Norwegian School of Hotel Management
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Factors Affecting Hospitality Industry's Economic Performance
Financial yield as an element of sustainable development of the industry
Case study of Rogaland region, Norway

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Foreword

The purpose of this study was to analyze the financial performance of businesses in the tourism industry in the county of Rogaland, Norway. The thought leading throughout the completion of the study was that basic statistics can give the most solid assumptions as to how the economic situation of businesses forms in a given time period and how this is incorporated in the framework for sustainable economic development.

This research was conducted as form of a contribution to an ongoing major project on Tourism Yield. It is a project initially conducted in a partner university in New Zealand that is now being applied to the case of Norway. The project is managed by Truls Engstrøm at the Norwegian School of Hotel Management (department of University of Stavanger) who has been very helpful in directing the author towards an analysis that could prove beneficial to the macro project researching the tourism yield in whole of Norway.

Biggest thank you is in order for the thesis supervisor Linda Stromei, whose endless patience and support during the study and writing process was much appreciated. I am very thankful for your time and advice.

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List of Abbreviations

CBA – Cost Benefit Analysis

GDP – Gross Domestic Product

HMSO – Her Majesty's Stationery Office

ITY – Integrated Tourism Yield

OECD – Organization for Economic Co-operation and Development

NOK – Norwegian Kroner

SPSS - Statistical Program for Social Sciences

UiS – University of Stavanger

USD – U.S. Dollars

WCED – World Commission on Environment and Development

WTO – World Tourism Organization

WTTC – World Travel and Tourism Council

ARTICLE

Abstract

Tourism yield is currently one of the most contemporary fields of tourism research. This paper is a contribution to the ongoing Tourism Yield Norway project conducted at the Norwegian School of Hotel Management. Data has been obtained of financial performances of businesses within the hospitality and tourism industry in one of Norway's most tourism-wise developed region – Rogaland. This paper set out to test part of one of three dimensions (economic, environmental and socio-cultural) of tourism yield on the corporate level – the financial yield. Basic statistical analysis of the companies' economic performances – both according to region (26 municipalities) and according to their type of business (including hotels, restaurants, retail, tour operator, entertainment activities, sport related tourism, etc.) – was performed with the outcome of a solid set of statistics indicating the financial yield of tourism in the Rogaland region and its current trends creating a foundation for future forecasting of financial performance of the sector. The findings indicate that there is no correlation between average pay and the location (urban or rural) in the region. The location is also not significant in determining a company's financial performance. Furthermore, the study suggests that increases in average net income are positively correlated with increases of both number of employees and increases in average pay. Finally, the company's size (based on number of employees) and the type of business are both significant in determining a company's financial performance (net income).

Key words: tourism yield, economic yield, economic performance, sustainable development, Rogaland, Norway

Introduction

The effects of globalization during the XX century have highly contributed to the development of the tourism industry. Creation of more frequent air travel, the phenomenon of high mobility of population, advances in technology and communication tools all influenced the growth of the industry over the recent decades. Thanks to the highly developed information technology and the internet, concepts such as information asymmetry have been much reduced if not eliminated. This consequently raised the competitiveness of the world tourism market making it even more attractive to its consumers – the potential tourists.

From an economic perspective the industry as a whole has been very successful and is currently still expanding and improving financially. There is no surprise when realizing that tourism is currently one of the world's largest industries with its profits reaching almost 944 billion USD by the end of 2008 and generating 235 million jobs worldwide and accounting for roughly 5% of the world's total gross domestic product (GDP) (WTO, 2009; World Travel and Tourism Council, 2010). In terms of international trade, tourism has also contributed its fair share. The net income of international tourism (that includes passenger transportation) amounted for 1.1 trillion USD (around 3 billion USD a day) in 2008 which accounts for roughly 30% of the world's total export or commercial services (WTO, 2009). The question, however, arises – But is monetary profit enough to sustain the sector?

This has lead to the most contemporary discussion on the extent to which tourism as an industry is sustainable not only financially and economically but also in the environmental and socio-cultural dimensions. This direction of tourism research is already dated back to the 1970s (Liu, 2003), however, it is becoming even

more popular with the current wide discussions of environmental and climate changes. In attempt to calculate sustainability of the sector, current research has been developing sets of tools to measure the *yields* of each individual dimension on different both micro and macro levels.

Possibly the biggest current research in the area of tourism yield has been conducted in New Zealand by a partnership of local universities and the local Ministry of Tourism. The research became known as the Yield Research Programme.

The University of Stavanger (UiS) has now taken the initiative to conduct a similar study in Norway with the Norwegian School of Hotel Management (a department of UiS) being the centre of the ongoing project. The project is trying to set out tools and measures that will attempt to calculate tourism yields in three main dimensions – economic (incorporating financial), environmental and socio-cultural. All three dimensions are broken into four levels – the government, the corporation, the travelers (tourists) and the locals. A framework is still being developed to calculate the sum of yields in all dimensions and levels that will allow a discussion of true sustainability of Norwegian tourism.

Before this is done, however, it is necessary to research the current situation in the industry. This will later allow participants of the overall study to define what exactly needs to be measured and develop the techniques from there with more ease.

The purpose of this paper is to contribute to the project conducted by the Norwegian School of Hotel Management on Tourism Yield with a focus on the financial and economic sustainability of businesses within the hospitality industry in Norway. Because there is great risk related to investing in the industry due to a relatively high rate of bankruptcy (in comparison to other industries), this lead to the author's belief that first and foremost, the financial (and more widely economic)

sustainability is crucial before shifting focus into making the industry more environment or socio-culturally friendly. However, it is suggested that even initial focus on economic performance should keep in mind the triple bottom line of current tourism which stresses development that is economically, environmentally, socially and culturally sustainable in the long run.

This paper's contribution to the project is a solid base of statistical analysis of financial statements of businesses within the tourism and hospitality industry in the Rogaland region and a discussion of the limitations of the concept of accurately calculating yield. Recommendations made in one of the last sections of this report (see Research Notes) suggest ways in which data collection can be improved making the outcome of the overall research more valid and therefore a better contribution to the understanding of Norwegian tourism.

The paper attempts to find a suggestive set of answers for the following research questions:

What are the current trends of financial performance of businesses within the research region?

Does financial performance depend on the type of business?

Does the number of employees in a given sector influence the financial performance of companies?

Given the wide belief that the tourism and hospitality industries are expanding, does this mean expansion of new businesses or bigger amount of capital concentrated among a fewer number of businesses?

Does an improvement of net income for a given time correlate with new positions created in the next season or an increase of salaries to current employees?

Does financial performance depend on the location of the business?

What tools should be used to accurately measure the overall economic yield that the sector brings to the given region?

It is suggested that even partially answering any of those questions would contribute to businesses within the hospitality industry in Rogaland and further to businesses in Fjord Norway. This is a good time to conduct such a study seeing that the Norwegian hospitality industry is slightly improving in profitability. Both hotel (accommodation) and restaurant (food and beverage) enterprises put together had a total turnover of roughly NOK 54 billion in 2007 (18.9 billion – hotels, 24.4 billion – restaurants, 7.2 billion – canteens and catering, 1.5 billion – bars, and 2 billion – camping sites), which is an increase of NOK 5.3 billion from the year 2006 – 48.7 billion (SSB, 2009), that has been then noted as the 'high' of Norwegian tourism industry.

An analysis of financial statements based on a National Registry of Brønnøysund has been conducted in attempt to show trends in financial performance of the industry in one of Fjord-Norway's biggest counties – Rogaland. Analysis of

the database acquired by UiS to contribute to the Tourism Yield Project portrays factors affecting a business' ability to perform well financially. Statistical tests have been made based on the following initial hypotheses that are formed to better contribute to portraying the current trends of the industry in Rogaland. These were made in attempt to answer the previously stated research questions.

Hypothesis 1) Type of business within the industry is significant to its economic performance. This meaning that there is possibly a positive correlation between type of business and its net income.

This suggests that different categories of business within the industry financially contribute relatively more to the sector than others.

Hypothesis 2) The size of the company based on the number of employees is significant to its economic performance. This meaning that there is possibly a positive correlations between size of the company and its net income, for example, the bigger the company in terms of amount of employees the better (higher) its net income.

This is to test whether the size of the company is positively correlated to its net income.

Hypothesis 3) Location of business is significant to its economic performance. This meaning that businesses within urban areas are more likely to perform better financially than those in rural areas.

This is to identify the trends in economic performance based on Rogaland's 26 municipalities.

Hypothesis 4) Average increases in income are positively correlated with increases in average salaries. This meaning that as the average net income increases, so do the average salaries.

Improved financial performance of a business at the end of a season allows the possibility to increase salaries hence the average net income can be positively correlated with the average salary for a given time frame. This is given the wide belief that financial reward is positively correlated with employee's further motivation and consequently better performance and productivity.

Hypothesis 5) Average increases in income are also directly correlated with increases of number of employees if analysis is done on the same company or same selection of companies over a given time period. This meaning that when average net income increases, the number of employees increases accordingly (among those same companies – not putting in consideration new businesses joining the industry).

