. It is particularly helpful for a member of senior management to ask for customer feedback as this lends authority to the request.
 - thanking customers for their participation.

Questionnaires should be laid out in a logical sequence, grouped by subject and have general questions set out before specific ones. Likewise it is helpful to include easy questions before difficult ones and to put particularly sensitive issues at the end of a questionnaire where customers are more likely to answer them than at the beginning. Personal customer details are generally included at the end of the questionnaire.

(Cook 2008)

3.1 Anonymity

It is conventional wisdom that response rates and accuracy will be higher where respondents are confident of anonymity and confidentiality. Practitioner evidence strongly supports this view for employee satisfaction surveys and most types of satisfaction surveys in business markets, where the respondent envisages an ongoing personal relationship with the supplier. In mass markets, where personal relationships are normally absent, there is no conclusive evidence that anonymity increases response, although in potentially sensitive areas such as financial services anonymity is preferable. Of course, there is a trade-off here with follow-up strategies, which will be much more cost-effective if respondents are required to identify themselves. In many consumer markets it may therefore be better to ask respondents to identify themselves in order to improve the cost-effectiveness of follow-up strategies.

(Hill, Brierly, MacDoughall 1999)

3.2 Rating scales

The third key aspect of questionnaire design is the rating scale, and since customer satisfaction measurement is about measuring satisfaction and the rating scale is the tool used to do the measuring, it is the most critical aspect of questionnaire design for CSM.

The Likert scale and verbal scale are similar in that they both use words to describe the points on the scale. The SIMALTO scale, sometimes called a fully descriptive verbal scale, also uses words but its format is very different. The numerical scale, as expected, uses numbers for the rating and the ungraded scale provides no labels for the points on the scale, only the extremes.

3.2.1 An assessment of the scales

THE LIKERT SCALE

Very common in many types of attitude research, the Likert scale is easy to fill in but does have the considerable disadvantage that the bold statement may bias respondents' answers. Likert scales on satisfaction questionnaires are always positively biased. You very rarely see negatively biased ones using examples of appalling service for the bold statements. (such as 'The restaurant was filthy... Agree - Disagree'). Bias is even more likely on importance questions where the respondent is effectively being told 'It is important that...'

THE VERBAL SCALE

This verbal alternative remains easy to complete: is much more neutral and has the distinct advantage of incorporating the concepts being measured (importance and satisfaction), thus reducing the risk of respondent confusion. We feel that the verbal scale is the simplest and clearest (and therefore likely to be the one most accurately completed with the least error) of the three verbal-type scales.

THE SIMALTO SCALE

The SIMALTO scale is not easy to fill in and for that reason would not typically be used on a self-completion questionnaire. It is most effective in personal interview situations where the interviewer, who knows how to complete the questionnaire, can use show cards to guide respondents through the options. With considerably more difficulty it can be used in telephone interviews in business markets if the respondent is sent the range of answers by post or fax before the interview. The obvious advantage of the SIMALTO scale is the precision of the information generated. It is the only scale that can be directly linked to service standards and is therefore most applicable to service-intensive situations such as travel, banking or help lines. It is also good for comparisons between different types of expectation or the performance of different suppliers. However, it is also the most complex and expensive methodology and, for most companies, should only be used if an agency is conducting the survey.

There is also doubt over its suitability for measuring satisfaction. As stated earlier, the SIMALTO scale is ideal for measuring the supplier's adherence to a set of service standards, but that provides a measure of organisational performance rather than a measure of satisfaction.

NUMERICAL SCALE

Numerical scales are easy to fill in and easy to analyse. They also make it possible to have a wider scale. It is not practical to have many points on a verbal-type scale and this is a considerable disadvantage since the differences between satisfaction survey results from one period to the next will often be very small. A wider scale enables the respondent to be more discriminating, especially at the satisfied end of the scale, which is important since it is only the very satisfied who are likely to remain loyal. Unlike most other scales, the numerical scale can be used whatever the method of data collection. Possibly the most pow-

erful argument in favour of the numerical scale is its user-friendliness when it comes to analysing and, very important, communicating the results to colleagues in your organisation. The simple average scores generated by the 10-point numerical scale are easy for everyone to understand and paint a very clear picture of the results and their implications. This will be seen in the simple charts in Chapter 10, showing results derived from numerical scales which clearly illustrate the areas to address, compared with the far less graphic frequency distributions which must be used for analysing results from verbal-type scales. This is an extremely important factor in favour of using numerical scales for CSM questionnaires because internal feedback is where the CSM process fails in many organisations. There is simply insufficient company-wide understanding of the areas where service-improvement efforts should be focused.

UNGRADED SCALE

The ungraded scale appeals to visually oriented respondents. If a series of questions is completed in a column, the marks on the line provide a good visual impression of the relative importance (or satisfaction) for the list of attributes. The least cluttered, it introduces the least bias, but some respondents find its lack of benchmarks disconcerting, and to analyse it accurately a scanner must be used. If the questionnaires are scanned, the results can be classified using any number of points on the scale - 5, 10 or even 100. Unfortunately, the scanner is undoubtedly assigning the scores to the 100-point scale with considerably more accuracy than the respondent applied when placing the original mark on the line on the questionnaire. Ungraded scales can be useful for questionnaires that need to be completed very quickly (for example at the point of sale), but are not widely used for measuring satisfaction.

3.2.2 Conclusion about the scales

On balance we feel that the 10-point numerical scale is the most suitable for measuring satisfaction. The verbal scale is probably the easiest to complete, but is far less suitable at the analysis and feedback stage. The SIMALTO scale provides the most precise and extensive information and is ideal for monitoring adherence to service standards, but is very costly and not totally suitable for measuring satisfaction. The Likert and ungraded scales should not be used for CSM.

(Hill, Brierly, MacDoughall 1999)

4 LAYOUT OF THE QUESTIONNAIRE

The main issue here is the trade-off between length and layout. Of course you do not want your questionnaire to look too long, but it will look even worse if it is too cluttered, making it look as though it will be very difficult to fill in. So questions should be spaced out, with an attractive layout, even if it makes the questionnaire run into more pages. Use of colour is also worthwhile. Even a two-colour questionnaire can appear much more attractive: semi-tones can be used very effectively for clarification and differentiation.

4.1 Design of the questionnaire

Questionnaire design, rather than length, is a significant factor. If respondents' initial impression is that the questionnaire will be difficult to complete, the response rate will be depressed. Academic research shows that apart from very long questionnaires, length is a less significant factor, so it is better to have clear instructions and a spacious layout spreading to four sides of A4, rather than a cluttered two-page questionnaire. More specifically, research suggests that it makes no difference to response rates whether people are asked to tick boxes or circle numbers/words, nor whether space is included for additional comments.

Use of colour on the questionnaires should also be considered. It is generally accepted that the use of more than one colour for printing the questionnaire will enhance clarity of layout and ease of completion and will therefore boost response rates. Printing the questionnaire on coloured paper may also help, presumably because it is more conspicuous to people who put it on one side, intending to complete it in a spare moment. A 1977 academic test even found the colour of signatures on covering letters to be a significant variable. It recommended green signatures as best, with blue being the least effective! However, a very large split test by Cranfield University and the Manchester Business School in 1997 demonstrated that there is nothing to be gained from using coloured paper on questionnaires. In fact, in their test, the questionnaires on white paper achieved slightly higher response rates.

(Hill, Brierly, MacDoughall 1999)

5 ONLINE SURVEYS

Increasingly the internet is being used as a means of gathering feedback from customers. The difficulty with surveys sent via the internet is that they can often be treated as spam, so the more individual, interesting and involving the e-mail, the higher the response rate.

It is usual for a link to be offered to the customer via e-mail to the survey, e.g. 'Click here to respond'. Best practice is also to offer a real time alert if assistance is needed in completing the survey. The organization can then call or e-mail the customer to provide assistance.

The major benefit of online surveys is that the system can be designed to offer continuous, real-time reporting. This means that as soon as a customer enters their response the results are updated accordingly. To ensure a high response rate, once the customer has completed the survey many organizations offer them immediate access to the results. Other organizations use their websites as a means of instant customer feedback.

(Cook 2008)

6 ADVOCATES ON MAIN STREET

In the spring of 2000, Forum partnered with Verdict, the retail research company, to survey 2,000 consumers in the UK market across five retail segments. Their purpose was to discover which of the brands had the highest levels of customer advocacy. They asked customers to rate the quality of their experience on a ten point scale of satisfaction, with ten being the highest score. They broke down the findings into three groups of consumers: the Advocates rating 9 or 10 for satisfaction, the Vulnerables rating between 5 and 8 as we know that merely satisfied customers are liable to switch supplier, and the Terrorists who give less than 4 for satisfaction and who are likely to tell others of their dissatisfaction. Table 1 shows the advocacy levels overall for the five segments we studied.

At the individual company level they found that William Morrison, the supermarket chain that is best known in the North of England, scored a mean of 8.42 out of 10. This may explain why William Morrison is one of the country’s fastest growing supermarket chains.

	1-4 – Terrorists	5-8 – Vulnerables	9-10 – Advocates
Food/Groceries	3%	71%	26%
DIY	4%	76%	20%
Electricals	4%	74%	22%
Personal Care	1%	70%	29%
Clothing	5%	74%	21%

Table 1: Ratings of quality shopping experiences (Source: Smith, Wheeler 2002)

On the other hand, Mark & Spencer, one of the UK's oldest and most revered retailers, scored a mean of 6.95. Quite similar results then with a difference of only 1.47 in the average satisfaction level. Clearly, both organizations have fairly satisfied customers, but could they justifiably take the view that no action was required? Not so.

They also calculated the percentage of those customers rating 9 or 10 (what they define as "advocates" since these are the customers most likely to recommend to others) and rank ordered the 31 organizations according to this measure. The results were fascinating. The average percentage of customers scoring 9 and 10 for the retail segment was 24 percent. The level of advocacy for Morrison was a massive 54 percent, whereas the percentage of Marks & Spencer customers rating 9 or 10 was just 12 percent. So Morrison enjoyed more than four times the advocacy of M&S. Perhaps this is why in the year following our survey Marks & Spencer's share price collapsed and rumours spread about its likely acquisition. As we were writing this book in the summer of 2001, Luc Vandeveld, the Marks & Spencer chairman and chief executive, announced 5,000 layoffs.

Over this same period, William Morrison achieved the highest margins in its sector. In early 2001 the company announced its annual results - reporting a gain of 500,000 new customers and an increase in sales of 9.1 percent while pre-tax profits rose by 16 percent. It is one of the few retailers refusing to offer a loyalty card. Advocacy translates into retention, increased share of spend, and r levels of acquisition.

(Smith, Wheeler 2002)

7 SUMMARY OF THEORY

Listening to customers is a vital element of customer care. The more direct feedback an organization receives from its customers, the better it can develop its relationship with them.

Research should be used to establish customer needs, both externally and internally, and to act as a benchmark against which to measure the effectiveness of progress in creating a customer focus. In addition, monitoring satisfaction levels on an ongoing basis is an important method of sustaining a customer focus.

A mixture of both quantitative and qualitative research methods helps provide a balanced approach to customer feedback.

Research should be used to recognize and reward good service at regular intervals. Internal customers should also be encouraged to measure their own service performance and their opinions should be regularly sought.

Best-practice organizations are now turning to benchmarking as a means of gaining external comparison.

Market research can play an important part in the journey to excellence only if actionable changes are proposed as a result of customer

(Cook 2008)

8 STATISTICS

8.1 Variance

In statistics, the **variance** of a random variable, probability distribution, or sample is one measure of statistical dispersion, averaging the squared distance of its possible values from the expected value (mean). Whereas the mean is a way to describe the location of a distribution, the variance is a way to capture its scale or degree of being spread out. The unit of variance is the square of the unit of the original variable. The positive square root of the variance, called the standard deviation, has the same units as the original variable and can be easier to interpret for this reason.

8.1.1 Definition

If random variable X has expected value (mean) $\mu = E(X)$, then the variance $\text{Var}(X)$ of X is given by: $\text{Var}(X) = E[(X - \mu)^2]$.

This definition encompasses random variables that are discrete, continuous, or neither. Of all the points about which squared deviations could have been calculated, the mean produces the minimum value for the averaged sum of squared deviations.

8.1.2 Discrete case

If the **random variable** is discrete with probability mass function $x_1 \mapsto p_1, \dots, x_n \mapsto p_n$, this is equivalent to $\sum_{i=1}^n p_i (x_i - \mu)^2$.

That is, it is the expected value of the square of the deviation of X from its own mean. In plain language, it can be expressed as "The average of the square of the distance of each data point from the mean". It is thus the *mean squared deviation*. The variance of random variable X is typically designated as $\text{Var}(X)$, σ_x^2 , or simply σ^2 .

8.2 Standard deviation

In statistics, the **standard deviation** is a measure of the dispersion of a set of values. It can apply to a probability distribution, a random variable, a population or a multiset. The standard deviation is usually denoted with the letter σ (lowercase sigma). It is defined as the root-mean-square (RMS) deviation of the values from their mean, or as the square root of the variance.

Formulated by Galton in the late 1860s, the standard deviation remains the most common measure of statistical dispersion, measuring how widely spread the values in a data set are. If many data points are close to the mean, then the standard deviation is small; if many data points are far from the mean, then the standard deviation is large.

8.2.1 Definition and calculation

Standard deviation of a random variable

The standard deviation of a random variable with a normal distribution is the root-mean-square (RMS) deviation of its values from their mean.

For instance, if the random variable X takes on N values x_1, \dots, x_N (which are real numbers) with equal probability, then its standard deviation σ can be calculated as follows:

For each value x_i calculate its deviation ($x_i - \bar{x}$) from the mean \bar{x}

Calculate the squares of these deviations.

Find the mean of the squared deviations. This quantity is the variance σ^2 .

Take the square root of the variance.

This calculation is described by the following formula:
$$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \bar{x})^2}.$$

Where \bar{x} is the mean of X , defined as:
$$\bar{x} = \frac{x_1 + x_2 + \dots + x_N}{N} = \frac{1}{N} \sum_{i=1}^N x_i$$

8.2.2 Alternative definition

The standard deviation of a random variable X can also be defined as:

$$\sigma = \sqrt{E((X - E(X))^2)} = \sqrt{E(X^2) - (E(X))^2}$$

where $E(X)$ is the expected value of X (another word for the mean).

Not all random variables have a standard deviation, since these expected values need not exist. For example, the standard deviation of a random variable which follows a Cauchy distribution is undefined because its $E(X)$ is undefined.

8.3 Correlation

In probability theory and statistics, correlation, (often measured as a correlation coefficient), indicates the strength and direction of a linear relationship between two random variables. In general statistical usage, *correlation* or co-relation refers to the departure of two variables from independence. In this broad sense there are several coefficients, measuring the degree of correlation, adapted to the nature of data.