Since both of the above hypotheses (4 and 5) have found their support in contemporary literature, the author found it necessary to test them based on the data from Rogaland, Norway. They both can be suggesting that better financial performance pushes a business to increase salaries as a form of motivation for further improvement of productivity, suggesting furthermore that improved economic

performance leads to focus on improving quality even further rather than expanding the sector, or possibly trying to do both at the same time. However, because the data is limited to the same sample size for all years on analysis (2003 – 2007) the increase of employees will only be visible in the company's existing throughout all of the five years and not putting in consideration any new businesses that might have expanded the sector due to the author's belief that increased net profit of the industry results in increased taxes which hopefully correlated positively to the increase of government's investment in further expansion and development of the industry.

Hypothesis 6) Average pay is significant to the location of business. This suggests that an average pay is more likely to be higher in companies operating in urban regions than in those operating in rural areas.

This means that average salaries vary in different municipalities of Rogaland.

This paper further consists of theoretical background (literature) review, a brief description of the methods used during the study, an illustration of the results with the discussion of findings and a conclusion of the research.

Literature Review

Sustainable Development

Sustainable development is currently one on the most contemporary discussions within the tourism industry. A shift has been noticed from focus on purely financial aspects to a combination of both economic and socio-cultural factors indicating the true sustainability of a business in any sector of the hospitality and tourism industry. Most current research tries to conceptualize yield by dividing it to three basic categories of calculation – economic, environmental and socio-cultural (Mika, 2007; Murphy, Price & William, 2005) with the additions of other dimensions such as political yield (Gerberich, Chris & Michelle, 2005), financial yield (individual from the economic) and visitor yield (Northcote & Macbeth, 2005), psychological (Liu, 2003), technological yield (Choi & Sirakaya, 2006), production structure (service and product quality) and the breakdown of the environmental dimension to general, ecosystem quality, biodiversity and environmental policy (Ko, 2005).

The most commonly known description of sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs," (WCED, 1987, p. 43). The WTO further defines the concept as effective management and allocation of resources that benefits economic, social, aesthetic, ecological, biological, cultural and life support processes and systems that not only protect the

current state of it [individual factor, ex. the environment, the economy (…)] but also enhances its opportunities in the future (WTO, 2009).

Tourism Yield

Tourism Yield is a term now commonly used within the frameworks for sustainable development in the industry. Accurate measurement of tourism yield is considered a key in sustainable tourism management (Northcote & Macbeth, 2005). Although the term 'yield' is more commonly associated with financial and economic gains, research is now trying to take it further to include the less tangible benefits of tourism for the local community, region or whole nation. Because it deals with such subtle and intangible matters, tourism yield is very hard to conceptualize environmentally, socially and culturally and not be presented only against its total (financial) costs (Northcote & Macbeth, 2005). One of the first frameworks proposed for assessing contributions of tourism even nationally has been presented by Northcote and Macbeth (2005). The authors suggested an integrated tourism yield (ITY) agenda that weights both the input (the way resources are uses and allocated) and outputs (productivity) of given resource allocation based on several yield dimensions – visitor yield, financial yield, economic yield, environmental yield, social yield and cultural yield – and different levels – current or expected, one that is required in order to remain sustainable, and a potential one that would be ideal in the given sustainable requirements.

Because the outputs of one dimension can influence the returns possible in a different dimension, this sustainable development framework is fundamentally a collection of trade-offs between dimensions (Northcote & Macbeth, 2005). This fact points out the interdependency of all areas with each other and a balance is crucial to maintain sustainability. While an action that will encourage an improvement in one area and possibly make that are sustainable could have a negative effect on a different dimension.

Financial and economic tourism yield

Because both financial and economic yield are often used as synonyms, it is important to take notice in their actual meaning in the framework of tourism yield. Financial yield is essentially the net profit made by a company, region or nation (Northcote & Macbeth 2005). This in actual fact meaning total income minus all costs (overall costs, salaries, depreciation, etc) incorporated with providing the service (running the business).

Economic yield, on the other hand, is the benefits that the industry brings to the economy of the region. This can take a wide range of shapes and forms, starting from positive effects on employment (perhaps lowering unemployment rate by creating more job opportunities), to creating the region more attractive to outside investors and other firms and developing the level of industrialization of the region (Mika, 2007).

Economic Performance

There is no doubt about the importance of tourism to economies all over the world hence any changes in tourism trends and policies need to be evaluated on their possible effect on local economies (Dwyer, Forsynth & Spurr, 2004). The fact that tourism can be beneficial in terms of its impact on economic activity of a region is now widely recognized but problems with accurate calculations of those 'benefits' still exist in contemporary literature and research.

In a macroeconomic view, tourism is understood to be a sector of the economy and a factor in socio-economic development of regions. People visiting destinations spend money based on their need for accommodation, nutrition, transport and shopping hence the direct transfer of money from areas of 'emission' of tourism to areas of 'reception' of tourism (Mika, 2007). In the international dimension it means the cash flow and investments between different countries; therefore, it is a major element in economic international relations. Tourism accounts for a large portion of current international trade that amount around 3 billion dollars on daily bases, meaning an estimated amount of 1.1 trillion USD a year (WTO, 2009). This leads to the importance of calculating tourism as an intangible export source (attracting foreign tourists in order to 'sell' positive tourism values and services) (Mika, 2007).

The macro benefits of tourism can be narrowed down to the following fundamental aspects (Mika, 2007):

- Incoming financial sources as well as investments in the creation of tourism infrastructure;

- Tourists' expenditures from their need for accommodation, food, transport, shopping, etc.;

- Development of entrepreneurship in the industry as well as other related sectors;

- Creation of more job opportunities.

These economic benefits are usually best noticed on the smaller, regional level; however, precise measurements of those yields are interrupted by the effect know as tourism multipliers (Mika, 2007). The attempt is to calculate both direct and indirect tourism expenditures in a given region as well as the induced sources of income. There have been multiple attempts to portray the economic influence of tourism on regional economics (Mika, 2007, Dwyer et al., 2004, Choi & Sirakaya, 2006, Lanza, Markandya & Pigliaru, 2005 to name a few). This has consequently lead the author to illustrate their own understanding of economic yield of tourism at a local/regional level keeping in mind the fact that "tourism is [primarily] an economic activity, which must be capable of making a profit in order to survive and benefit the community," (Imam & Bashandy, 2003, p. 3).

[Insert Figure 1 here]

Sustainable development of local tourism in economic terms requires the tourism business to constantly develop in accordance to the contemporary

trends, policies or requirements. This further leads to increased entrepreneurship, more job opportunities and makes the region more attractive in the eyes of potential investors. These consequently contribute to a higher rate of employment, additional expenditures by both the local and the visiting population, and an increase of incoming taxes to the local government. This can lead to further development of the local infrastructure from money invested by the government (indirect return of the taxes) which then consequently will improve the attractiveness of the local destination. This will again bring the reader back to the top of the model where the regional tourism base can be again expanded and further developed in an economically sustainable manner (Mika, 2007).

However, in order to really understand the economic and financial yield of tourism the performance of individual businesses is crucial to give a microeconomic view of the aspect. Analysis of financial statements and balance sheets gives the basic but most solid view on the financial situation of the industry.

Methodology

Design

The research was conducted using purely quantitative methods with the belief that sometimes the most basic statistics can give the most solid outlook on the current situation of the tourism industry in the region.

The primary data source used for analysis throughout the research was a database obtained by the Norwegian School of Hotel Management from a Norwegian national registry of Brønnøysund. It is a registry controlled by a governmental agency responsible for numerous national control and registration designs for corporations. It is acting as a government body under the Norwegian Ministry of Trade and Industry.

It is suggested by the authors that a statistical analysis of the database will contribute to answering the research questions stated in the Introduction section.

Sample

The full database consists on financial statements of 7450 businesses within the hospitality industry in four states of Fjord Norway region between the years of 2003 and 2007. Due to the load of information available for analysis and time constraints, this research only includes the county of Rogaland. The county consists of four districts – Haugalandet, Ryfylke, Jaeren and Dalane which include 26 municipalities (in order of highest to

lowest population): Stavanger, Sandnes, Karmoy, Haugesund, Sola, Klepp, Ha, Time, Eigersund, Strand, Gjesdal, Randaberg, Tysvaer, Vindafjord, Sauda, Rennesoy, Suldal, Sokndal, Finnøy, Hjemeland, Bjerkreim, Forsand, Lund, Bokn, Usitra and Kvitsoy (see map, Figure 2).

[Insert Figure 2 here]

The database consisted of 2201 registered businesses within those municipalities, but the sample was narrowed down to only those who fully completed the survey in all five years. This concluded a sample of 644 companies whose financial statements have been analyzed to provide the statistics that follow this section of the paper.

Validity

The national registry sent out the survey which included the following measurements: First of all, the company's organizational number, name, address, type of business, year registered as the current form of business. Secondly, the database includes data such as number of employees, total income, costs, salaries, operating income, and amortization of tangible and intangible assets, other operating expenses, other financial expenses, and profit before tax and concluding with net income of each company. The same survey instrument has been administered over the five year period 2003 –

2007 and the final sample of the 644 companies includes all data within that time frame.

For the purpose of the previously asked research questions, the validity of data required in the national registry is sufficient enough to at least consider it a pilot study for future research in the area. The issue of validity of the data is later addressed again in the limitations section (see Research Notes).

Reliability

Since the data has been obtained through a governmental institution and considered the national registry of such businesses, it is suggested the reliability of figures in the database is high. Also, because the database is a source for numerous analyses conducted by the government one can only hope that the data is true. This issue is however also addressed again in the limitations section (see Research Notes).

Data Analysis

The data was entered into and analyzed using both Microsoft Excel and SPSS 15 (Statistical Program for Social Sciences – release 15). While the first instrument was used for the more basic statistics such as total values and average values of each dimension categorized both by region and by type of business, the latter checked for correlations in the changes observed in

particular dimensions versus other dimensions to check for any correspondence.

The full database has been displayed on numerous sheets of an Excel file; hence the first step was to put all information in one file to make further analysis easier. Then data was cut to only show figures of business within the Rogaland region. Later the data was filtered to show the businesses that had full data in all dimensions. The data was later sorter in accordance to the type of business including the following categories: retail, operation of hotels, guest houses and motels without restaurants, sport clubs and sport related activities, restaurants, cafes and tearooms, operation of fast food, salad bars and hot dog stalls, land transportation of passengers, museums and preservation of historic building and sites, bakeries, operation of hotels, guest houses and motels without restaurants, pubs, tour operator activities and tour guides, other accommodation, operation of campsites, entertainment and adventure activities and other. At the same time the data was also sorted according to the region (26 municipalities).

The analysis than continued to demonstrate the maximum and minimum values as well as total and average values of each dimension in both categories – according to type of business and according to the location of business. Further analysis focused on the potential increase or decrease of values in four dimensions – total income, cost, salaries and net income to check for any correlations and rate of increase/decrease over the time period from 2003 to 2007.

Based on the number of employees for each company for each of the five years, an average salary per employee was calculated and sorted

according to the location of the business and again sorted based on the type of business.

Just to clarify the categories in which the data was sorted, the following table was created:

[Insert Table 1 here]

The full data of 644 companies has been entered into multiple Excel sheets, sorted according of each of the above mentioned categories and individual analyses were made from there. Once the data has been accordingly sorted, it has been entered into SPSS and inferential statistics (such as Pearson's correlation) as well as some basic statistics (such as mean scores, minimum and maximum scores, standard deviations, etc.) were applied in order to suggest any correlation between different variables and their relevance to a given hypothesis.

Because the total of 644 accounted for approximately 30% of the total amount of businesses registered in the Brønnøysund database, it is suggested that the final analysis and data has been an advantageous instrument in generalizing the sample back to the population.

Results and Discussion

Each independent section will consist of a selection of descriptive statistics and reasons to why this type of analysis was chosen to test a hypothesis. The presentation of the findings is further divided according to their input to testing a given hypothesis with a discussion of the results. This will help to summarize the acquired data and present the observation in a better way. Since illustrating the findings visually can present the data more efficiently, this section will also include a selection of tables.

Hypothesis 1)

The first hypothesis set out to test whether there are any differences in companies' financial performance based on the type of business they are conducting. This was tested by summing up the net income (in NOK) of all companies in Rogaland according to their type of business which was put into 16 different categories (see Table 1).

Values in the table represent the total net income of all businesses in a given type and they are sorted increasingly based on the mean score over the time period 2003 – 2007.

[Insert Table 2 here]

The above table suggests that the two sectors of the industry – the retail and operation of hotels, guest houses and motels without restaurants contribute the most

financially to the total net income of the businesses in Rogaland region. This can be better visualized with the help of the following chart:

[Insert Figure 3 here]

It is possible to assume that sectors such as the retail, hotels without restaurants, restaurants & cafes, and sport related activities generate the majority of profit in the hospitality and tourism industry in Rogaland region. In order to see more precisely how each type of business contributes to the total amount generated by the analyzed businesses, another graph presents the net income values in % of the total 1 318 030 438.99 NOK throughout the five year time period.

[Insert Figure 4 here]

This suggests that different categories of business within the industry financially contribute relatively more to the sector of the economy than others. This also illustrates the struggle of some type of businesses to survive in the industry and suggests that the type of business plays a significant role in the company's financial performance.

As seen in Table 2, sectors such as operation of campsites and entertainment (adventure) activities have been making a significant financial loss over the analyzed time period, with the last two years (2006 and 2007) presenting a slight improvement.

This further suggests that the hypothesis that type of business within the industry is significant to its economic performance is retained.

Hypothesis 2)

The second hypothesis set out to test whether the economic performance of a company is depended on its size based on the number of staff it employs. The 644 companies sample has been divided into small, medium, large and very large companies (see Table 1 for specifications).

First of all, this was tested by calculating and summing the companies' net profits after taxes based on the four categories over the time period 2003 – 2007. The total amount and the mean score were also analyzed and the data was sorted increasingly based on the latter. The values can be seen in the table below:

[Insert Table 3 here]

The above data initially suggests that small companies, i.e. those with 10 or less employees have contributed significantly more to the sector than companies with larger numbers of staff. However, in order to truly test the hypothesis it was necessary to check the total net income values of those companies keeping in mind the amount of individual businesses within each category. This data is illustrated in the table below:

[Insert Table 4 here]

These results slightly change the initial finding. Small companies still contribute significantly more to the sector than larger companies; however, this is due to the fact that they greatly outnumber those companies with more employees. If one looks

at the average net income of a company calculated as a mean score of total net income of the category divided by the number of businesses within that category, it is possible to conclude that the larger the company in size (amount of employees), the greater the average income (after taxes). However, it is important to note that the majority of the businesses in the tourism industry fall under the category of small and they are the ones that contribute the most to the industry as a whole.

This gives basis to believe that the hypothesis that a company's size (based on number of its employees) is significant to its average financial performance in the industry is retained.

Hypothesis 3)

The third hypothesis aimed at testing whether the location of a given business group is significant to its financial performance.

This was tested by summing up the net income of all businesses in each individual municipality (putting together Lund, Bokn, Usitra and Kvitsøy kommune together as 'Other').

[Insert Table 5 here]

At first sight, it could be suggested that the location of business influences its financial performance in the industry. Seeing that Stavanger, Sandnes Haugesund, Sola and Klepp are some of the largest municipalities in the Rogaland region (based on their population), it is only logical that their input in total income from hospitality and tourism will be greater than that of for example Forsand (one of the smaller municipalities). In order to truly test whether there are any visible trends in how a

business performs financially in a given region, and average income has been calculated from the total over the five years period. The average was calculated by dividing total income by the number of businesses in a given region and the following data was obtained:

[Insert Table 6 here]

Because there is no statistical difference between the outcomes over the years as well as the relationship between average net income of a business based on the size of its region (that was calculated based on the total population of the region), with a Pearson's correlation of .324 it is fair to say that the location of a business is not statistically significant to its financial performance. **Therefore, the hypothesis that location of a business is significant to its financial performance is rejected.**

To further portray this analysis visually, the following chart shows the trends in total net incomes of companies in different regions:

[Insert Figure 5 here]

This chart illustrates the similarity in financial performance trends across the whole Rogaland with the slight differences in the performance of two largest municipalities – Stavanger and Sandnes. It is visible at first glance that the businesses in all regions have been developing in a similar way throughout the years 2003 – 2007, with all except for Stavanger reaching its high in the year 2007.

Because no significant differences in trends have been noted in the study the third hypothesis remains rejected. However, it springs a suggestion for a further

research. The acceptance of this hypothesis could be tested again if one was to test the relationship between net incomes and locations of the businesses within a specific city. This could be done with some cooperation with the national post that could suggest which companies are located in the heart of the cities (city centre) and which are located slightly outside of the city but are still part of their municipalities. Due to time constraints, the author was not able to test this phenomenon during this study.

Hypothesis 4)

The fourth hypothesis sets out to test whether the average increases in income that have been earlier observed in the time frame 2003 – 2007 are positively correlated with increases in average salaries. This analysis has been done with data categorized by type of business since the previous rejected hypothesis suggest that location of a business within municipalities of Rogaland region was not significant to its financial performance.

First the total amount of net income was calculated for each of the five years and the same was done with the amount of money spent in salaries in the corresponding years; hence the N in this analysis was 5 to check for increases in values over this time period.

[Insert Table 7 here]

Pearson's correlation of .960 suggests a very strong correlation between the two variables (net income and salaries) at a very high significance level of 0.01. The positive direction of the relationship further suggests that as net income increases in

the sector, so do the salary expenses. Also, the coefficient of determination of 92% shows a very high shared variance between the variables.

In order to say more about this relationship, a similar analysis was conducted with net income and total mean scores of average salaries per employee.

[Insert Table 8 here]

Pearson's correlation of .944 suggests a very strong correlation between the two variables (net income and total mean scores of average salaries) at a high significance level of 0.05. The positive direction of the relationship further suggests that as net income increases in the sector, so do the average salaries. The coefficient of determination of 89% shows a very high shared variance between the variables. This means that increase in income that results in increases of a company's salary expenses does not necessarily mean that the existing employees would (in average) have their wages increased but also that as the amount of employees in the sector increases the salaries increase accordingly.