8.3.1 Mathematical properties

The correlation coefficient $\rho_{X,Y}$ between two random variables X and Y with expected values μ_X and μ_Y and standard deviations σ_X and σ_Y is defined as:

$$\rho_{X,Y} = \frac{\text{cov}(X, Y)}{\sigma_X \sigma_Y} = \frac{E((X - \mu_X)(Y - \mu_Y))}{\sigma_X \sigma_Y},$$

where E is the expected value operator and cov means covariance. Since $\mu_X = E(X)$, $\sigma_X^2 = E(X^2) - E^2(X)$ and likewise for Y , we may also write

$$\rho_{X,Y} = \frac{E(XY) - E(X)E(Y)}{\sqrt{E(X^2) - E^2(X)} \sqrt{E(Y^2) - E^2(Y)}}.$$

The correlation is defined only if both of the standard deviations are finite and both of them are nonzero. It is a corollary of the Cauchy-Schwarz inequality that the correlation cannot exceed 1 in absolute value.

The correlation is 1 in the case of an increasing linear relationship, -1 in the case of a decreasing linear relationship, and some value in between in all other cases, indicating the degree of linear dependence between the variables. The closer the coefficient is to either -1 or 1 , the stronger the correlation between the variables.

If the variables are independent then the correlation is 0, but the converse is not true because the correlation coefficient detects only linear dependencies between two variables. Here is an example: Suppose the random variable X is uniformly distributed on the interval from -1 to 1 , and $Y = X^2$. Then Y is completely determined by X , so that X and Y are dependent, but their correlation is zero; they are uncorrelated. However, in the special case when X and Y are jointly normal, uncorrelatedness is equivalent to independence.

8.3.2 Interpretation of the size of a correlation

Several authors have offered guidelines for the interpretation of a correlation coefficient. Cohen (1988), As Cohen himself has observed, however, all such criteria are in some ways arbitrary and should not be observed too strictly. This is because the interpretation of a correlation coefficient depends on the context and purposes. A correlation of 0.9 may be very low if one is verifying a physical law using high-quality instruments, but may be regarded as very high in the social sciences where there may be a greater contribution from complicating factors.

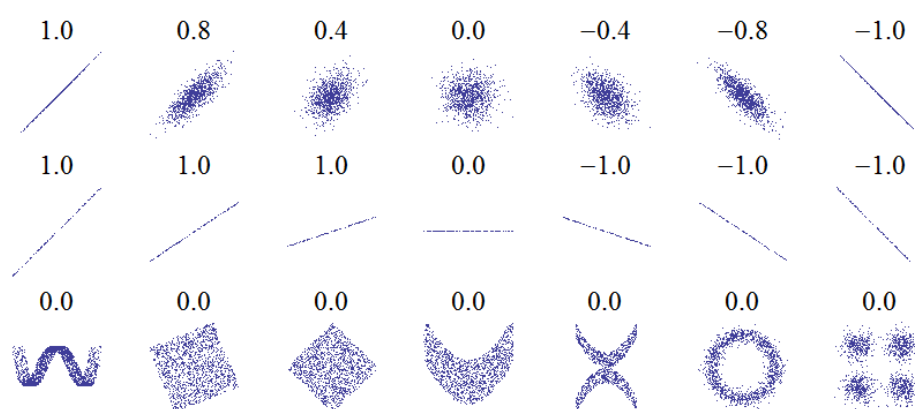


Figure 5: Correlation examples (Source: Wikipedia)

Along this vein, it is important to remember that "large" and "small" should not be taken as synonyms for "good" and "bad" in terms of determining that a correlation is of a certain size. For example, a correlation of 1.0 or -1.0 indicates that the two variables analyzed are equivalent modulo scaling. Scientifically, this more frequently indicates a trivial result than an earth-shattering one. For example, consider discovering a correlation of 1.0 between how many feet tall a group of people are and the number of inches from the bottom of their feet to the top of their heads.

(Wikipedia 2008)

II. ANALYTICAL PART

9 CENTRE FOR HEALTH SCIENCE INTRODUCTION

9.1 Background

The concept of a Centre for Health Science was first mooted in 2002 by Highlands and Islands Enterprise. The idea of a healthcare teaching, training, research and commercialisation centre has gradually matured and the opening of Phase 1 of the Centre for Health Science today represents a major milestone in adding to the already significant cluster of health science activity in the Highlands and Islands. The Centre for Health Science is being built in three phases (App. VI-VII). Phase 1 was complete and occupied in October 2006, Phase 2 was completed in July 2008 and Phase 3 will follow in November 2008. The reason for HIE being at the centre of this development is its firm belief that the economic future of the Highlands and Islands is closely linked to the creation of a vigorous knowledge economy and that the healthcare cluster is a vital component of this. This development also fits well with the aspirations of the emerging University of the Highlands and Islands and its Health Faculty and the enlarging role of NHS Highland with its new responsibilities for healthcare provision for Argyll and Bute. It also meshes well with the increasingly important position that LifeScan Scotland occupies in Inverness as the largest medical device company in Scotland and very major player in the world diabetes therapy sector.

9.2 Who are the main participants?

At an early stage of the project HIE met with NHS Highland, University of Stirling and NHS Education for Scotland and together they produced a provisional plan for Phase 1 of the Centre mostly focused on teaching and training of the healthcare workforce. In addition to the initial collaborating partners, Aberdeen University will be involved in both teaching and research in the Centre, University of Dundee will be sending dental students to be taught in the Inverness Dental Centre, UHI will have an increasing commitment to the Centre through teaching Dental Therapy students and in healthcare research because of their commitment to the Centre for Rural Health and the Diabetes Institute. LifeScan Scotland have committed to becoming partners in the Highland Diabetes Institute in Phase 3 and expect to accommodate a team of their clinical research staff in the Institute as well as funding some other aspects of the project. The building will be owned by HIE and they will remain landlords for the foreseeable future. The tenants will operate independently

and have responsibility for their own assigned areas and pay rent proportional to those areas occupied.

(Moodie 2008a)



Figure 6: CfHS Logo (Source: CfHS Company)

9.3 Aims and objectives of the Centre for Health Science:

- Create a focus, lead example for the sector
- Integrate all the elements of the sector such as: education and training, research, commercial activity and voluntary work
- Create an environment of working together, sharing and interacting
- Create an atmosphere of innovative, inter-disciplinary thought
- Create an atmosphere of entrepreneurial spirit
- Ensure research is linked into the broader Highlands and Islands Research & Development chain and to ensure commercialisation occurs
- Provide a stimulus for the growth of HE-level education, especially the growth of its occupant educational organisations
- Provide skills development, training and CPD opportunities
- Act as a focus for courting funders and venture capital
- Encourage business start-up and spin outs
- Stimulate inward investment in the sector
- Create 370 new FTE jobs in the sector

(Moodie 2008b)

9.4 CfHS Management

Initially Highlands and Islands Enterprise were responsible for the running of the CfHS through a Business Development Manager and extended support within HIE-IEH. Whilst HIE will remain landlord of the CfHS for the foreseeable future the intention is to exit from the day-to-day operation. This has been achieved through the formation of a CfHS company. This company was incorporated in November 2007 and became operational in February 2008. The company is a Company Limited by Guarantee (CLBG) and is responsible to a Board of Directors. The CfHS Board consists of:

1. Three founding members each with one nominated Director:
 - HIE: Professor Alasdair Munro (Company Chair)
 - UHI: James Fraser, Depute Principle and Secretary
 - Aberdeen University: Professor Lewis Ritchie, Dean of General Practice
2. Nominated Director:
 - University of Stirling: Neil Angus, Associate Head of Department
3. Two, non-voting observers:
 - NES: Dr Jim Rennie, NES Deputy Chief Executive and Postgraduate Dean of Dentistry
 - HIE: Ruaraidh MacNeil, Operations Manager

In addition to the Company Board an advisory group made up of key stakeholders will be established.

The Company is not a subsidiary of HIE and responsibilities have been delegated from HIE to the Company through an operating agreement. The CfHS management team consists of the Board, a Project Director, Gillian Galloway, a Business Development Manager, Lindsey Moodie, an Office Manager, Patricia Campbell and an undergraduate student as Business Development Assistant, Stephan Frk. This management team are responsible for the running of the centre, overseeing the management of facilities, centre development and the management of CfHS staff. A key task is the further development of the CfHS business plan, marketing and business development strategies and implementation of the Benefits Realisation Strategy.

(Moodie, 2008a)

10 WHO IS PROVIDING SERVICES IN THE CENTRE FOR HEALTH SCIENCE?

The CfHS is multi tenant building with a facility management company and small management company. All organisations in the Centre are providing some services and for some visitors of the Centre it is not possible to recognize who is providing particular service. It is not important for them as far as they are satisfied with the services they receive. My customer service measurement was carried out before Phase 2 and 3 were open. I covered those services which were provided to a large number of people utilising the Centre. I have eliminated from my survey the few services or factors, where there is little opportunity to influence changes.

Robertson Facilities Management (RFM)

RFM is generally providing all basic services required for day to day running of the building. It includes reception services, car park management, waste collection, cleaning services, room booking management, basic repairs, dealing with energy suppliers and invoicing tenants, developing Health and Safety procedures and maintaining telephone system.

University of Stirling

There are around 400 students at the Inverness Campus. Most students study undergraduate courses leading to registration as nurses or midwives, with a small number studying for postgraduate Masters or Doctoral degrees. Beyond educational services Uni. of Stirling is renting some of their rooms to external organisations for meetings or conferences. Renting the rooms is done through RFM.

Highland Health Science Library

In addition to providing a stock of some 30,000 books and subscribing to 100 current journals the Highland Health Sciences Library also contains an Information-skills Training Room equipped with 12 computers. A further 12 computers are also available for use in the main library building all of which have internet access through Stirling University's network.

NHS Education for Scotland (NES)

The main aim of NHS Education for Scotland is to improve the quality of patient care by designing, commissioning and quality assuring education and training for the NHS workforce. Its initial remit of coordinating and monitoring healthcare education for nurses, dentists, doctors, midwives, allied health professionals, psychologists and pharmacists, it has now been extended to include audiologists, healthcare chaplains and biomedical scientists. I am not monitoring any of the services of NES.

NHS Highland

The National Health Service (NHS) in Highland provides healthcare for a population of approximately 300,000 people scattered over an area the size of Wales. NHS Highland will participate more within Phases 2 and 3 of the Centre. In Phase 1 is a Cafe run by NHS Highland and they also provide some IT services e.g. operation of wireless network.

Cafe

The cafe provides a range of snacks, sandwiches and some cooked food. The cafe is managed by NHS Highland and catering can be made available for meetings and functions on request. I have included in my survey a few questions about the Cafe as it is used by most of the people in the Centre.

Centre for Health Science Company

The CfHS Company undertakes many activities which are not seen by all visitors of the Centre but only by key people. In my survey are only the services which are more visible or those where the company require opinions from the public. The CfHS company is developing the corporate website of the Centre, creating content for one of the plasma screens, organising events which are intended to support networking and CfHS awareness and supporting communications between the tenants for example by newsletter.

11 WHO IS RECEIVING THE SERVICES IN THE CENTRE FOR HEALTH SCIENCE?

There are four main groups who are receiving services in the Centre.

1.) Internal organizations

These are the tenants of the building. In Phase 1 there is University of Stirling, NHS Education for Scotland, NHS Highland Café, and Highland Health Science Library. A further organization in the building is currently Robertson Facilities Management, but they only provide services in the Centre and receive services from external companies.



Figure 7: CfHS Cafe (Source: own)

2.) Internal individuals

This group can be divided into two subgroups. Employees of the organizations written above are one group and second are students of the University of Stirling. There are about 3.5 times more students than employees. On the other hand students are not in the Centre every day, because of having practical placements in hospitals.

3.) External organizations

Organizations from outside of the Centre are using its facilities for meetings, conferences and other events. The CfHS is attracting them especially by the attractive modern facilities on offer and by discount rates for health related events.

4.) External individuals

The CfHS is open to the public, so anyone can visit the Café or Library. The Library is the only health specialized library in the Highlands, so it is interesting for all medical students and healthcare professions. The Café is often visited by workers from the construction site for Phases 2 and 3 of the building.

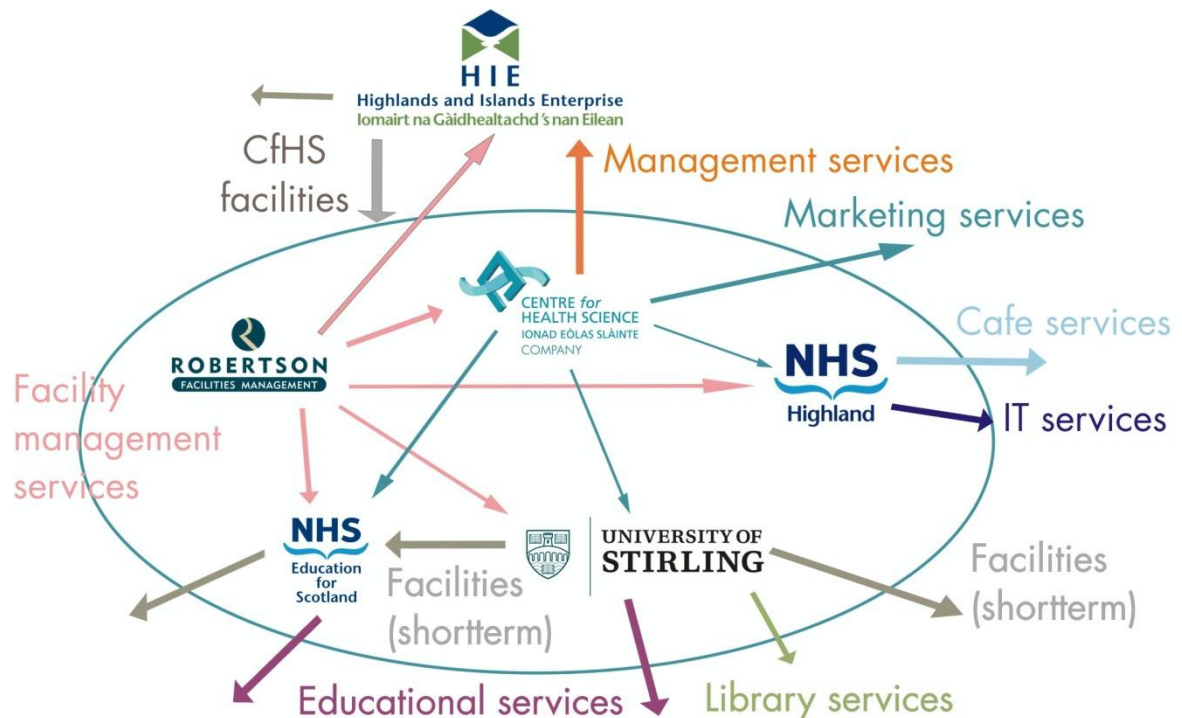


Figure 8: Services in the CfHS (Source: own)

The green oval indicates the Centre for Health Science. Arrows leading to the oval indicate services that are provided to all tenants of the building. Arrows leading out of the oval mean services that are provided to the public. The diagram does not including external suppliers.

12 QUESTIONNAIRE CUSTOMER SATISFACTION SURVEY

12.1 Exploratory research

Before finalising the questionnaire I needed to get opinions on the survey from people who are aware of the services in the Centre and their importance to the people who are using the Centre. In the questionnaire I needed to include questions which are interesting for the Centre for Health Science Company and for users of the CfHS as well. I was also trying to avoid questions where was known, that even if we would find dissatisfaction we won't be able to change that issue. One of the examples could be the car park. It was already know if we were to ask about the car park, people would say that they are not happy paying for parking. Unfortunately we are not able to change this as there is agreement with NHS Highland, who have an adjacent car park, that we charge the same prices. So this question would only lead to disillusion, and people would lose any motivation to fill in this kind of survey in the Centre in future. I also needed to omit some questions from my list, as I needed to ensure my questionnaire was user friendly and not too long.

I have created a list of possible issues (App. III), on which I could ask and invited all members of our team to review these and think about what else they would find interesting to explore through this customer satisfaction survey. I have included their suggestions and deleted some issues where we felt we had a lower chance to influence them. After that I spoke with some key people who work in the Centre. It was very beneficial and thanks to these discussions I was able to include additional questions, about issues which are important to employees in the CfHS. However, the list of questions became too long so I had to prioritise the issues, omitting some that were of less importance. One of these was a question about satisfaction with temperature in the Centre. I deleted this one from the list because I found out from one of my colleagues from HIE, that there had been a technical problem with the ventilation system more recently. It did not make sense to ask about something where there is current dissatisfaction and the reason for this is clear.

12.2 Questionnaire

I did consider an electronic survey, but because of the need to reach a varied group of people, I decided on paper questionnaires (App. VIII-IX). I fortunate to be able to fit all my questions, with explanation, on one A4 paper printed on both sides. At the beginning I inserted a short explanation about the purpose of the survey and offered sending the brief results to those who were interested by e-mail. I believed that interest in viewing the results could advance the motivation to fill in the questionnaire.

The first side was generally about the satisfaction with current services and ideas for improvement. Exceptions were two declaratory questions. First was about the Centre for Health Science Company awareness and second about utilisation of the 'break-out' areas in the Centre. I decided to use 1 to 10 scales. The disadvantage is this, was that it is not as easy to fill in as shorter scales, but on the other hand this type of scale is quite commonly used here. The biggest advantage of 1-10 scale is that it gives great results for analysis. This is because people are able to differ even between two issues where they are very satisfied by crossing for example 9 for first and 8 second. I also included on the first side a large section about the café services. This was due to indication from exploratory research that this was a possible area of dissatisfaction. I was also keen to include these questions, because I had believed that the café services could be quite a flexible area where improvements would be possible. Although the café is run by NHS Highland and not by CfHS Company I hope they will appreciate the feedback and will use it for improvements. I also inserted a short section about the Highland Health Sciences Library.

The second side of the questionnaire is dedicated to the need for new communication tools and to the questions which will allow dividing on the segments. One of the questions is about an Extranet and as it is not a usual communication medium I had included an explanation so people could understand what it is. Another question is about the electronic newsletter which is already in the process of being created. I included an explanation of how to get on the e-mail list to receive this newsletter.

Fortunately I was allowed to use colour printing for this survey which made the questionnaire more attractive and professional. I used different colours for questions about the Library and Cafe and used white spaces for areas where I was expecting answers.

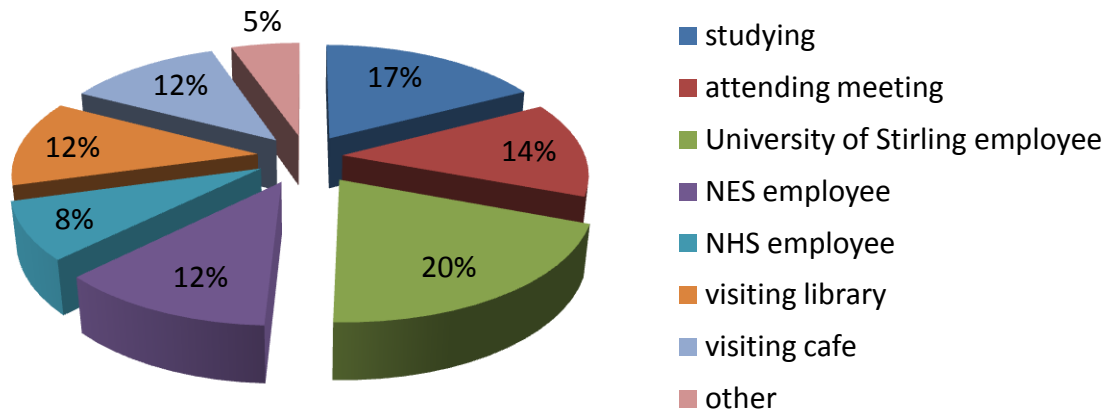
12.3 Results of the main customer satisfaction survey

12.3.1 Who are the informants?

My intention was to distribute questionnaires equally between all the people who use the Centre for Health Science. I especially wanted to reach people who work in the Centre as full time employees, because they know the Centre the most and they should have greatest interest in the customer satisfaction measurement as they will benefit from improvements. In comparison to the data about the people using the Centre from the Benefits Realisation Strategy¹ measurement I wanted to have more employees of University of Stirling and NHS Education for Scotland and fewer students. This is because the nursing students spend an important part of their year in hospitals on placement and less time in the Centre than full time employees. I have not included in my survey employees of Robertson Facility Management company, employees working in Cafe and employees of CfHS Company. These people are too involved in providing the services in the Centre and for some of the questions they would evaluate themselves. I believe I have managed to get complete questionnaires from the representative group of people I required. However there was only a select number of people who could answer questions about the Centre as a conference venue and therefore I carried out an additional small scale online survey to reach those who were involved in organising a conference or meeting in the CfHS.

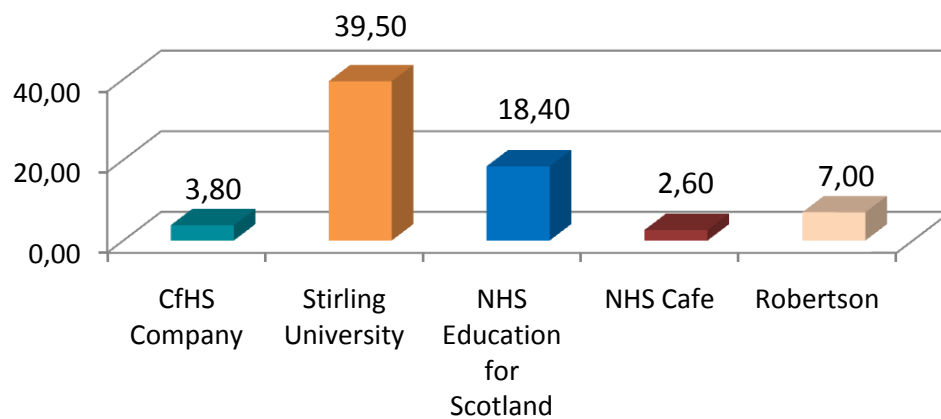
¹ Internal document to the company to monitor benefits.

What is your purpose of being in the Centre?

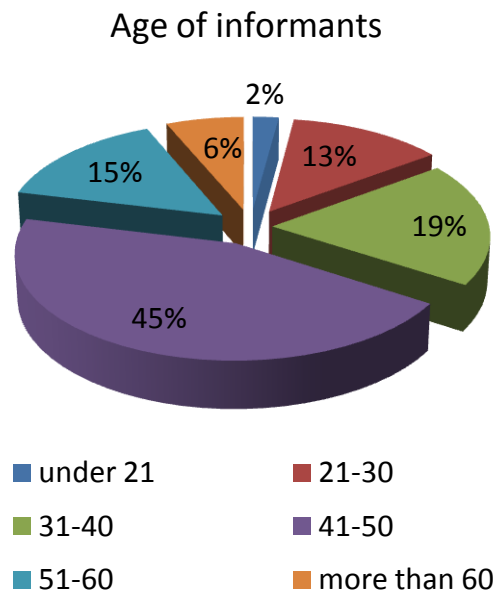


Graph 2: Mixture of informants (Source: own)

Sum of FTE



Graph 3: Summary of Full Time Employment in the companies based in the Centre (Source: Galloway, Frk 2008)

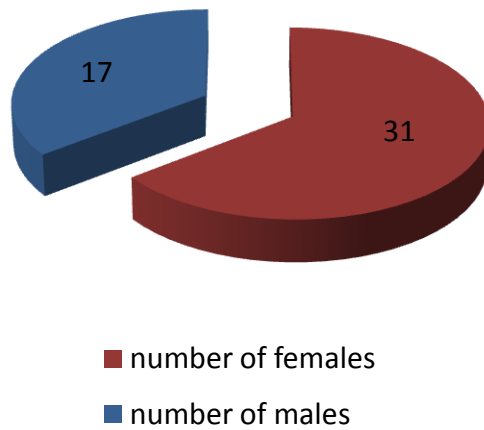


Graph 4: Age of informants (Source: own)

I did not have any data to compare to see if I have reached an appropriate group of respondents regarding the age. From my own experience I guess profile of my informants is not far from age groups of all users. Of course I have to mention there are not as many University of Stirling students, but they are spending about a third of the year in the Centre and therefore this number is sufficient.

Total number of received questionnaires was 48 and all of them were processed and used in the survey. I distributed 190 questionnaires so the rate of return is about 25 %.

Gender of informants



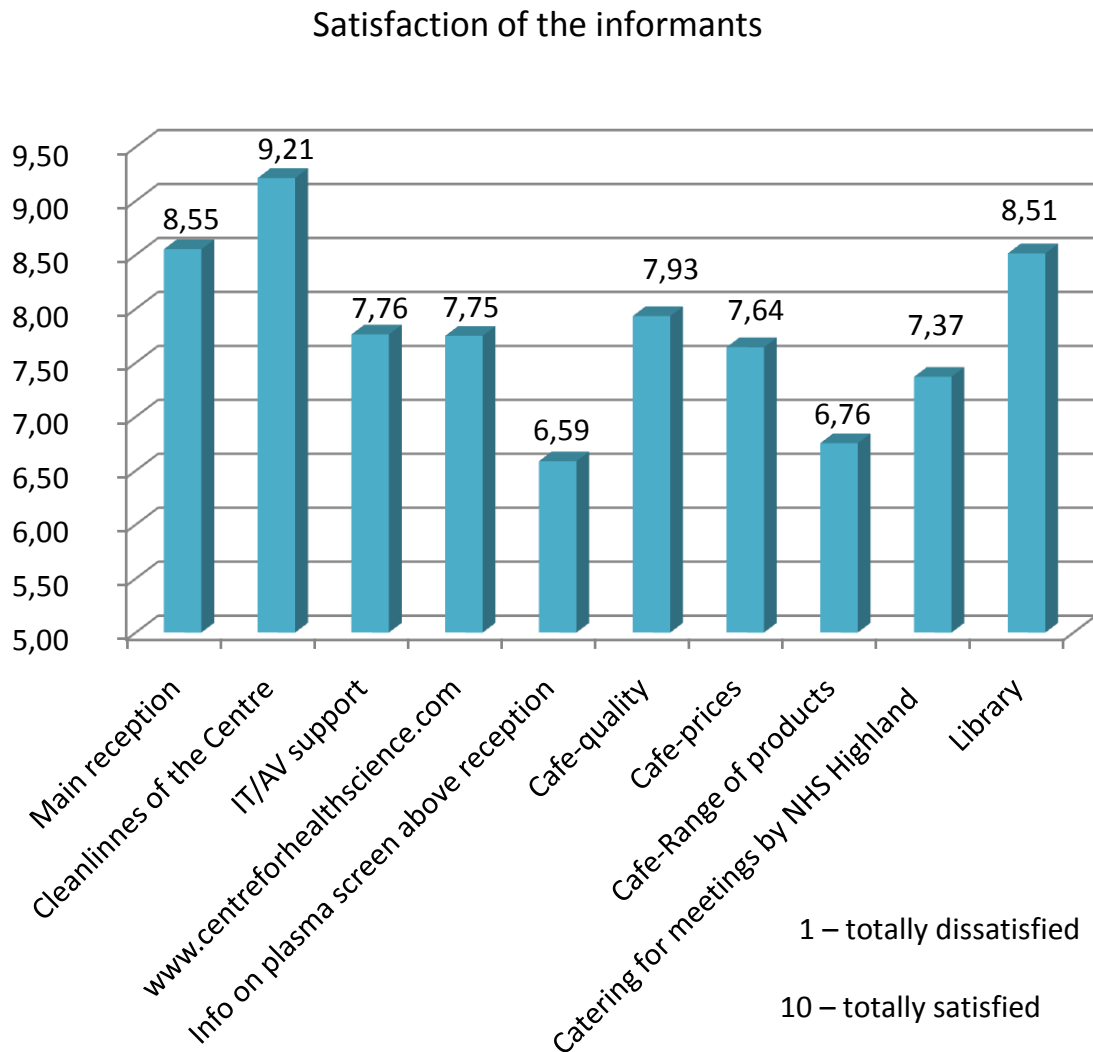
It is not surprising that I have received almost 2 times more responses from women, because in administration, health care (especially nursery) and education sector is more women than men. Thanks to that there is more women using the CfHS and I believe that my sample is in similar proportion as the proportion of all users of the Centre.

Graph 5: Gender of informants (Source: own)



Figure 8: CfHS Customer satisfaction survey box (Source: own)

12.3.2 Satisfaction



Graph 6: Satisfaction (Source: own)

Chart 6 shows responses on all satisfaction scales in the questionnaire survey. Vertical axis has a starting point at 5 so the differences can be better recognised. It could look as though the centre is doing very well as there are no dissatisfied customers, but that would be too easy an interpretation of the results. Customer satisfaction driven companies usually set targets higher than 8 of 10. The CfHS is not competing with another facility, which has a customer satisfaction level on 5, but much higher.

Another important thing which must be considered is that not all the services or factors measured have the same importance to customers. In very precise and high quality surveys it is often measured not only satisfaction but as well as the importance for the cus-

tomers. I have decided not to measure importance for customers as that would dramatically increase the number of question and I believe that importance can be seen from the number of answers on open questions as well. Example of very different importance in my survey is the Plasma screen and Range of products in Cafe. From the chart above someone could focus on improving quality of presentations on plasma screen, but that would have much lower effect on real overall satisfaction in the CfHS. The Range of products in Cafe is much more important for users of the Centre and it is proved by the number of answers on open questions.

ARE THERE ANY IMPROVEMENTS YOU WOULD LIKE TO SEE ON THE WEBSITE?