Improved financial performance (net income) of a business at the end of a season allows the possibility to increase salaries hence the average net income can be positively correlated with the average salary for a given time frame. This is given the wide belief that financial reward is positively correlated with employee's further motivation and consequently performance.

The above analysis confirms the fourth hypothesis and suggests an emphasis being put on expanding the sector both in size (based on number of employees – see hypothesis 5) and hopefully quality (based on the belief that increase in salaries – financial reward – will further motivate workers toward better production).

The hypothesis that increases in net income are positively correlated with average salaries is therefore retained.

Hypothesis 5)

The fifth hypothesis was created to check for any correlations between the average increases [or decreases] in net income of businesses with increases [or decreases] in the number of employees of given business category if the analysis is done on the same company or the same selection of companies over the same time period from 2003 to 2007 (N = 5).

The two hypotheses tested above (4 and 5) are based on a logical assumption that if an increase should occur in a company's net income from for example year 2003 to 2004, there could be a similar increase in either:

a) Only total amount of money spent on salaries

This would suggest that when a business notes an increase in their financial performance, they are likely to reward their existing staff with an increase of salaries. (Limitations: Of course it could also mean that the salaries have increased due to an increase in average working hours which were not included in the questionnaire and therefore are not part of the registry) Consequently, a noted decrease in financial performance would mean a cut back in salary expenses;

b) Only in total amount of employees in the sector

This would suggest that when a business notes an increase in their financial performance, they are likely to dedicate that money to expending the business and creating more job opportunities and

positions maintaining the same average pay per employee as in the year before. Consequently, a noted decrease in financial performance would mean a cut back in employment;

c) Both dimensions (salaries and number of employees) will increase accordingly.

This would suggest that when a business notes an increase in their financial performance, they are likely to dedicate the additional income on expanding the business (based on an increased number of employees) and at the same time dedicating some of the money towards salaries expenses. Consequently, a noted decrease in financial performance would cause cut backs in both human resources and salary expenses on existing staff.

However, due to the fact that the data is limited to the same sample size for all years of analysis, the correlation will only be tested and applied to a specified business selection and not the sector as a whole. This is because the data lacks record of new companies joining the sector in the time frame 2003 – 2007, hence it is not possible to test whether an increase in net profits in the industry that would result in increased taxes would then consequently increase the government's investment in further expansion and development of the industry.

[Insert Table 9 here]

Pearson's correlation of .975 suggests a very strong correlation between the two variables (net income and salaries) at a very high significance level of 0.01. The

coefficient of determination of 95% shows a very high shared variance between the variables. The positive direction of the relationship further suggests that as net income increases in the sector, so does the amount of employees in the industry.

This gives the author further confidence to assume that improvement in financial performance of the sector allows it increase the workforce (suggesting expansion and further development of the sector) and not even maintain the average salaries at the same level but offer an average increase in the wages to employees.

The hypothesis that increases in net income are positively correlated with increasing numbers of employees is, therefore, retained.

Hypothesis 6)

The sixth hypothesis set out to test whether the average pay (salary) is significant to the location of business.

First of all, a table was created to see the average pay per employee in each separate municipality of Rogaland, calculated by an accumulated mean average pay in all businesses within each kommune.

[Insert Table 10 here]

This presents just a visual creation of average pay. An average of mean salaries was calculated for each municipality over all five years data and sorted from highest total average pay to the lowest. The table also illustrates the maximum and minimum mean wages and highlights which municipality they correspond to.

However, in order to test the data statistically, the figures were divided into three categories. This allowed the author to run a T test analysis that shows whether the differences in the mean scores are statistically significant. The categories are based on the total populations of municipalities and they are as follows: Rural (population from 1,000 to 10,000), Non urban or suburban (population from 10,000 to 50,000) and Urban (population from 50,000 to 125,000) (see Appendix B for population figures for all municipalities). This resulted in the following figures:

[Insert Table 11 here]

In order to run an independent samples T test, the data had to be divided only into two groups – Urban and Rural. First category included municipalities with population between 125,000 to 25,000 and the second included those with population between 1,000 and 25,000.

[Insert Table 12 here]

The first category (Urban) included five largest (population wise) municipalities – Stavanger, Sandnes, Karmøy, Haugesund and Sola (N = 5), and the second category (Rural) included the remaining 18 municipalities – Klepp, Hå, Time, Eigersund, Strand, Gjesdal, Randaberg, Tysvær, Vindafjord, Sauda, Other (Lund, Bokn, Kvitsøy and Usitra), Rennesøy, Suldal, Sokndal, Finnøy, Hjemeland, Bjerkreim and Forsand (N = 18). Mean scores were calculated for the average salaries over the five year period and entered into SPSS with the following results of a Student's t-test analysis:

[Insert Table 13 & 14 here]

The significance level of 0.128 (Sig.) suggests that there was no significant difference in average salaries in rural (*M = 189223,21 SD = 24788,50*) and in urban areas (*M = 223413,48, SD = 59247,98*). The negative t value *t (21) = -1.243* shows that the mean values of the second group (rural) were slightly higher than those of urban areas. The magnitude of the differences in the means was further calculated using the eta squared formula (Cohen's Eta squared $= \dfrac{t^2}{t^2 + (N_{12}+N_{2}-2)}$). Eta squared therefore equaled 0.068; hence the belief that the magnitude of the differences in the averages was moderate but relatively small according to Cohen's guidelines for interpreting the value.

This further means that the hypothesis that location of business is significant to the average pay of employees has been rejected.

The above tested hypotheses give an idea of the trends that have been observed in the financial performance of businesses within the hospitality and tourism industry in a five year period. The sample taken for the purposes of the study was relatively large proportion of the population it reflected. The sample of 644 businesses out of a total of 2201 registered by the National Registry of Brønnøysund suggests a 99% confidence level at a confidence interval between 3 and 4. This gives basis to believe that the findings from analyzing the sample can be generalized back to the overall population and a relatively high confidence level.

Conclusions

The purpose of this study was to present the trends in financial performance of businesses within the hospitality and tourism industry in one of Norway's counties – Rogaland. The descriptive and correlation statistics applied in the research suggested the following conclusions about the economic yields of tourism in the time period from 2003 to 2003 in all 26 municipalities of Rogaland:

- Location of business is not significant to the average pay of employees;

- Location of business in not significant to overall financial performance of a company;

- Increases in net incomes are positively correlated with increasing numbers of employees;

- Increases in net incomes are positively correlated with increasing average salaries per employee;

- The company's size (based on the number of its employees is statistically significant to its average financial performance;

- Type of business in significant to its financial performance.

The above findings suggest some trends that were visible over the five years (2003 – 2007) and can act as a fundamental analysis for future prediction of financial yields of the tourism and hospitality industry based on projects and/or policies that would result in changes in the independent variables like location of business or type of business. This can be considered beneficial to new companies joining the sector as

well as in forecasting future performances and outcomes given the specific inputs as well as suggesting areas of future improvement in the financial dimension of tourism yield.

The economic benefits of the tourism industry are relatively clear in comparison to those in the environmental, social or cultural dimensions. It can be said that tourism contributes to the development of local economies by creating new job opportunities, improving the attractiveness of the region to foreign (non local) investors and firms, increasing the level of entrepreneurship and competitiveness in the sector that consequently again improves the labor market and could act beneficially towards towering the unemployment rate of the region, etc. (Mika, 2007). It can be agreed that the industry as a whole, despite of small individual struggles, is economically sustainable. The problem is to measure whether further economic development (that is already sustainable financially) doesn't worsen the situation in other dimensions of calculating total yield.

This study was made as a contribution to the Tourism Yield project at the Norwegian School of Hotel Management, which attempts to calculate the full yield of Norwegian tourism. This research is, however, just an elementary descriptive study that only portrays some of the fundamental trends in tourism industry of one of Norway's counties in one dimension – the economic yield.

Possibly one of the most valuable findings of this research is the knowledge of the limitations incorporated with attempting to calculate the accurate yield of tourism in Norway. The intangible nature of any research within tourism yield creates wide discussions on the true reliability of obtained findings. Since data analyzed for the purposes of this study contained financial statements from 2003 to 2007, it is suggested that if more historical and up-to-date data was available, the

reliability of the trends shown in the study would have been stronger. The dynamic nature of the industry creates further difficulties in quantifying the not only financial, but overall economic, environmental and socio-cultural yields of tourism. [For more on limitations to the study see Research Notes: Limitations to the study].

Calculating tourism yield is crucial in determining its sustainability and further development in the future. This means that further research of this field is crucial for the industry and studies are much recommended in developing new tools and measurements that will calculate the yield of tourism more accurately. [For more on recommendations see Research Notes: Recommendations and suggestions].

Tourism yield is, in conclusion, a very ambitious field for research and analysis of the tourism sector. If done properly, the tourism yield research project conducted by the University of Stavanger can establish what needs to be done in order to increase the contribution of the tourism and hospitality industry to the overall economy of the country.

RESEARCH NOTES

Research Notes

This section illustrates additional information related to the conducted study. It consists of a brief literature review of the Cost Benefit Analysis, which the author believes lies in the origins or sustainable development. It is then followed by an expanded version of Limitations to the study and a brief section with recommendations and suggestions for future research.