Answers of informants:

Need to modify to adequately reflect tenants interest/activities

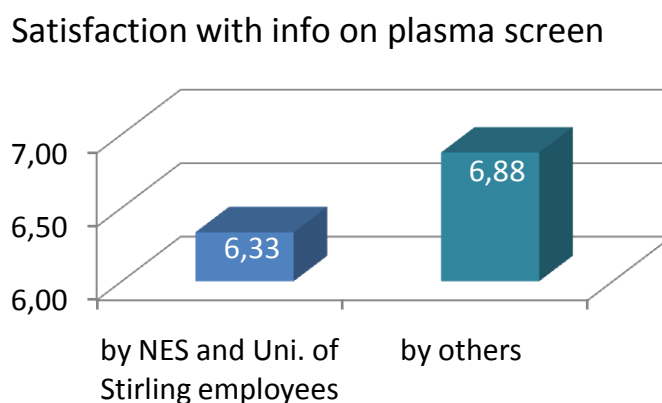
More dynamic displays of events, perhaps resource to check other events, room allocation, profile of workers

Links to tenant's websites, changing centre e.g. Feature articles

The building looks cold + uninviting; an interior shot would be an advantage

Keep up to date regularly

On the welcome site (www.centreforhealthscience.com) could feature sometimes the banner attracting attention to the key event. It could be easily placed instead of one of the pictures on the right panel. It would be more visible and dynamic. There are already links to tenants and stakeholders websites, but it would be easier to find if there was a separate 'Links' page created.



Graph 7: Satisfaction with plasma screen (Source: own)

PLASMA SCREEN COMMENTS

Answers of informants:

Too small to read

Don't always notice it

Maybe useful to display "what is on" so we can see who is in the building

More events Info

OK

Never seen useful info on this green

Not usually of interest to me

Never read it

Events taking place today

Thanks to the CfHS company now being accommodated in the Centre, as well as our server, there will be other possible ways of working with the plasma screen. Currently there has been one informative presentation running with about 20 slides, which was changed once every few months. During conferences a short customized welcome slideshow would be displayed. From now it will be possible to broadcast different presentations during the day from the server based on an automatic timetable. So it will be possible to target for example people employed there at morning when they are going around the screen. These full time employees may have become bored with seeing the same content

almost every day. During the day a presentation targeted on non regular visitors could be displayed which would be similar to that one which is running now all day. Thereafter a presentation about actual events or any other short message targeted at tenants could be displayed again

Text of the presentation should be larger so the presentation is readable from further distances and it could be more succinct. As the new communication medium – newsletter is going to be launched soon information can be appropriately divided between website, plasma screen and newsletter.

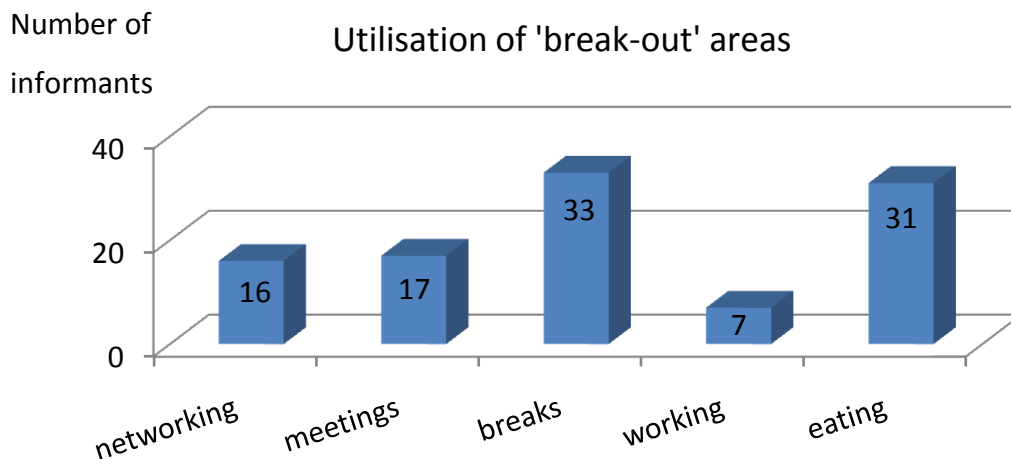
RECEPTION

Answers of informants:

Staff polite and helpful

Front of house staff generally very good, but cover can be variable if 2 usual ladies not there. Often overburdened by bookings to deal with reception.

The level of satisfaction with reception services is in comparison with other factors very good. But this can change very soon, because the two current receptions, as mentioned by the informant above, are leaving their positions. Generally the reason is lack of incentives. The reception staff provides variable services and their experience enables them to provide a better service. The reason suspected in this case is the natural motivational factor as described in Figure 2 is not working as the reception is run by external company. This means that, if there is not any motivational factor in the contract between HIE and RFM rewarding RFM if there is higher customer satisfaction it causes following: RFM is not motivated in having low turnover of staff and spend some extra effort or money on that. That means there is broken link: Happy employee – High customer satisfaction – Happy customer – Organisation success.



Graph 8: Utilisation of 'break-out' areas (Source: own)

It was interesting for the CfHS Company to know how well utilised the common areas with seating for people in the centre are. This is because the architecture of the building was designed to support networking and collaboration between the companies based here.

Some of the informants had ticked more options and therefore the total number on the chart is higher than the total number of informants.

I believe the chart shows that collaboration and networking concept of the CfHS is working

WHAT ADDITIONAL PRODUCTS, IF ANY, WOULD YOU LIKE TO SEE IN THE CAFE?

Answers of informants:

9 X More hot meals (or hot dish of the day)

3 X Wider choice of salads and healthy eating lunches

2 X more tea and coffee machine

Keep choice of chocolate products e.g. vending machine

Fair-trade including catering for meetings

Wraps, baguettes

Dried fruit + nuts

Ice cream when building is too hot

Super for the size,

Very nice staff

Milkshake

Anything organic

Larger range, less packaging, healthier options, mugs for coffee

Water machine

Sandwich bar, breakfast (at breakfast time)

Fajitas, 2 types of soups, cold water machine

More choice

Free range eggs used, hot vegetarian choice

Flasks of different filter fresh coffee, quickness, variety, sweet confections, and fresh patisserie quality

ADDITIONAL ABOUT CAFE: IF YOU WOULD LIKE TO MENTION ANYTHING ELSE THAT YOU FEEL COULD IMPROVE YOUR SATISFACTION PLEASE USE THE SPACE BELOW.

Answers of informants:

3 X coffee machine for times when Café closed + busy times

Café should be open weekends + evenings

May need to reintroduce vending machine when larger building

The cafe is quite small especially when considered that there is going to be more customers as Phases 2 and 3 opens. It may be worth considering the possibility of expanding the Cafe into the Street area. Some vending machines are already planned to be reintroduced in the Centre, what could improve the situation. There should definitely be coffee and tea machines available out of Cafe opening hours, as it can be quite disappointing for people visiting the library on a Saturday or during some late meetings without catering.

The range of products is definitely something that customers are not happy about. Many people have mentioned that they are missing the option of a hot meal. There are hot meals cooked every day by the same organisation just a few hundred meters away, so the option could be to introduced a hot dish of the day. As already mentioned, the Cafe facilities are fairly small so without studying hygienic regulation and policies it is not easy to say if this would be easy to offer.

When choosing the products there should be thought about healthy, organic, Fair-trade and ecologically packaged products. Of course people would like to see more fresh products, but there must be consideration given regarding the amount of food sold, which is still small and again hygienic regulations and availability of fridges and supply offers for small amount but higher frequency. Scottish breakfast (not healthy!) would definitely be of interest to some of the people working in the Centre and after the completion of Phase 2 and 3 it could be profitable.

I have passed the results of my survey regarding the Cafe and catering to the manager responsible for the Cafe from NHS Highland.

IF YOU PREFER EXTERNAL CATERING, WHY?

Answers of informants:

Better range of products, better presented, more value for money.

More variety of sandwiches, finger foods, nicer presentation

A more imaginative range of food and drink

Represent good value but is a bit dull compare to some outside caterers

Restricted choice + quality

Buffet is good but sandwiches are dreadful

Variety, less waste

It is obvious that the simple version (sandwiches) of the catering provided by NHS Highland is not very popular. People miss finger food and would prefer nicer presentation of the catering. More variety and options for vegetarians would be beneficial as well. It would be worth thinking about reducing unnecessary one time use of packaging and consider if some of the products could be Fairtrade. The Centre for Health Science is used by many highly educated people who tend to be more environmental friendly and responsible. The buffet version of NHS catering seems to be more accepted but it is not convenient for every occasion.

LIBRARY COMMENTS*Answers of informants:*

Listening to staff while on computer wanted to comment on how friendly and helpful they come across when dealing with enquiries etc.

Always very helpful staff

Some books quite outdated. Not enough copies of popular books.

Super staff

Excellent

Great selection, pleasant learning environment, good IT facilities

Well informed, pleasant staff - good facilities

Lose the swipe card intimidating for students when card forgotten

Additional about Library: If you would like to mention anything else that you feel could improve your satisfaction please use the space below.

Library to open at 8 if computers not provided elsewhere

The informants are generally satisfied with the library services. Staff are not happy about insufficient sound proofing between their offices and library, what was find out during the exploratory survey. However this issue was not included in the main questionnaire survey as there would be a lack of informants who could comment that.

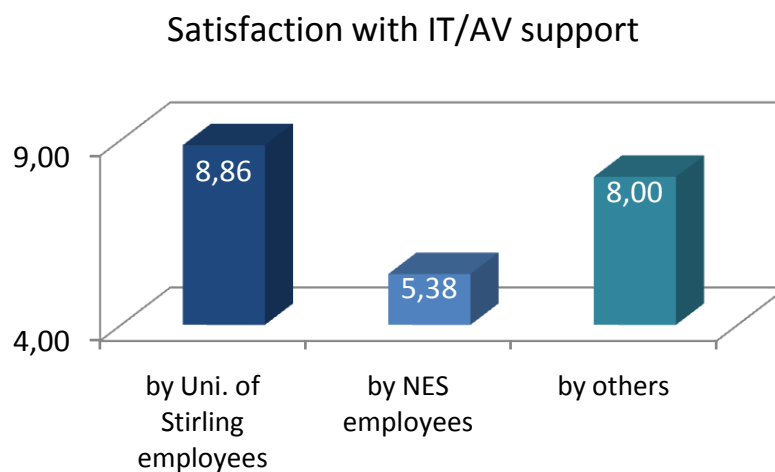
Another thing which could be considered is cooperation of library and reception in issuing passwords for accessing wireless internet. At present the passwords are issued by reception usually for one day. It could be beneficial for registered visitors of the library to be automatically issued a password for the period of time they are paying library fees.

AWARENESS OF THE CENTRE FOR HEALTH SCIENCE COMPANY

		NO	YES	YES
Have you heard about the Centre for Health Science company?	NES and Uni. of Stirling employees	14	10	41.67%
	others	16	8	33.33%

Table 2: Awareness of CfHS Company (Source: own)

Awareness of the CfHS Company is low especially amongst employees working in the Centre. We have to consider that the company is very new (operational from February 2008) and that it was not based in the Centre until July. I think awareness will quickly grow during the second half of 2008 when the company employees will be seen more in the Centre and the newsletter will be launched.



Graph 9: Satisfaction with IT/AV support (Source: own)

It is obvious from the charts that some of the dissatisfaction is internal NHS Education problems caused by the recent loss of their IT technician. But thanks to online survey targeted on conference organisers², we can see that it is not the only reason.

I think that it would be worth to highlight the need of regular checks of the IT/AV equipment in the rooms by the people who are responsible for each of the rooms. It would be beneficial to think about brief printed guidelines on how to work each piece of equipment and who to contact in case of any problems.

The Centre is becoming a main healthcare conference venue in the Highlands and therefore it should probably have equipment such as a wireless microphone.

To stay up to date with modern educational techniques it would be worth discussing the possibility of buying an interactive whiteboard. Of course views of lecturers should be sought as they would be the main users. However this is up to the tenants, what equipment they will buy for the facilities they are leasing.

DO YOU THINK THE ROOMS REQUIRE ANY ADDITIONAL EQUIPMENT?

Answers of informants:

4 X Air conditioning

(Sometimes additional ventilation + temperature control poor; Room 119 too hot, not enough ventilation; room ventilation needs improved)

3 X White boards (interactive)

3 X No additional, just IT equipment which works

(No, but need to ensure that maintenance is carried on more quickly; IT equipment that is reliable, IT equipment that works consistently)

Lecture type chairs very uncomfortable + cannot get books and jotters on it

NES Dental could do with more electric sockets and net on the floor. TV screens in rooms seems to be in the wrong positions

² Online survey results are following from p.68.

Air ventilation system was not set up correctly. Now it is changed and should appropriately ventilate rooms. The system is now being monitored. My opinions regarding IT/AV are mentioned above.

12.3.3 Average satisfaction – do we have any “advocates”?

Delighted customers so called “advocates” are these who are so happy with services or products they receive that they are talking about it to people around and by this way promote these services or products. According to (Smith and Wheeler 2002) advocates score from 9 to 10. We have 10 percent of these delighted customers if we counted average satisfaction from all scales from the first part of the questionnaire. Average satisfaction of all informants from the first part of the questionnaire is **7.71**.

**Groups of informants
according to average satisfaction**

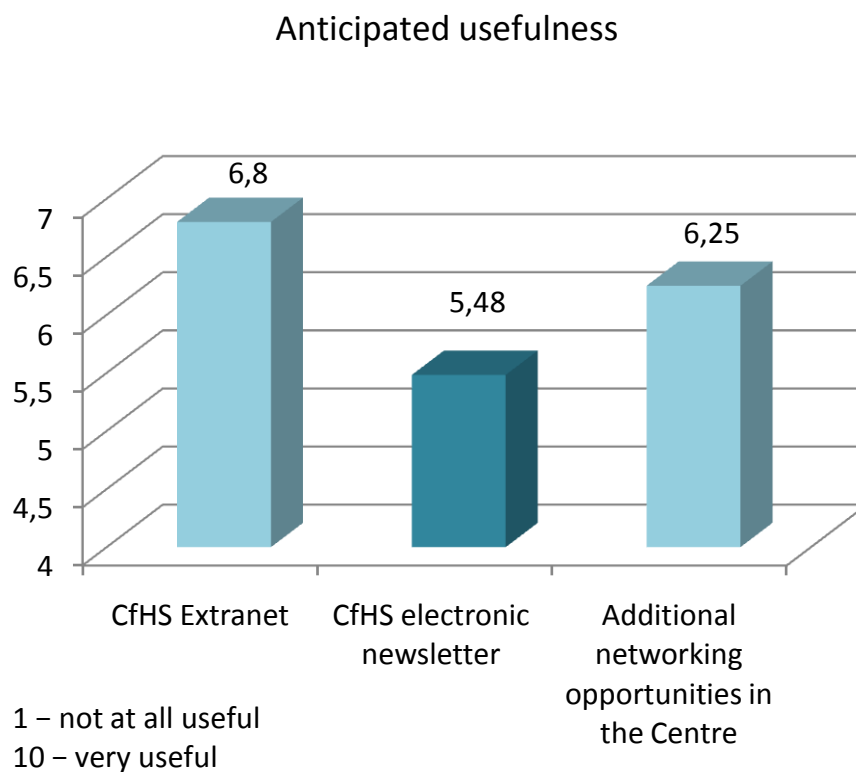
Average score	Number of	Percentage of
More than 9	5	10%
8 - 9	13	27%
7 - 8	20	42%
6 - 7	6	13%
5 - 6	4	8%

Table 3: Groups according to average satisfaction

(Source: own)

12.3.4 The Future

This part of the survey is about expectations, preferences and needs of informants. It is useful for the CfHS Company to find out this information because now is the time when decisions about future communication media and networking activities are needed. The CfHS Company became operational in February 2008 and already had a website and plasma screen in place. There were intentions to have an extranet and newsletter as well. Before developing such an expensive and complex communication tool as an extranet opinions of the CfHS users were very valuable.



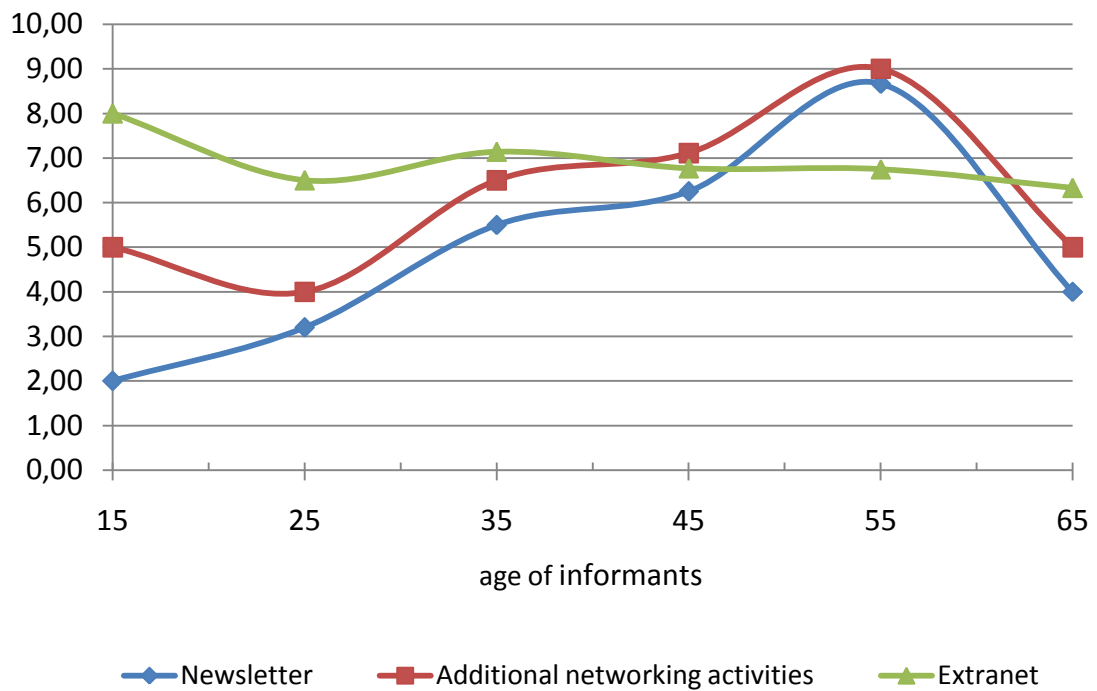
Graph 10: Anticipated usefulness (Source: own)

When we look at this chart it is important to realise that an electronic newsletter would not be very useful if there is extranet as well. Some of the informants have been thinking about that and especially young respondents prefer extranet and after they do not

need a newsletter. If there was an extranet eliminated in the survey, newsletter would definitely get higher score.

Correlation of anticipated usefulness of communication media and activities with age of informants

anticipated usefulness



Graph 11: Correlations (Source: own)

We can see a correlation between the age of informants and their communicational preferences. An Extranet is not surprisingly preferred amongst the younger generation. Younger people probably do not feel the need to have a newsletter and additional networking opportunities as much as older informants, but this is caused as well by their purpose of being in the Centre. The younger generation tends to be more students and older people are mostly full time employees of the Centre.

IF THERE ARE ANY PARTICULAR NETWORKING ACTIVITIES YOU WOULD FIND BENEFICIAL, PLEASE WRITE IT BELOW.

Answers of informants:

Annual (or more) social event would be good for people who work here.

Out with library e.g. next to Cafe

Evening social and professional events

Meet and greet

A common room for students

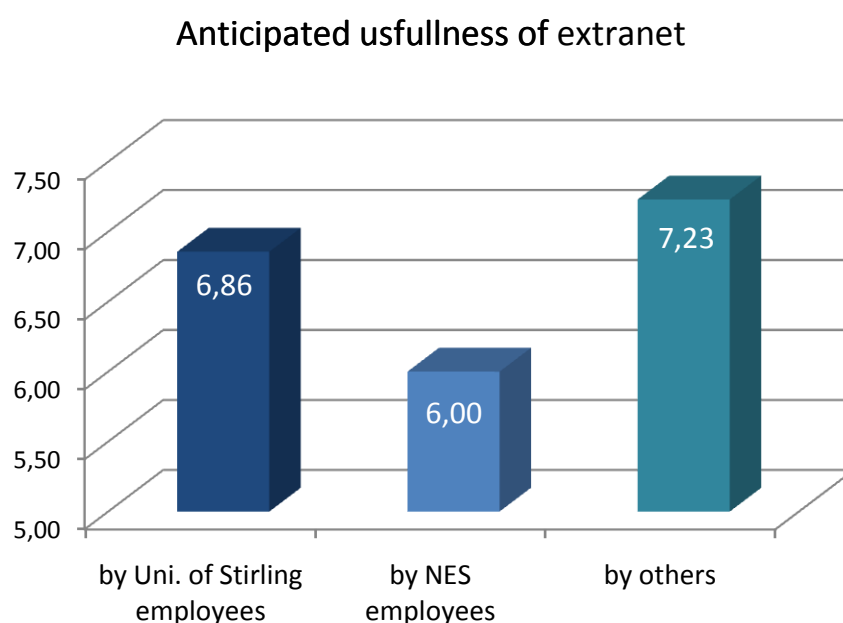
Need open Wi-Fi network for staff-CfHS network accessible from hospital

Any opportunity to mix

Social activities, lectures, knowledge transfer activities

Meetings, events, opportunities that bring together different partners

CfHS Company and new tenants of the building should bring more events and networking activities in to the Centre.



Graph 12: Anticipated usefulness of extranet (Source: own)

IF YOU THINK A CfHS EXTRANET IS A GOOD IDEA, WHAT WOULD YOU EXPECT IT TO CONTAIN?

Answers of informants:

Advertising for clubs, activities, etc.

Copies of minutes etc. from tenants meetings, only info which should be shared

Info about day to day events/employment opportunities etc

A direct link to NHS Highland network

Is this repetition of what is already available through e-library?

Updates on events "community" information

Links to all tenants sites

Web access, use of library facilities

Open internet access for staff/ students

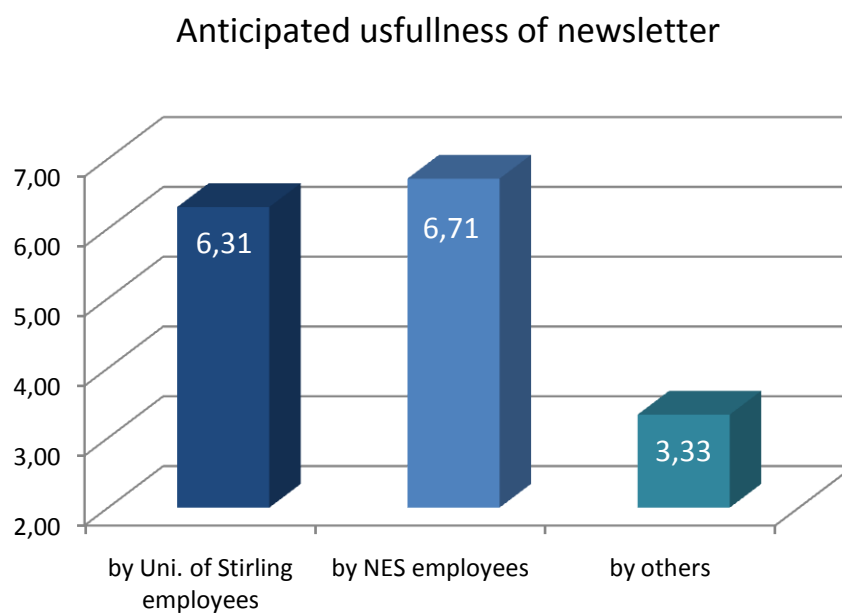
Current info + feedback facility

Newsletter etc. we are overloaded with electronic info emails etc. etc. couldn't handle another one. Most folks are connected to NHS and other companies also with this facility.

Takes ages to navigate through everything

It seems from the survey that people are overloaded by electronic communication and it is not easy for them to get familiar easily with new information systems. Most of the companies have an intranet and if there were to be a CfHS extranet they would not be keen to log in. It is quite clear that if an extranet was introduced it would need to be very high specification and be compatible with information systems of the tenants.

The CfHS Company has only four employees and it would be difficult for them to manage an additional communication medium. People seem to be keener to have face to face networking activities. That is probably for now a much better direction of communication activities for the CfHS Company.



Graph 13: Anticipated usefulness of newsletter (Source: own)

IF YOU THINK THE CfHS NEWSLETTER IS A GOOD IDEA, WHAT WOULD YOU SUGGEST FEATURED IN IT?

Answers of informants:

Updates-H+S, tenants meetings, events, training, etc

Competitions, centre info etc. Should be available on extranet to save paper and unnecessary emails

I am not aware of it.

Develop at CfHS "community"

Upcoming events, personal biographies, info about campus + future developments (phase 4)

Articles by staff who work here

News from different partners - networking opportunities

Who works here and what they do

The electronic newsletter is going to be introduced in August, so it will hopefully fulfil the expectations of the people in the Centre and other partners.

IF YOU WOULD LIKE TO MENTION ANYTHING ELSE THAT YOU FEEL COULD IMPROVE YOUR SATISFACTION PLEASE USE THE SPACE BELOW.

Answers of informants:

Name badges would be useful, because sometimes you are speaking to people from other partners, but don't like to ask them name.

Display board of daily events at CfHS at reception + at access to location of event

Cash machine

*Upstairs lecture theatre not fit for purpose. Ventilation poor, either too hot or too cold
Students at back of room cannot see screen fully.*

Open 7 days a week, a greater level of access for staff out off current opening hours

Current daily Wi-Fi passport is a pain. Needs to be open to all hospital/student staff Individual passwords issued = library card?

I resent paying 1 pound for the car park

Free car park for service users + real coffee machine

Rooms sound proofing needs improved

*cleaning materials-poor ventilation and overuse of sprayed cleaning chemicals leads to:
1.) chemical smell (air in NES rooms) 2.) Horrible sticky surface on tabletop*

Wireless access available 24 h.; keep fresh water supplies maintained and available in more areas

More seating

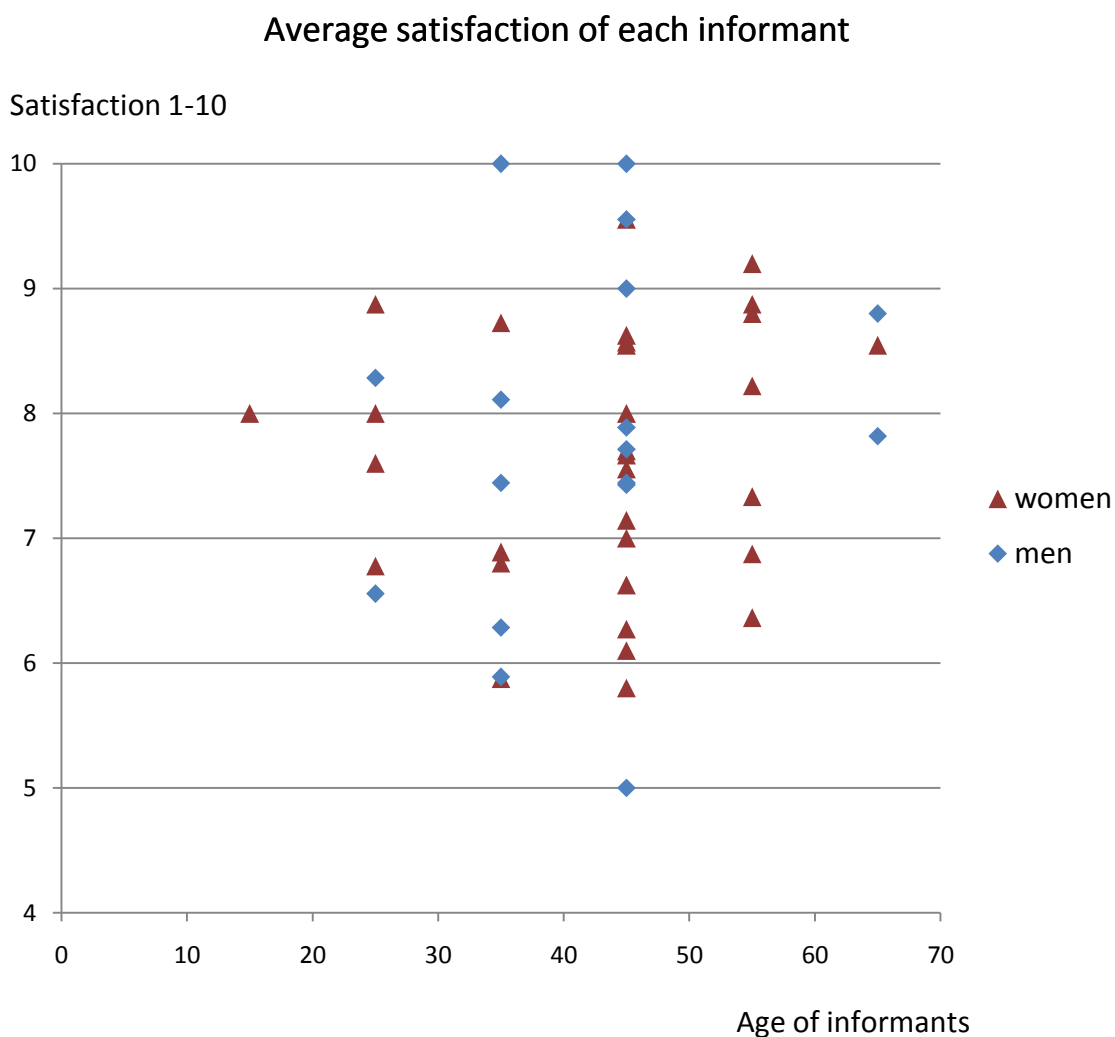
IT/ acoustics could be improved in lecture theatre

Practice one for basic nursing procedures

Lecture theatre-cannot see lectors, no AC - very very stressful and affects on listening and learning capacity

The above issues can be divided into 3 main groups, those which cannot be changed, those where responsibility lies with the individual tenants and those which were already known and are being changed.