Cost Benefit Analysis

It can be said that evaluating sustainability of a given project, company or industry as a whole fundamentally lays in the commonly known cost benefit analysis (CBA). It is an analysis that attempts to put a monetary value on possible outcomes (for any given input) and its influence on both the economy and the environment (Hanley, Shogren & White, 2001). Very soon after its establishment, this method has been widely criticized because of its nature to quantifying the intangible.

Its main limitation lays in the difficulty of valuing aspects such as the value of the water wildlife, not being able to accurately predict the effects on the ecosystem due to its complexity and in a way 'discriminating' future generations through the use of discounting and maximizing the net present value (Hanley, Shogren & White, 2001), seeing that the focus of the CBA is mainly on financial profits with elements of influence on the environment. Most importantly, the problem originates in the uncertainty – because no accurate forecast can state all the environmental consequences of using one

policy or project over another and overall lack of precision when dealing with both quality and quantity measurements (HMSO, 1992).

Apart from the fundamental limitations, there are also the ethical issues that CBA deals with. There is a wide argument on putting monetary value on a concept such as human health, not even mentioning the quantified value of a human life, which seems ethically immoral (Hanley, Shogren & White, 2001). These issues are further discusses in the overall limitations part of the study.

Although the CBA is not considered broad enough to calculate the true sustainability of an action, project, sector or industry, it is fair to say that it created the fundamentals and the building blocks of current frameworks for sustainable development. It was one of the first type of analyses that not only put emphasis on the economic and financial values and benefits of protecting the environment but it also deals with the opportunity cost of protecting it and a potential loss when its repercussions are ignored (Tietenberg, 2006, Tietenberg, 2007).

Limitations to the Study

The research set out to perform several descriptive analyses on the acquired data in a timely manner. If more time and funds were available the authors later suggest possible future developments of this research.

The testing of each hypothesis had its own limitations. Several valuable question fields that would have improved the quality of this exploratory study were not included in the national registry survey. These

were items such as the average age of employees, an indication of how many of the registered employees worked part time and full time (this would improve the accuracy of average salaries) and return of total assets.

Overall it is fair to say that the research in any field of calculating yield and consequently sustainability has great limitations. Given the fact that it is an attempt to calculate the tangible as well as the intangible in an overall picture creates big questions to the validity of asked questions and reliability of obtained data and answers.

The above paper was an attempt to slightly contribute to the development of tools that could help calculate tourism yield in first more local regions and later spreading to the whole of Norway which is the initial plan of the project conducted by the Hotel School at UiS. Since focus was only put on economic yield (therefore mostly financial) the element of dealing with intangible was less apparent as in the case of environment yield or social and cultural yield.

It is, however, important that it is understood that financial yields and not the only economic yields that tourism can bring to the region. As presented in the model (Literature Review), the presence and development of tourism has other economic benefits such as creating new job opportunities and therefore possibly lowering rate of unemployment, attracting foreign (other than local) investments, making the region more attractive for corporations and positively encouraging entrepreneurship.

Since one of the most valuable findings of this research is the knowledge of the limitations incorporated with attempting to calculate the accurate yield of tourism in Norway it is important to fully discuss those.

When the database was first purchased from the National Registry of Brønnøysund and passed on to the author of this paper, numerous items were found questioning the validity of the data obtained by the governmental agency.

First of all, the original database illustrated that there has been no reported change on employee number in ANY company in Rogaland region during the five years. After getting back with the agency, it has been noted as a mistake of entering survey data to the actual electronic database and was corrected to show the changes in number of employees for each individual business over the years allowing a valid estimation of average salaries. The survey has not however asked how many of those employees are full time or part time hence this might have skewed the average statistics slightly.

Second of all, the database shows no record of any company going bankrupt during the time frame 2003 – 2007 which seems very questionable knowing the nature of the tourism industry. It also shows no new companies that registered during those years. This can suggest that data was only collected from companies that operated normally during the whole time of the period. This is a pity since the number of businesses going bankrupt could be a valuable insight to the statistical analysis and nature of the financial performance of the sector, therefore making the recommendations more valuable for sustainable economic development.

Third of all, there could be several suggestions made about the validity of the data available in the registry. More information about the employment state (for example average age of employees) could provide additional data valuable for tourism research. Furthermore, the most crucial

dimension that has been omitted by the registry is the total value of current assets. One could argue that it is crucial to accurately calculate financial yield of a company comparing the value of total assets against its net income.

These validity and reliability issues just further support the probability that sustainability cannot be accurately measured in such a dynamic industry as tourism is. The possibility of going over audit reports of the companies could only guarantee true quality of obtained data but due to laws protecting the privacy of such information, it might not be possible to truly consider any research in this area fully reliable. Nevertheless, one can still be in hope that the data available at purchase from the National Registry is one that can be trusted in terms of consistency and trustworthiness.

Since the database only includes data from a five year time period, one could also question the reliability of the illustrated trends in that time frame. It can only be dependable if compared to more historical data that can than predict any future developments based on the currently observed trends.

On a different note, when it comes to evaluating the industry's economic performance as a whole another great limitations can be explained by E. Cohen's theory of formal / informal sector concept (Mika, 2007). It states the difficulty of calculating a precise income due to the existence of two different sectors in tourism services – both formal and informal. The more formal sector, also called the institutionalized includes businesses whose activity is registered. This mainly has to do with hotels, models and other form of inns. The informal sector, on the other hand, known as the non-institutionalized, includes small businesses, usually private forms of accommodation (guest houses or rooms). The availability of both formal and

informal sectors of tourism are visible in most developed and developing regions of worldwide tourism and is just another reason that makes calculation of precise volume of tourism and its economic impacts difficult to any given region (Mika, 2007).

Recommendations and Suggestions

It is important to revisit the section of limitations in order to form any suggestions for future further research. As far as suggestions to this particular study go, using triangular data would definitely be a crucial point to improving research in this area. The analysis of this study included only one primary source – national registry database therefore it is suggested that conducting additional qualitative data gathering or expanding the area of analysis to more counties of Norway would generate more accurate results and trends.

Overall, the aim of calculating tourism yield is to test the current state on [Norwegian] tourism and to predict whether it is sustainable for the future. If not, then suggestions need to be made as to what levels of individual yields (economic, environmental and socio-cultural) as necessary to make the industry sustainable. Because the concept of sustainable development has much to do with concepts of social welfare, it is possible to incorporate several social welfare theories into the current yield research.

It is suggested by the author, that the answer lies in the Italian economist Vilfredo Pareto outlook on what social welfare means. According to him, the success of a project (can be applied to for example an industry) is

measured according to an improvement even in a single person's welfare (Hanley, Shogren & White, 2001). This means that a plan, a policy or a sector as a whole is successful if it due to its different resource allocation, at least one person in the society is made better off and no one in the society is made worse off. This theory applied to a wider scope of economic issues, however, this could be applied to the tourism and hotel industry. A Paretian improvement would occur if a sector or even an individual company would maintain the same level of sustainability of remaining dimensions while only focusing on the development of one at one given time. In the next time frame, emphasis can be put on a different dimension. It is important to still keep in mind that the remaining dimensions that are not being developed at a given time cannot leave the 'society' worse off. This cannot be understood, however, as an interchangeable matter where the 'better offs' cancel out the 'worse offs'. As long as dimensions stay on the same level of sustainability and only one develops into another form of benefits, it can be considered that the overall social welfare was improved. It is suggested that once a level of sustainability in all three dimensions (economic, environmental and socio-cultural) is reached that does not cause any losses (nor benefits!) to the society in that dimension, only then can the business or industry attempt to put focus in sustainable *development* and improvement of one of the dimensions instead of trying to optimize the possible yields in all dimensions at the same time, as was suggested by previous research (Northcote & Macbeth, 2005).

When focusing only on researching the economic dimension of tourist yield it is suggested that a look on lost opportunity cost could be an

interesting matter of comparison. Because the hospitality industry has a much higher capacity to cater, accommodate, transport, etc. guests than the actual amount of visitors it gets, comparing the incomes with the lost opportunity cost could give a good view on the potential economic performance of the industry that can be incorporated in Northcote & Macbeth's model of sustainable development (2005) in the section dealing with potential yield.

As much as further research of sustainable development is encouraged by the author of this paper, it is important to again repeat the limitations incorporated with the true reliability of data used to calculate current yields and using quantitative methods to forecast future outcomes and testing whether they would be economically, environmentally and socio-culturally sustainable. The problem lays in valuing items that are not only intangible but sometimes even immoral to quantify like for example the existence of wild life and not even mentioning human health.