12.3.5 Are there any correlations with age or gender of informants?



Graph 14: Average satisfaction (Source: own)

From this chart it is evident that there is no significant correlation between age or gender of informants and their satisfaction. Correlation was counted for all questions with age and gender.

Correlations of all questions, which results were processed as numbers

Question	Correlation with age	Correlation with gender
Main reception	0,15	-0,08
Cleanliness of the Centre	0,10	-0,13
IT/AV support	0,29	0,03
www.centreforhealthscience.com	0,14	-0,02
Are there any improvements you would like to see on the website?	0,22	-0,32
Info on plasma screen above reception	0,04	0,15
Cafe-quality	0,07	0,06
Cafe-prices	0,05	-0,01
Cafe-Range of products	0,05	-0,05
Catering for meetings by NHS Highland	0,21	-0,13
Library	0,21	-0,17
Have you heard about the Centre for Health Science company?	-0,20	0,03
Do you think the rooms require any additional equipment?	-0,17	-0,22
Do you utilise 'break-out' areas within the Centre?	-0,11	-0,09
CfHS Extranet	-0,06	0,08
CfHS electronic newsletter	0,49	0,08
Additional networking opportunities	0,43	0,12

Table 4: Correlations (Source: own)

There is a medium correlation in question about the need of improvements to the website. Women were more often saying NO (no improvements needed) than men. There are also medium correlations between age and communication tools, which were shown on Graph 11. All other correlations counted are small. There are no large correlations.

Correlation	Negative	Positive
Small	-0.3 to -0.1	0.1 to 0.3
Medium	-0.5 to -0.3	0.3 to 0.5
Large	-1.0 to -0.5	0.5 to 1.0

Table 5: Interpretation of the size of a correlation

(Source: Wikipedia)

12.3.6 Variance of answers on scale questions

Question	The most frequent answer	Average absolute deviation	Standard deviation	Variance
Main reception	10	1,36	1,63	2,67
Cleanliness of the Centre	10	0,87	1,15	1,32
IT/AV support	10	2,15	2,65	7,02
www.centreforhealthscience.com	8	1,21	1,51	2,27
Info on plasma screen above reception	6	1,71	2,20	4,83
Cafe-quality	10	1,41	1,69	2,86
Cafe-prices	8	1,54	1,93	3,74
Cafe-Range of products	6	1,68	2,07	4,27
Catering for meetings by NHS Highland	10	2,11	2,50	6,23
Library	10	1,27	1,59	2,54
CfHS Extranet	5	1,70	2,05	4,22
CfHS electronic newsletter	5	2,05	2,54	6,46
Additional networking opportunities	5	1,85	2,46	6,05

Table 6: Answers from questionnaire (Source: own)

The lowest variance is from the question about satisfaction with cleanliness in the Centre which had the most frequent answer of totally satisfied.

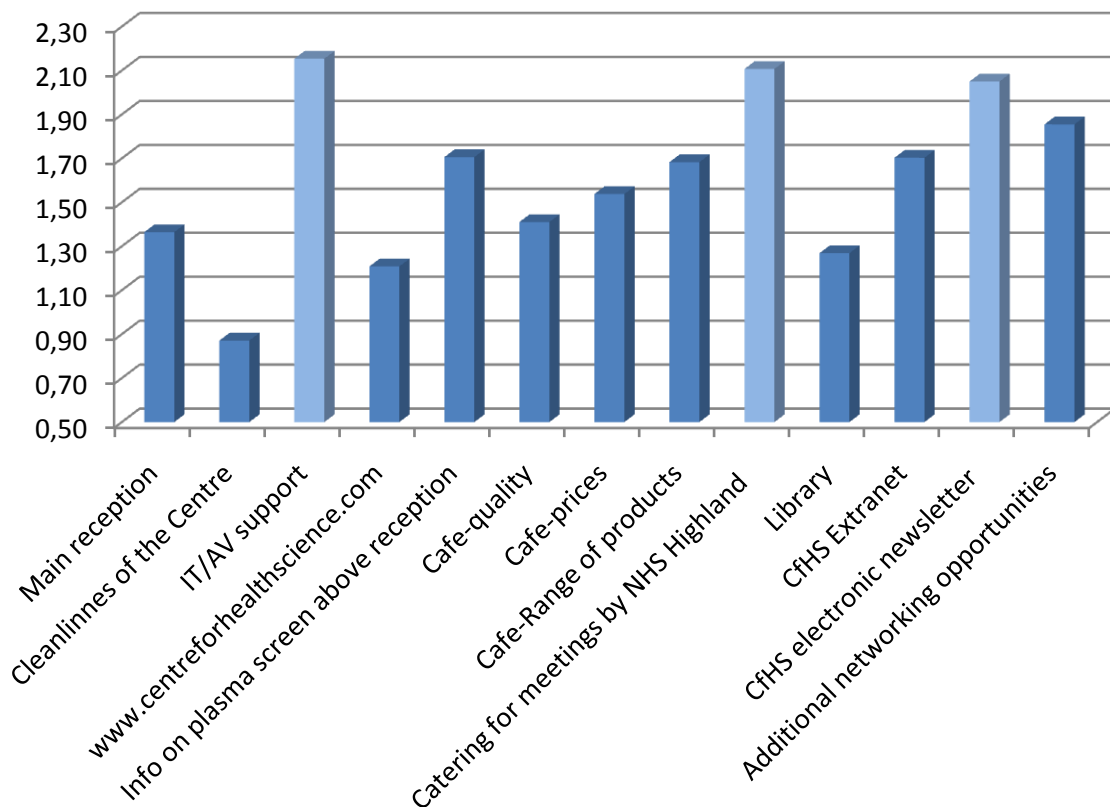
The higher deviation in satisfaction with IT/AV support is caused primarily by the different experience of the users, their different IT skills and their different purpose of be-

ing in the Centre. Some of the respondents probably did not have any experience with IT/AV equipment in the Centre although they have inserted higher score.

NHS Highland provides two kinds of catering: sandwiches and buffet. It is known that sandwiches are not the favourite in comparison to the buffet. Some of the informants have perhaps inserted a higher score, because of their experience with some other catering as not all the people know where the catering that they are eating comes from.

From Graph 11 it is possible to see a correlation and expected usefulness of the newsletter. Older people prefer a newsletter more than younger. Youth are expecting to see this information on an extranet instead. There is of course a higher need for a newsletter amongst employees based in the Centre in comparison to external users.

Average absolute deviation of responses on separate questions



Graph 15: Average absolute deviation (Source: own)

13 ONLINE SURVEY

13.1 Purpose of additional online survey

To reach some of the people who were organising conferences or meetings in the Centre I prepared a short online survey (App. I-II). I used a specialised survey server www.surveymonkey.com. I found it very useful for this purpose although I was limited to 10 questions, which is offered as a free version. I sent e-mails (App. 5) explaining the purpose and a link to the SurveyMonkey site which went directly to my survey. I unfortunately only had a low number of contacts, because the Centre for Health Science is a new facility. There is not been a large number of meetings or conferences as yet. On the other hand the quality of my contacts was high, as they were mostly the main organisers of the event. So their opinions were very valuable to the CfHS Company. I used a different set of questions than I did for my main survey. Those questions used for my online survey were targeted more on conferences and meetings of external organisations.

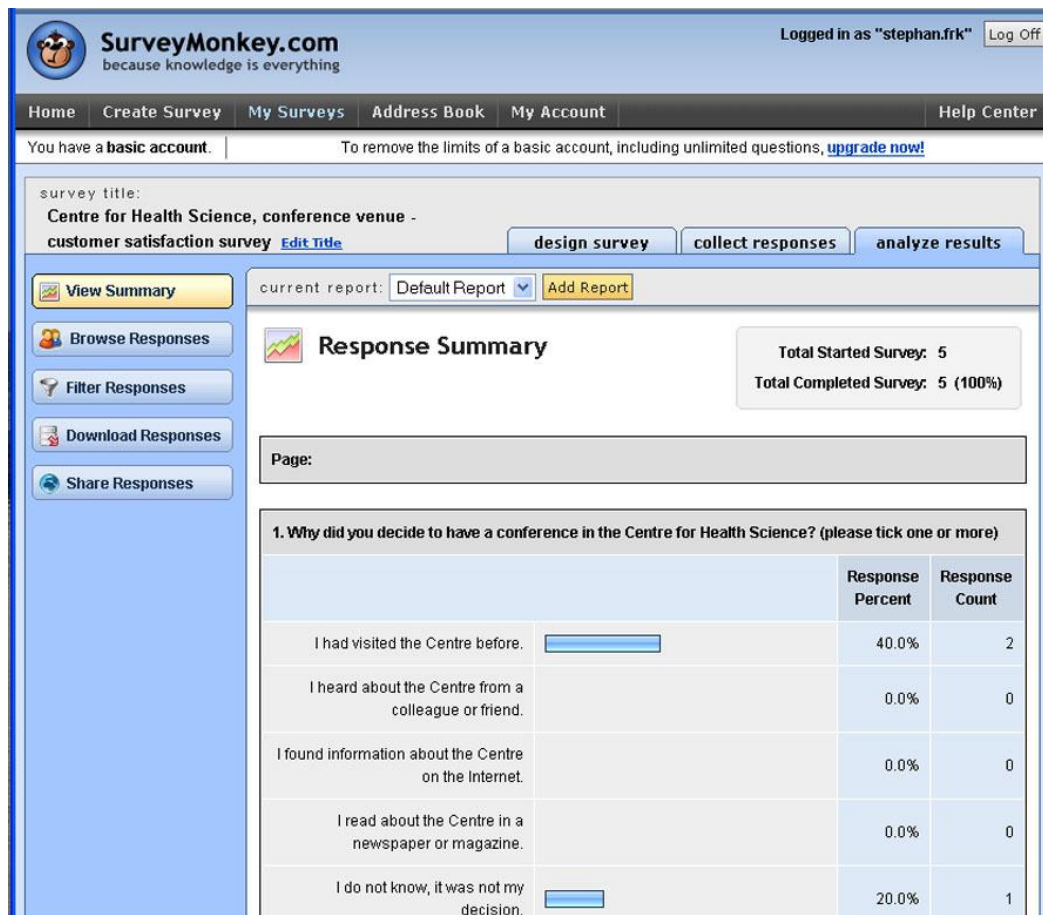
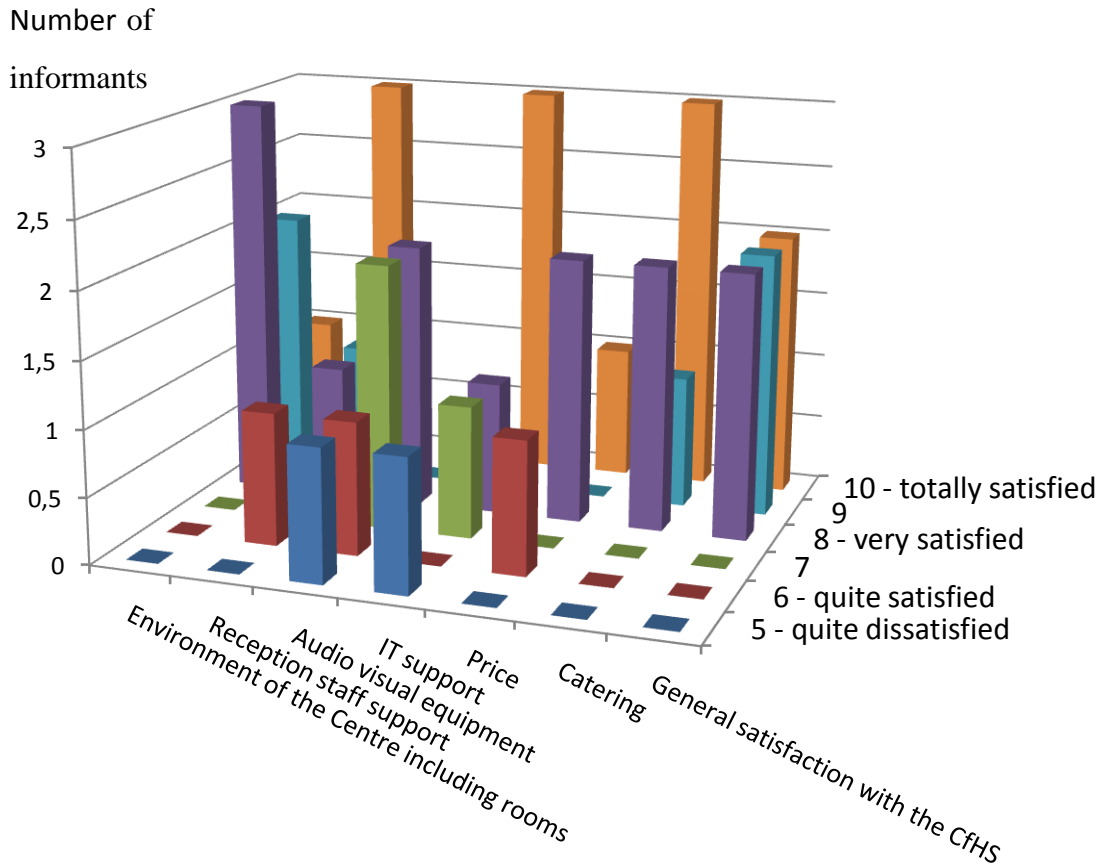


Figure 9: Online survey (Source: own and SurveyMonkey.com)