The "willingness to pay" technique that is used in quantifying outcomes when using the cost benefit analysis has not proved too valid or successful over the years of analysis hence the necessity to create new methods and tools for measuring the outcomes of Norwegian and overall world tourism. Financial yield is definitely one of the easiest yields to attempt to calculate and current psychology research within tourism deals with ways of analyzing cultural and social benefits of tourism. The worse aspect remains the fact that it seems impossible to predict and forecast the benefits on the environment. There are no tools or measures that can accurately evaluate for example how many more years of life people would gain thanks to the introduction of a new project of policy. This further raises the issue of

choosing one type of benefits over others. For example, one could ask themselves if it is moral for a government (or management in a micro scale) to make a decision and allow a factory to produce and additional unit of pollution that would on one hand improve the economy but on the other hand, in the long run it can cause a pollution induced death. Analogically, if one was to use the "willingness to pay" technique to quantify the value of a human life, how does the value of a the life of a doctor who works in order to save other people's lives differ from the value of the life of someone who has a job with a high mortality risk, like a stunts master?

Because the up-to-date techniques, methods, and tools are widely criticized, it only highlights the difficulty of attempting to measure tourism yield and consequently sustainable development of the sector. As Liu mentions in his evaluation of contemporary sustainable development research, the biggest problem are the "misconceptions, faulty measures and inadequate means" (2003, p. 471). Therefore, further effort to develop these techniques is highly recommended to improve the accuracy of future studies of tourism yield and sustainable development in the industry.

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APPENDICES

APPENDIX A

Tables and Figures

FIGURES

Figure 1. Influence of tourism development on local economy
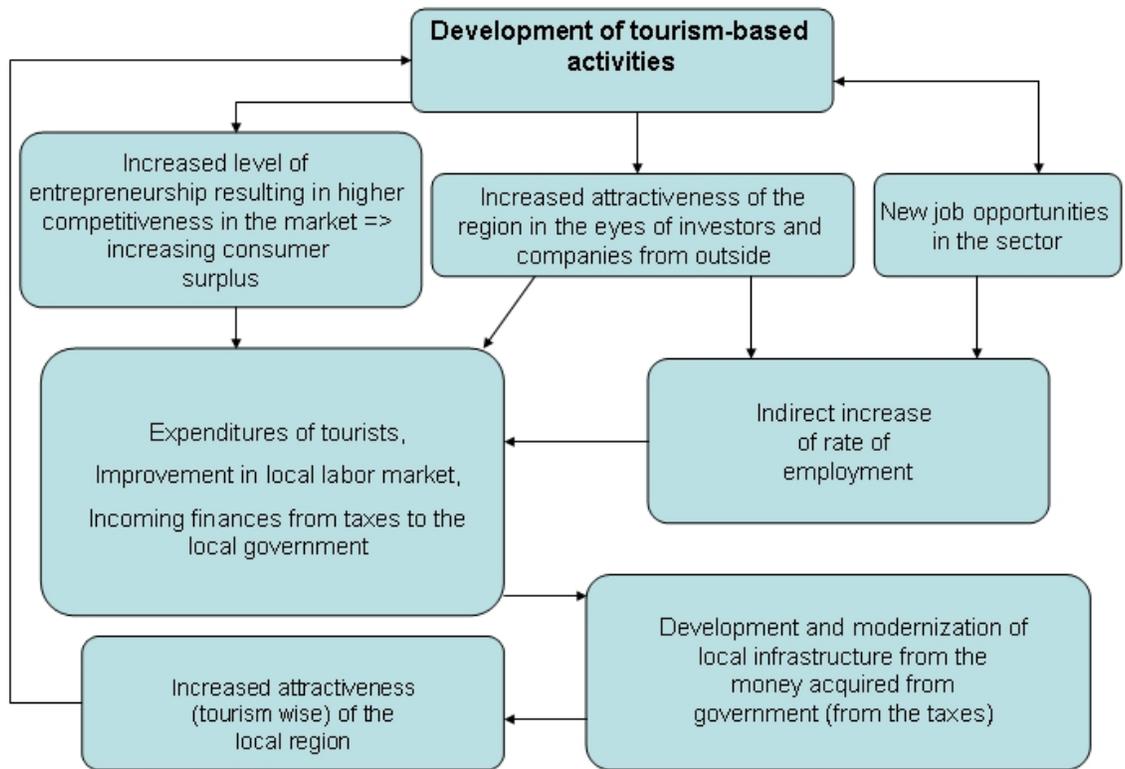
Figure 2. Map of Rogaland
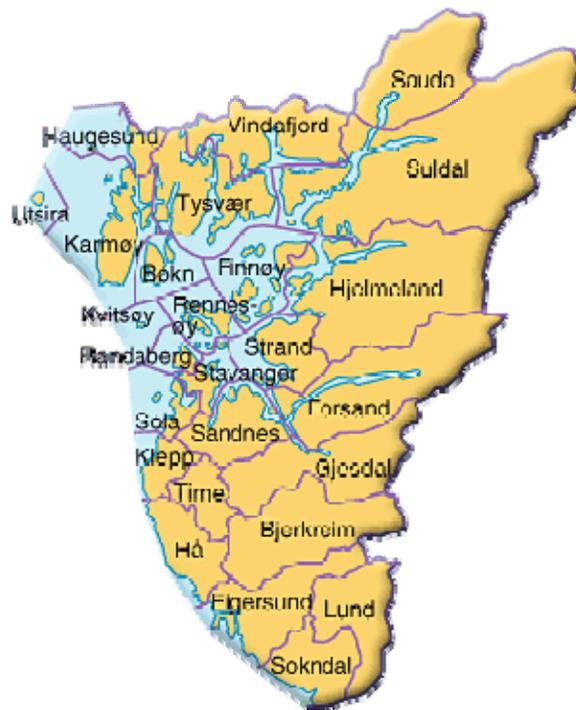
Figure 3. Net income of businesses according to their type (in NOK)