13.2 Online survey results

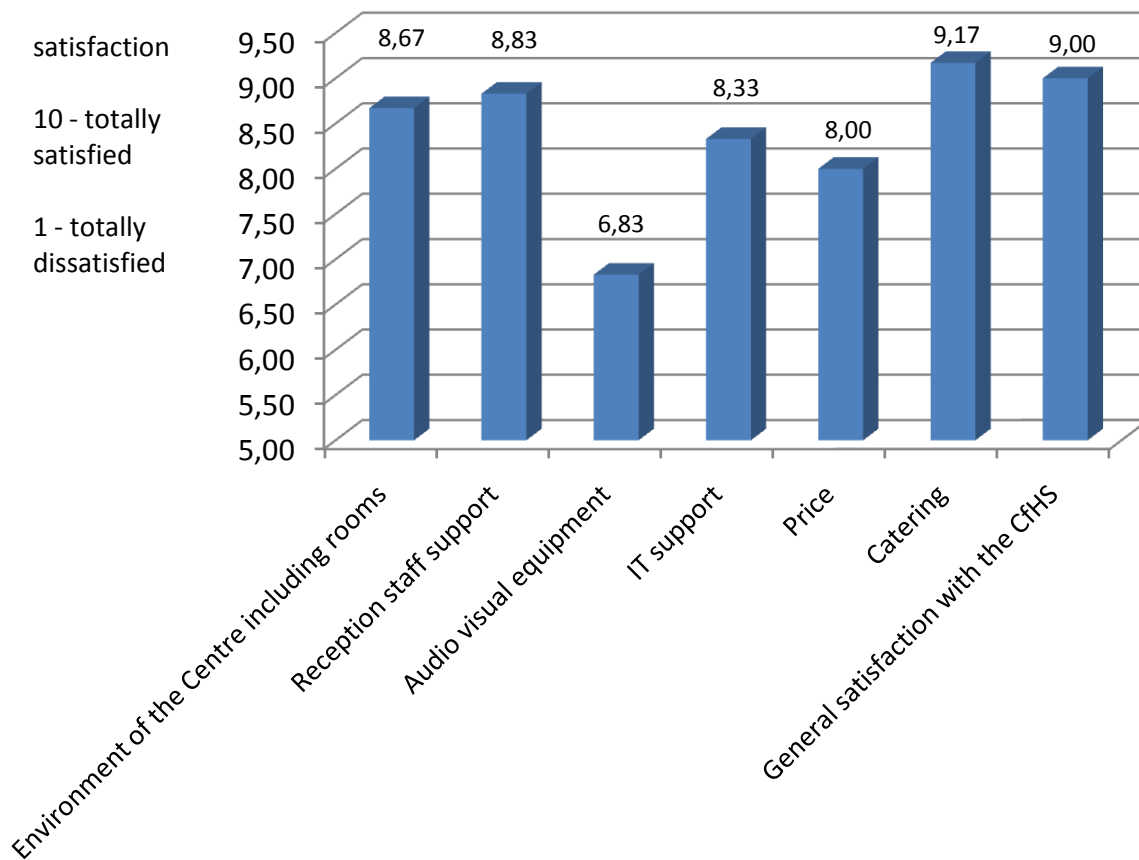
Satisfaction of conference and meeting organizers with CfHS



Graph 16: Answers from online survey Q 6 (Source: own)

From the first two charts from the online survey data it is obvious that the area for improvement is within IT/AV support and operation of this equipment. It is not easy for the external visitors of the Centre to become familiar with the IT/AV equipment quickly. The better scores for catering in comparison to the main survey are probably due to the provision of a large buffet selection which is more usual at conferences than sandwiches, which received a lower score in the main survey.

Satisfaction of conference and meeting organizers with CfHS

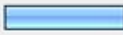
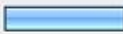


Graph 17: Answers from online survey Q 6 (Source: own)

		Response Percent	Response Count
Response Summary		Total Started Survey: 6 Total Completed Survey: 6 (100%)	
Page:			
1. Why did you decide to have a conference in the Centre for Health Science? (please tick one or more)			
I had visited the Centre before.	<input checked="" type="checkbox"/>	50.0%	3
I heard about the Centre from a colleague or friend.	<input type="checkbox"/>	0.0%	0
I found information about the Centre on the Internet.	<input type="checkbox"/>	0.0%	0
I read about the Centre in a newspaper or magazine.	<input type="checkbox"/>	0.0%	0
I do not know, it was not my decision.	<input type="checkbox"/>	16.7%	1
view Other (please specify)	<input checked="" type="checkbox"/>	50.0%	3
answered question			6
skipped question			0

Table 7: Answers from online survey – Q1 (Source: own)

- Other:**
1. Used for the same conference last year
 2. I work here
 3. Booked by Consultant within the hospital for us

2. How many delegates attended your conference?			
		Response Percent	Response Count
0-50		50.0%	3
51-100		50.0%	3
101-150		0.0%	0
151-200		0.0%	0
201-250		0.0%	0
more than 250		0.0%	0
answered question			6
skipped question			0

3. Was it a health related conference?			
		Response Percent	Response Count
YES		100.0%	6
NO		0.0%	0
answered question			6
skipped question			0



4. Was it the first conference you or your colleagues organised in the Centre?			
		Response Percent	Response Count
YES		33.3%	2
NO		66.7%	4
answered question			6
skipped question			0

Table 8: Answers from online survey Q 2 – 4 (Source: own)

5. Where did the delegates come from? (please choose the most appropriate)			
		Response Percent	Response Count
Mostly from Highlands		50.0%	3
From Scotland		33.3%	2
From Great Britain		16.7%	1
Mostly from abroad		0.0%	0
		answered question	6
		skipped question	0

7. Who supplied your catering?			
		Response Percent	Response Count
N/A		0.0%	0
Internal - NHS Highland		100.0%	6
Other (please specify)		0.0%	0
		answered question	6
		skipped question	0

8. Was there any additional service you would have found beneficial? Please give details.		
		Response Count
		2
		answered question
		2
		skipped question
		4

Table 9: Answers from online survey Q 5, 7, and 8 (Source: own)

1. IT equipment is there but major hassles getting it working mostly with password issues




9. Do you think the rooms require any additional equipment?				
			Response Percent	Response Count
	NO		50.0%	3
	YES (please specify)		50.0%	3
			answered question	6
			skipped question	0

Table 10: Answers from online survey Q 9 (Source: own)

1. *The lighting controls in the main lecture theatre should be controllable from the front desk.*
2. *A screen in 38b and 38c for projecting onto and IT equipment that works fully.*
3. *We hired tie mics and a PA system for our meeting as the static microphone does not provide the flexibility of movement for the speaker or quality of sound we need.*


10. Would you hold another event in the Centre for Health Science in the future?				
			Response Percent	Response Count
	YES		100.0%	6
	NO (please explain why)		0.0%	0
			answered question	6
			skipped question	0

Table 11: Answers from online survey Q 10 (Source: own)

CONCLUSION

The Centre for Health Science definitely has potential to become a centre of excellence and play a vital role in developing the health science sector in the Highlands and Islands. To achieve this it will be necessary to pursue intensive communication and encourage cooperation amongst the tenants and stakeholders of the Centre. Key managers will need to have in mind improving customer satisfaction. To fulfil the expectations, awareness of the Centre must be raised and the CfHS must be known as a great place to work and study in. The Centre needs to achieve higher levels of publicity to attract talented scientists, doctors, students and innovative companies with grow potential.

As mentioned in my work very satisfied customers are becoming 'advocates' who spread the positive information about their customer experience and this reduces promotional costs. The difficulty in creating for example very satisfied conference organisers of the CfHS is that it requires the efforts of a few organisations working together. That requires cooperation and motivation of key managers who need to feel responsibility for the Centre for Health Science vision and targets.

From the customer satisfaction survey a few factors were revealed where improvements could notably influence the overall customer satisfaction level. Increasing the Cafe's range of products, introducing coffee and vending machines and improving the range and quality of NHS catering should probably be targets for NHS Highland management responsible for these services. HIE in cooperation with RFM staff should focus on ensuring that the ventilation system works efficiently. RFM should think about motivating their employees to minimise turnover of important staff. All tenants who are renting their rooms should in cooperation with RFM staff ensure that all equipment works properly and there are enough people who can provide necessary support.

The customer satisfaction measurement which I have done can help the CfHS Company and other managers working in the Centre to understand their customers and lead them to the improvements which will have an obvious impression on customer satisfaction. However the customer satisfaction results itself cannot have any effect without people who are using them.

ZÁVĚR

Centre for Health Science má určitě potenciál stát se výjimečným centrem vědy a pokroku a hrát důležitou roli v rozvoji zdravotní vědy na Skotské Vysočině. Aby toho dosáhlo, bude nezbytná intenzivní komunikace a spolupráce mezi nájemníky a spoluzakladateli centra. Klíčoví manažeři budou muset mít na mysli zdokonalování spokojenosti zákazníků. Aby očekávání byla naplněna, povědomí o centru se musí zvýšit a CfHS musí být známo jako výborné místo k práci a studiu. Centrum potřebuje dobrou publicitu, aby přilákalo talentované vědce, doktory, studenty a inovativní společnosti s potenciálem růstu.

Jak již bylo zmíněno v mé práci, maximálně spokojení zákazníci se stávají tzv. advokáty, kteří rozšiřují pozitivní informace o své zákaznické zkušenosti, a to může snížit náklady na propagaci. Na vytvoření například maximálně spokojeného návštěvníka konference v CfHS je složité to, že je zapotřebí úsilí více organizací společně. To vyžaduje spolupráci a motivaci klíčových manažerů, kteří musí cítit zodpovědnost za Centre for Health Science filozofii a cíle.

Z průzkumu spokojenosti zákazníků vyplývá několik faktorů, jejichž zlepšení by mohlo významně ovlivnit všeobecnou úroveň spokojenosti. Rozšíření sortimentu Cafe, zavedení kávových a potravinových automatů a zdokonalení výběru a kvality cateringu by pravděpodobně měli být cíle pro NHS Highland vedení zodpovědné za tyto služby. HIE ve spolupráci s RFM personálem by se měli myslím zaměřit na zajištění správného fungování ventilačního systému. RFM by měli přemýšlet o motivování svých zaměstnanců, aby snížili odchod důležitého personálu. Všichni nájemníci, kteří dále pronajímají své místnosti, by se měli ve spolupráci s RFM personálem ujistit, že všechno počítačové a audiovizuální vybavení správně funguje a že je dostatek lidí, kteří mohou poskytnout nezbytnou podporu.

Měření spokojenosti zákazníků, které jsem provedl, může pomoci CfHS Company a ostatním manažerům pracujícím v centru, aby pochopili své zákazníky a vedlo je k zdokonalením, která budou mít dopad na spokojenost zákazníků. Nicméně výsledky měření spokojenosti zákazníků samy o sobě nemůžou mít žádný dopad bez lidí, kteří je budou používat.

REFERENCIES

- [1] Bailey D., Internal customers: 21 tried and tested training activities for improving internal customer care. Cambridgeshire, UK: Wyvern Business Training, 1992. 135 p. ISBN 1-872-48306-2
- [2] Brown S.A., Strategic Customer Care. 1. edition. Ontario, Canada: John Wiley & Sons Canada Limited, 1999. 305 p. ISBN 0-471-64342-4
- [3] Cook S., Customer care excellence. 5. edition. London, UK: Kogan Page Ltd, 2008. 152 p. ISBN 978-0-7494-5066-3
- [4] Galloway G., Frk S., CfHS Benefit Realisation Strategy data spreadsheet. Inverness, UK: CfHS Company internal Excel spreadsheet, 2008.
- [5] Hill, N., Brierly, J., MacDoughall, R., How to measure customer satisfaction. Hampshire, UK: Gower Press, 1999. 136 p. ISBN 0-566-08193-8
- [6] Horovitz, J., Jurgens-Panak, M., Total customer satisfaction. 8. edition. London, UK: Pitman Publishing, 1994. 456 p. ISBN 0-273-03447-2
- [7] Keiningham T., Vavra T., The Customer Delight Principle. 1. edition. New York, USA: McGraw-Hill, 2001. 192 p. ISBN 0-658-01004-2
- [8] Moodie L., CfHS Briefing Note. 1. edition. Inverness, UK: CfHS Company internal document, 2008. 12 p.
- [9] Moodie L., CfHS Marketing and Communications strategy. 1. edition. Inverness, UK: CfHS Company internal document, 2008. 40 p.
- [10] Řezanková H., Analýza dotazníkových šetření. 1. vydání. Praha, ČR: Professional Publishing, 2007. 212 s. ISBN 978-80-86946-49-8
- [11] Smith S., Wheeler J., Managing the customer experience. London, UK: Pearson Education Ltd, 2002. 172 p. ISBN 0-273-66196-7
- [12] Wellemin J. H., Customer satisfaction through total quality. Brickley, UK: Chartwell-Bratt Ltd, 1990. 117 p. ISBN 0-862-38272-6

- [13] Wikipedia, The Free Encyclopedia [online]. [quo. 2008-6-24] available from
WWW: <<http://www.wikipedia.org/>>
- [14] SurveyMonkey [online] [cit. 2008-7-5] available from
WWW:<<http://www.surveymonkey.com/>>

INDEX TO ABBREVIATIONS

CfHS	Centre for Health Science
IT	Information Technology.
AV	Audio Visual.
NHS	National Health Service.
NES	National Health Service Education
RFM	Robertson Facility Management.
HIE	Highlands and Islands Enterprise
CSM	Customer Satisfaction Measurement
CS	Customer Satisfaction
Q	Question

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APPENDIX I: FIRST PART OF ONLINE SURVEY

Centre for Health Science, conference venue - customer satisfaction survey [Exit this survey](#)

Phase 1 of the Centre for Health Science (CfHS) has been functional for 20 months and during that time has become a popular venue for events/conferences. The purpose of this survey is to find out your views about the CfHS and how satisfied or dissatisfied you are with the services you received from us or our partners. The results of this survey will help us continually improve our service within the Centre.

Your participation in this survey is very much appreciated.

On behalf of the Centre for Health Science company thank you very much for your cooperation.
Stephan Frk

1. Why did you decide to have a conference in the Centre for Health Science? (please tick one or more)

- I had visited the Centre before.
- I heard about the Centre from a colleague or friend.
- I found information about the Centre on the Internet.
- I read about the Centre in a newspaper or magazine.
- I do not know, it was not my decision.
- Other (please specify)

2. How many delegates attended your conference?

- 0-50
- 51-100
- 101-150
- 151-200
- 201-250
- more than 250

3. Was it a health related conference?

- YES
- NO

4. Was it the first conference you or your colleagues organised in the Centre?

- YES
- NO

5. Where did the delegates come from? (please choose the most appropriate)

- Mostly from Highlands
- From Scotland
- From Great Britain
- Mostly from abroad

APPENDIX II: SECOND PART OF ONLINE SURVEY

6. Please mark the number which most accurately reflects how satisfied or dissatisfied you have been with each item or mark N/A if it is not relevant to you.

	1 - totally dissatisfied	2	3 - very dissatisfied	4	5 - quite dissatisfied	6 - quite satisfied	7	8 - very satisfied	9	10 - totally satisfied	N/A
Environment of the Centre including rooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reception staff support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Audio visual equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IT support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Catering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you been generally satisfied or dissatisfied with Centre for Health Science like venue for your conference?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Who supplied your catering?

- N/A
- Internal - NHS Highland
- Other (please specify)

8. Was there any additional service you would have found beneficial? Please give details.

9. Do you think the rooms require any additional equipment?

- NO
- YES (please specify)

10. Would you hold another event in the Centre for Health Science in the future?

- YES
- NO (please explain why)

Done

APPENDIX III: ONE OF THE SHEETS FROM EXPLORATORY SURVEY

Topic	Rate 1-10	notes
Reception – scale of satisfaction	9	Friendly staff & always ready someone to help.
Cleanliness – scale of satisfaction	8	Some cleaning products have strong smell.
Temperature in the building – scale (freezing-hot)	7	Generally comfortable but internal rooms with no windows hot & stuffy at times.
NHS Cafe services		
Quality – scale of satisfaction	7	When busy service & pay area not big enough
Choices – scale of satisfaction	5	Limited and little variety – more choices would be good. "Dish of the Day"
If you miss any product there, what is it?		
Appropriate prices – scale of satisfaction Low — High	9	Not over priced.
NHS catering for meetings – scale of satisfaction	5	Tea Coffee in marks of not water not good. Sandwiches not popular.
Do you prefer external catering? YES/NO	YES	Use for some mtgs due to feedback re. NHS catering from attendees – i.e. no choice especially vegetarians.
If YES why?		
Art pieces – scale of popularity Low — High	7	Not heard much feedback on this.
Are Library opening hours convenient? YES/NO/I don't know	N/A	Do not use Library
If NO, what hours do you miss?	—	
Centreforhealthscience.com – satisfaction scale Low — High	9	Well designed website
If you miss any information there, what is it?	—	
Plasma screen above reception – satisfaction scale Low — High	6	Have not really stopped to view as I work in building.
If you miss any information there, what is it?	—	
CfHS Extranet (not existing yet) – scale of need	6	Good idea but not sure how many would use as some tenants have their own.
If you think, that CfHS Extranet is good idea, what would you expect to appear there?		
Electronic newsletter (not existing yet) – scale of need	9	Good idea – news re. Tenants – events – perhaps even a buy & sell page!
If you think, that CfHS newsletter is good idea, what would you expect to appear there?		
Networking opportunities in the Centre – scale of need	10	One of main areas that building was built around. Concept of Networking in open shared area. -v. important to share ideas.
Do you utilise 'break-out' areas in the Centre? YES/NO	YES	
If yes, what for?		
Have you heard about the Centre for Health Science company? YES/NO	YES	
Wireless network – scale of satisfaction	5	Generally IT/AV support for shared space needs to be addressed.

APPENDIX IV: THANKFUL E-MAILS

Thanks Stephan for you help. The welcome screen looked very good. The delegates attending our conference were very impressed with the Centre for Health Science.

Regards

Lindsay

Dear Jen,

I just want to thank yourself and everyone who worked with you for all the very hard work you put in to help to make this conference a success today.

Everything went like clockwork and the refreshments were also very good and compared very well with those in other conferences I've attended.

Please also thank everyone else involved for me.

Best Wishes to you all!!!

Kind Regards, Trevor

APPENDIX V: E-MAIL TO CONFERENCE ORGANISERS

Dear XY

You are one of the few people who were involved in organizing conference or bigger meeting in the Centre for Health Science. We would like to ask you to participate in short (10 question) survey.

The purpose of this survey is to find out what you expect from the CfHS and how satisfied or dissatisfied you have been with services you receive from us or our partners. The results of this survey will help us continually improve our service within the Centre.

Your cooperation is important for us, because there were not too many conferences in the Centre as it is young venue and your opinions will have therefore high influence on the results.

Please note this survey is completely anonymous.

Please click on the link below which will lead you to the survey. You will be able to easily fill in the survey in your Internet browser in few minutes.

http://www.surveymonkey.com/s.aspx?sm=Aq7A1KUH_2bgIO31hIInvzGA_3d_3d

If this does not work, please copy the next row in to your Internet browser (highlight it, press Ctrl and C, open your Internet browser and press Ctrl and V).

If you won't be able to reach the survey, please contact me by telephone: 01463 667 204

Or email: stephan.frk@cfhs.eu

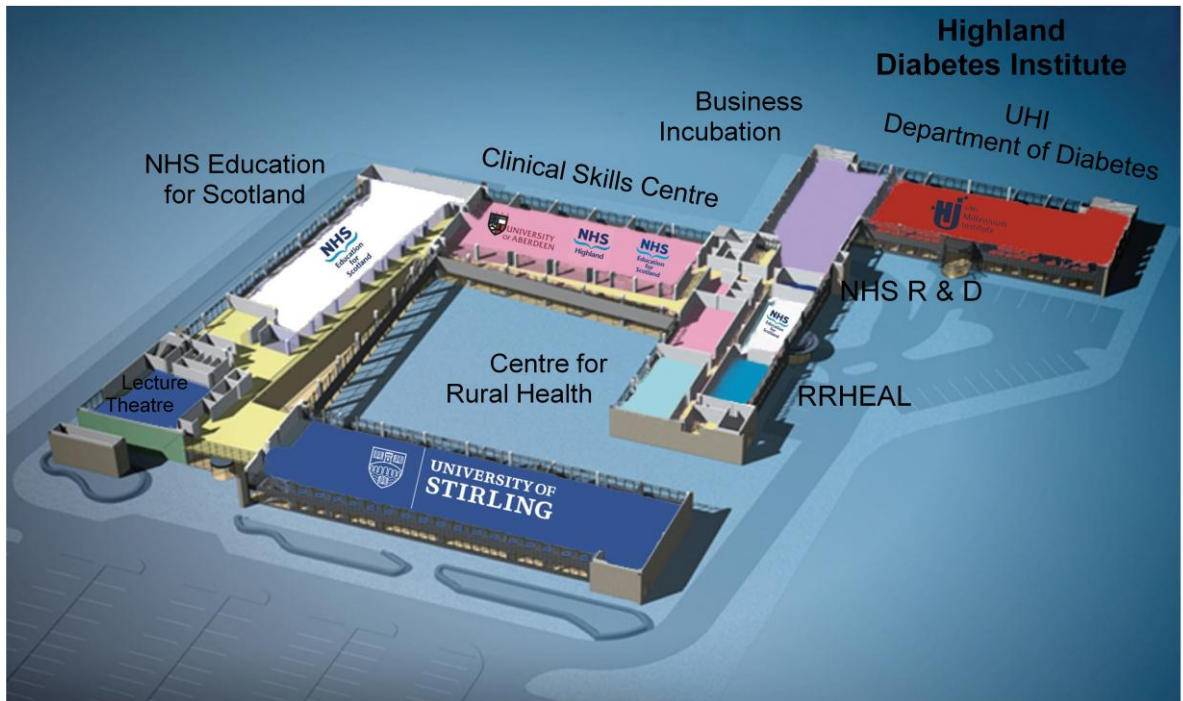
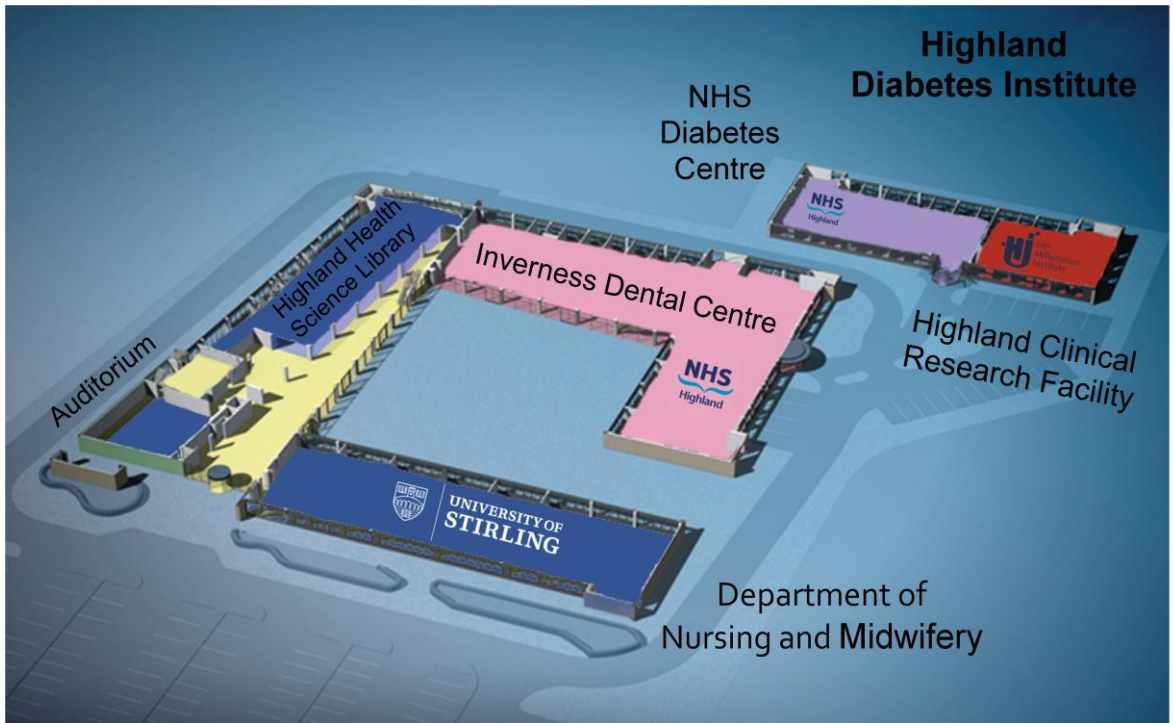
On behalf of the Centre for Health Science company

Thank you very much for your cooperation.

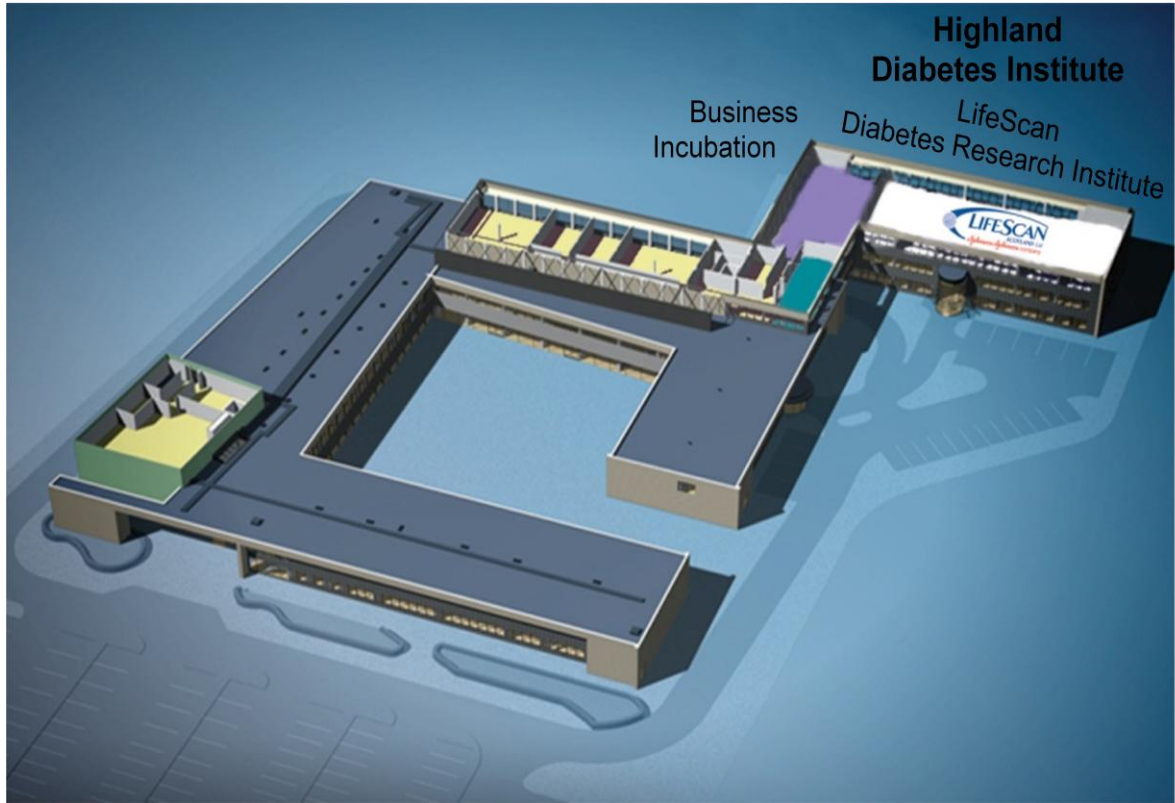
Kind regards

Stephan Frk

APPENDIX VI: PLANS OF GROUND AND FIRST FLOOR OF CFHS



APPENDIX VII: PLAN OF SECOND FLOOR OF CFHS




APPENDIX VIII: FRONT SIDE OF QUESTIONNAIRE

Centre for Health Science (CfHS) customer satisfaction survey

The purpose of this survey is to find out what you expect from the CfHS and how satisfied or dissatisfied you are with the services you receive from us or our partners. The results of this survey will help us continually improve our services within the Centre. If you would like to receive brief results of this survey, please contact us on thecompany@cfhs.eu. Please note this survey is completely anonymous.

Please cross the number which most accurately reflects how satisfied or dissatisfied you are with each item or cross N/A if it is not relevant to you.

		totally dissatisfied										totally satisfied																					
		↓										↓																					
Main reception	N/A	1	2	3	4	5	6	7	8	9	10	N/A	1	2	3	4	5	6	7	8	9	10											
Cleanliness of the Centre	N/A	1	2	3	4	5	6	7	8	9	10	N/A	1	2	3	4	5	6	7	8	9	10											
IT / AV support	N/A	1	2	3	4	5	6	7	8	9	10	N/A	1	2	3	4	5	6	7	8	9	10											
Website www.centreforhealthscience.com	N/A	1	2	3	4	5	6	7	8	9	10	N/A	1	2	3	4	5	6	7	8	9	10											
Are there any improvements you would like to see on the website?		NO <input type="checkbox"/>	YES: <input type="text"/>											N/A <input type="checkbox"/>																			
Info on plasma screen above reception	N/A	1	2	3	4	5	6	7	8	9	10																						
Comments	<input type="text"/>																																
Cafe services																																	
Quality	N/A	1	2	3	4	5	6	7	8	9	10																						
Prices	N/A	1	2	3	4	5	6	7	8	9	10																						
Range of products	N/A	1	2	3	4	5	6	7	8	9	10																						
What additional products, if any, would you like to see in the Cafe?		<input type="text"/>																															
Catering for meetings by NHS Highland	N/A	1	2	3	4	5	6	7	8	9	10																						
If you prefer external catering, why?		<input type="text"/>																															
Library	N/A	1	2	3	4	5	6	7	8	9	10																						
Comments	<input type="text"/>																																
Have you heard about the Centre for Health Science company?		YES <input type="checkbox"/>	NO <input type="checkbox"/>	please cross relevant <input checked="" type="checkbox"/>																													
Do you think the rooms require any additional equipment?		NO <input type="checkbox"/>	YES: <input type="text"/>																				N/A <input type="checkbox"/>										
Do you utilise 'break-out' areas within the Centre?		YES <input type="checkbox"/>	NO <input type="checkbox"/>	please cross all relevant to you																													
If YES, what for?		networking <input type="checkbox"/>	meetings <input type="checkbox"/>	breaks <input type="checkbox"/>	working <input type="checkbox"/>	eating <input type="checkbox"/>																											