Museums/Preservation of historic sites; 17 455 656,40

Operation of hotels, guest houses and motels without restaurant; 8 143 249,00

Pubs; 7 522 749,00

Other Acommodation; 719 297,00

Land Transport of Passengers ; 20 323 784,99

Tour Operator Activities ; 4 752 048,00

Operation of Campsides ; -3 600 835,00

Other; 17 247 962,00

Operation of Fast Food, Salad Bars and Hot Dog Stalls ; 26 830 480,00

Bakeries; 2 051 027,00

Entertainment/Adventure Activities; -3 604 704,00

Tourist/Travel Businesses 53 142 139,00

Restaurant, Cafes, Tearooms; 112 879 625,60

Retail; 426 220 545,00

Sport Clubs and Sport-related activities 203 596 665,00

Operation of hotels, guest houses and motels with restaurant; 424 350 750,00

Figure 4. Net income of businesses according to their type (in % of total amount of 1 318 030 438.99 NOK)
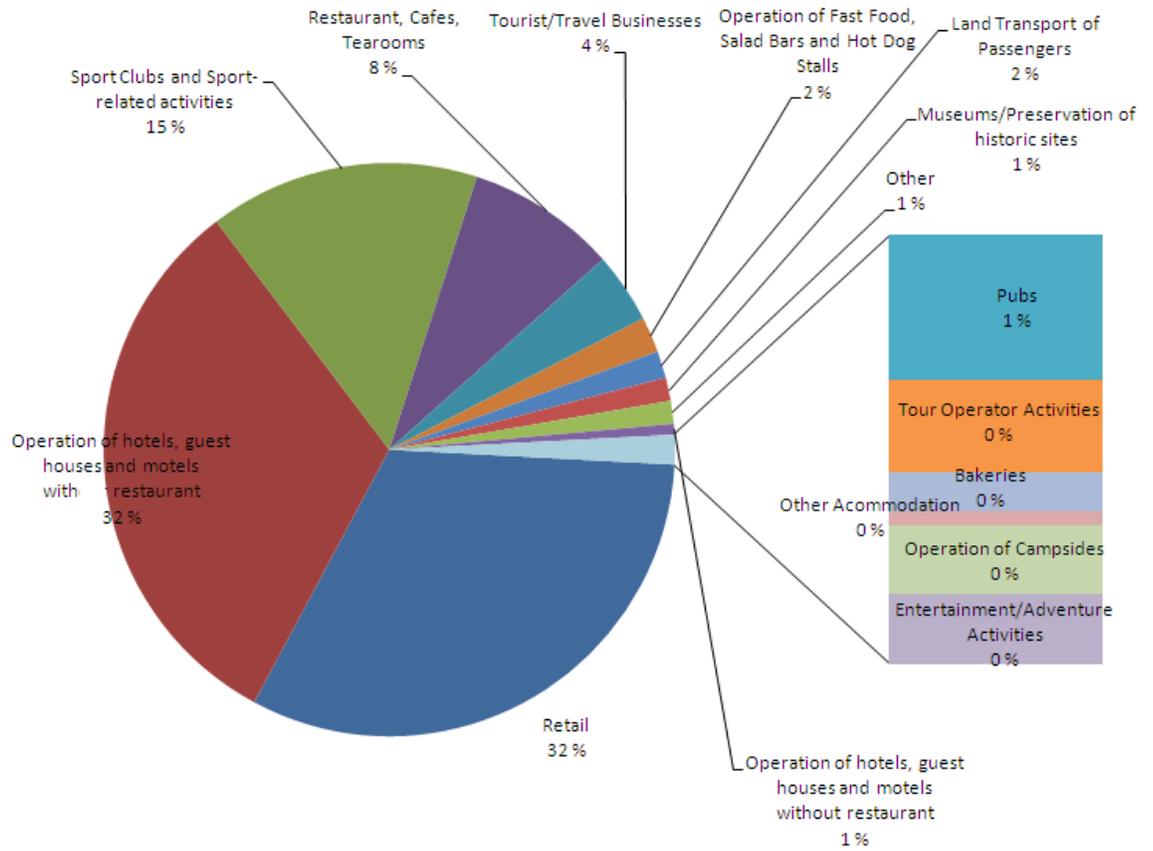
Figure 5. Net income trends of businesses based on their region over the years 2003 – 2007 (in NOK)
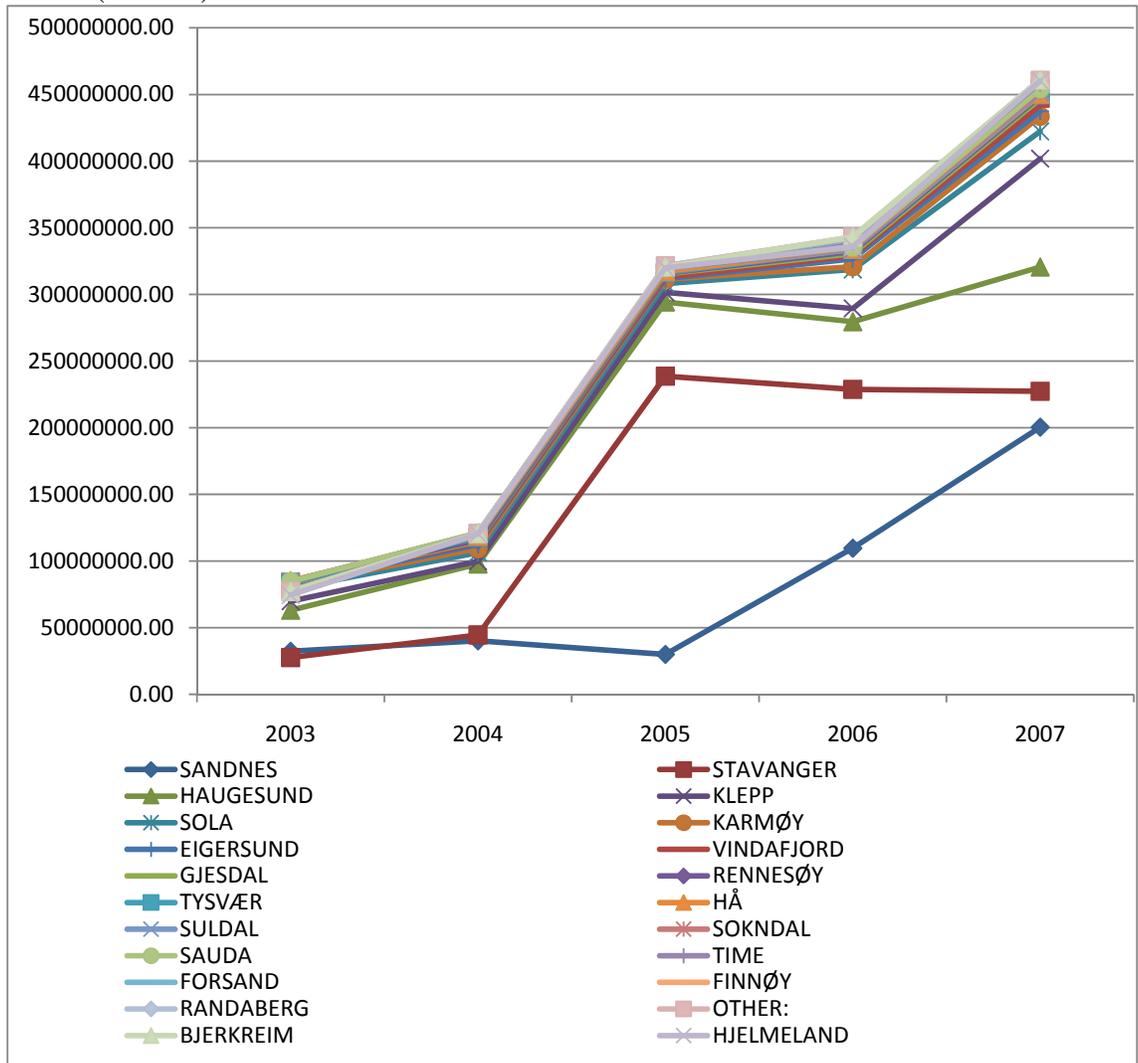
TABLES

Table 1. Categories for analyzing data

Type of Business	Size of Company	Location of Company
Retail; Operation of hotels, guest houses and motels without restaurants; Sport clubs and sport related activities; Restaurants, cafes and tearooms; Operation of fast food, salad bars and hot dog stalls; Land transportation of passengers; Museums and preservation of historic building and sites; Bakeries; Operation of hotels, guest houses and motels without restaurants; Pubs; Tour operator activities and tour guides; Other accommodation; Operation of campsites; Entertainment and adventure activities; Other	Based on the amount of employees within a given business: Small 0 – 10 employees Medium 11 – 50 employees Large 51 – 100 employees Very Large 100 + employees	According to municipalities (nor. Kommune) Stavanger Sandnes Karmøy Haugesund Sola Klepp Hå Time Eigersund Strand Gjesdal Randaberg Tysvaer Vindafjord Sauda Rennesøy Suldal Sokndal Finnøy Hjemeland Bjerkreim Forsand, Other (Lund, Bokn, Usitra and Kvitsøy)

Table 2. Net income of businesses according to their type

	Net income in NOK					
	2003	**2004**	**2005**	**2006**	**2007**	TOTAL
Retail	72 619 559,00	72 337 328,00	63 679 556,00	63 739 956,00	153 844146,00	426 220 545,00
Operation of hotels, guest houses and motels with restaurants	-22 350834,00	19 626 440,00	232 125983,00	156 476474,00	38 472 687,00	424 350 750,00
Sport Clubs and Sport-related activities	1 762 370,00	19 383 900,00	6 688 659,00	28 915 785,00	146 845951,00	203 596 665,00
Restaurant, Cafes, Tearooms	12 021 293,60	-15 348 398,00	11 089 627,00	45 050 868,00	60 066 235,00	112 879 625,60
Tourist/Travel Businesses	3 554 093,00	8 087 885,00	7 414 445,00	14 655 280,00	19 430 436,00	53 142 139,00
Operation of Fast Food, Salad Bars and Hot Dog Stalls	5 588 910,00	6 962 803,00	3 020 060,00	4 919 057,00	6 339 650,00	26 830 480,00
Land Transport of Passengers	1 153 488,00	4 830 193,99	3 182 552,00	5 914 890,00	5 242 661,00	20 323 784,99
Museums/Preservation of historic sites	2 376 667,00	2 077 689,00	2 179 094,00	3 879 513,00	6 942 693,40	17 455 656,40
Other	2 587 228,00	1 645 083,00	2 665 987,00	5 242 681,00	5 106 983,00	17 247 962,00
Operation of hotels, guest houses and motels without restaurants	-324 381,00	978 674,00	93 264,00	1 788 522,00	5 607 170,00	8 143 249,00
Pubs	1 686 764,00	566 515,00	-67 110,00	4 005 934,00	1 330 646,00	7 522 749,00
Tour Operator Activities	-2 511 106,00	-1 913 942,00	-183 894,00	2 927 814,00	6 433 176,00	4 752 048,00
Bakeries	692 985,00	-558 198,00	417 130,00	349 497,00	1 149 613,00	2 051 027,00
Other Accommodation	9 961,00	-181 203,00	792 556,00	-228 125,00	326 108,00	719 297,00
Operation of Campsites	3 182 070,00	2 811 122,00	-16 530 606,00	1 333 753,00	5 602 826,00	-3 600 835,00
Entertainment/ Adventure Activities	-1 708 920,00	-622 240,00	-1 866 466,00	-402 794,00	995 716,00	-3 604 704,00
TOTAL	80 342 150,60	120 685655,99	314 702842,00	338 571111,00	463 738704,40	**1 318 030438,99**

Table 3. Net income of businesses based on their size (amount of employees)

| Size of company | Net income in NOK | | | | | | |
	2003	2004	2005	2006	2007	TOTAL	AVERAGE
Small (0 - 10 employees)	-24663489,00	17720899,99	241016260,00	184237236,00	182741708,25	601052615,24	120210523,05
Medium (11 - 50 employees)	14723272,60	18210730,00	15499695,00	54751018,00	75074516,00	178259231,60	35651846,32
Large (51 - 100 employees)	9828144,00	6031282,00	12838724,00	26157207,00	41910672,00	96766029,00	19353205,80
Very Large (100+ employees)	75812252,00	79165892,00	51102415,00	71146947,00	160515626,00	437743132,00	87548626,40

Table 4. Average net income of businesses based on their size

Size of company	Number of employees per business	Number of businesses in this category in Rogaland	Average Net Income according to the company size (in NOK)				
			2003	2004	2005	2006	2007
Small	0 - 10	474	-52032,68	37385,86	508473,12	388686,15	385531,03
Medium	11 - 50	125	117786,18	145685,84	123997,56	438008,14	600596,13
Large	51 - 100	11	893467,64	548298,36	1167156,73	2377927,91	3810061,09
Very Large	100+	10	7581225,20	7916589,20	5110241,50	7114694,70	16051562,60

Table 5. Net income of businesses based on their location

Municipality	Number of businesses	2003	2004	2005	2006	2007	TOTAL
				Net income (in NOK)			
SANDNES	80	32341221,00	40155764,00	29974450,00	109655560,00	200437927,00	412564922,00
STAVANGER	217	-4739755,40	4379415,00	208672550,00	119181245,00	26937943,85	354431398,45
HAUGESUND	76	35459039,00	53239561,00	55661672,00	50699137,00	93209668,00	288269077,00
KLEPP	12	6714612,00	1964816,00	7223450,00	9952408,00	81291159,00	107146445,00
SOLA	22	9502206,00	6512169,00	6487577,00	29281146,00	20408190,00	72191288,00
KARMØY	36	2271251,00	3091923,00	3338490,00	2015621,00	11294383,40	22011668,40
EIGERSUND	15	1078894,00	2861308,00	464920,00	5858567,00	3818142,00	14081831,00
VINDAFJORD	11	1333030,00	1495200,00	1015406,00	2399111,00	4550727,00	10793474,00
GJESDAL	19	-352860,00	1125131,00	2454744,00	1539014,00	4818366,00	9584395,00
RENNESØY	7	705624,00	775419,00	574175,00	1682195,00	2035307,00	5772720,00
TYSVÆR	7	-237794,00	2230087,00	561422,00	1380110,00	961459,00	4895284,00
HÅ	16	1251089,00	1059120,00	899771,00	255446,00	510624,00	3976050,00
SULDAL	19	-615698,00	1680342,00	2145625,00	-222534,00	824902,00	3812637,00
SOKNDAL	7	-4293,00	364620,00	668155,00	791155,00	1376552,00	3196189,00
STRAND	12	1221801,00	804124,00	570999,00	486023,00	40129,00	3123076,00
SAUDA	6	-127874,00	169823,00	30088,00	961660,00	1785660,00	2819357,00
TIME	27	-7139533,00	-686895,00	767984,00	4512690,00	4632181,00	2086427,00
FORSAND	4	208358,00	-53662,00	-264619,00	1616249,00	564248,00	2070574,00
FINNØY	5	87614,00	-250170,00	328233,00	965380,00	571538,00	1702595,00
RANDABERG	6	-836769,00	501040,99	507343,00	138121,00	645365,00	955100,99
OTHER	3	197650,00	50031,00	-72206,00	382040,00	5541,00	563056,00
BJERKREIM	3	142635,00	51902,00	-811759,00	46339,00	408475,00	-162408,00
HJELMELAND	10	-2760268,00	-392265,00	-741376,00	-7284275,00	-885965,00	-12064149,00

Table 6. Average net income of businesses based on their location

Municipality	Average net income by one business	Total population of the region
KLEPP	NOK 8 928 870,42	16350
SANDNES	NOK 5 157 061,53	63431
HAUGESUND	NOK 3 793 014,17	33665
SOLA	NOK 3 281 422,18	22076
STAVANGER	NOK 1 633 324,42	121610
VINDAFJORD	NOK 981 224,91	8161
EIGERSUND	NOK 938 788,73	13969
RENNESØY	NOK 824 674,29	3888
TYSVÆR	NOK 699 326,29	9712
KARMØY	NOK 611 435,23	39354
FORSAND	NOK 517 643,50	1134
GJESDAL	NOK 504 441,84	9969
SAUDA	NOK 469 892,83	4730
SOKNDAL	NOK 456 598,43	3246
FINNØY	NOK 340 519,00	2790
STRAND	NOK 260 256,33	11045
HÅ	NOK 248 503,13	15949
SULDAL	NOK 200 665,11	3833
OTHER	NOK 187 685,33	4136
RANDABERG	NOK 159 183,50	9867
TIME	NOK 77 275,07	15836
BJERKREIM	-NOK 54 136,00	2580
HJELMELAND	-NOK 1 206 414,90	2701

Table 7. Pearson's Correlation of increases/decreases of net income with increases/decreases of total amount spend on salaries

		Total net income of the sector	Total amount spent on salaries per category (type of business)
Total net income of the sector	Pearson Correlation	1	,960(**)
	Sig. (2-tailed)		,010
	N	5	5
Total amount spent on salaries per category (type of business)	Pearson Correlation	,960(**)	1
	Sig. (2-tailed)	,010	
	N	5	5

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

Table 8. Pearson's Correlation of increases/decreases of net income with increases/decreases of total amount of average salaries

		Total net income of the sector	Total of average salaries per category (type of business)
Total net income of the sector	Pearson Correlation	1	,944(*)
	Sig. (2-tailed)		,016
	N	5	5
Total of average salaries per category (type of business)	Pearson Correlation	,944(*)	1
	Sig. (2-tailed)	,016	
	N	5	5

* Correlation is significant at the 0.05 level (2-tailed).

Table 9. Pearson's Correlation of increases/decreases of net income with increases/decreases of amount of employees

		Total net income of the sector	Total amount of employees
Total net income of the sector	Pearson Correlation	1	,975(**)
	Sig. (2-tailed)		,005
	N	5	5
Total amount of employees	Pearson Correlation	,975(**)	1
	Sig. (2-tailed)	,005	
	N	5	5

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

Table 10. Average salaries per employee according to region (in NOK)

| Municipality | Average Salaries per Employee (in NOK) | | | | |
	2003	**2004**	**2005**	**2006**	**2007**
STRAND	233744,00	536582,25	407855,57	317976,78	343362,24
GJESDAL	321385,86	304263,34	259128,58	248534,37	371361,73
OTHER:	212035,27	264433,33	236167,59	358569,69	361806,63
FORSAND	206079,86	225977,33	193021,44	321409,78	323873,90
TIME	438807,30	197606,14	191055,75	194213,29	204822,56
SULDAL	216290,81	229974,40	233908,91	247852,70	297643,82
HJELMELAND	-3218,50	199879,36	270856,11	261562,08	458461,55
FINNØY	395336,67	264610,60	186495,00	171242,38	167230,00
SOKNDAL	233778,45	160587,65	184851,22	243511,79	355661,76
RENNESØY	229125,84	264388,58	232867,39	222905,20	209230,73
SAUDA	74746,16	259359,50	271662,26	262138,31	265330,85
STAVANGER	215547,36	204193,23	213016,81	228223,49	240803,98
HAUGESUND	188689,42	195263,78	204170,03	216657,81	226794,45
KLEPP	169618,58	188538,80	210467,14	186392,43	196702,91
SOLA	124932,19	183722,83	185714,34	211004,13	234605,33
EIGERSUND	188433,08	106063,60	193212,32	210087,20	216416,77
TYSVÆR	201180,31	233730,83	133240,81	139699,06	174887,21
KARMØY	130624,21	149560,12	182244,00	203070,83	196757,98
VINDAFJORD	154042,61	153103,57	131556,20	158964,83	197440,18
SANDNES	138822,11	155416,69	151427,75	176569,07	172748,38
BJERKREIM	140538,18	136819,30	144130,87	186438,00	180387,46
HÅ	129549,12	139878,40	150191,30	154200,11	165822,47
RANDABERG	50654,82	149206,85	144183,90	137396,45	211691,04
MAX	438807,30	536582,25	407855,57	358569,69	458461,55
MIN	-3218,50	106063,60	131556,20	137396,45	165822,47

Table 11. Average salaries per employee in three location categories

	Average salaries per employee (in NOK)				
	2003	2004	2005	2006	2007
Urban	177184,73	179804,96	182222,28	202396,28	206776,18
Non urban	200549,74	212151,99	215613,81	211700,32	223160,59
Rural	187075,10	218948,82	201697,71	227709,59	275000,53

Table 12. Average salaries per employee in two location categories

	Average salaries per employee (in NOK)				
	2003	2004	2005	2006	2007
Urban	159723,06	177631,33	187314,59	207105,06	214342,02
Rural	199562,69	223055,77	209714,02	223505,25	261229,66

Table 13. Group Statistics – T test analysis of average salaries and two location categories

	Type of Location	N	Mean	Std. Deviation	Std. Error Mean
Mean scores of average salaries per employee in years 2003 - 2007	Urban	5	189223,21	24788,50	11085,75
	Rural	18	223413,48	59247,98	13964,88

Table 14. Independent Samples Test – T test analysis of average salaries and two location categories

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Upper	Lower
Mean scores of average salaries per employee in years 2003 - 2007	Equal variances assumed	2,511	,128	-1,243	21	,227	-34190,26522	27497,64370	-91374,74575	22994,21531
	Equal variances not assumed			-1,918	16,809	,072	-34190,26522	17830,08398	-71841,12786	3460,59742

APPENDIX B

Population (Rogaland)

Table 15. Population of Rogaland (by municipality)

Municipalities	Total population as of 1 January 2009
Stavanger	121610
Sandnes	63431
Karmøy	39354
Haugesund	33665
Sola	22076
Klepp	16350
Hå	15949
Time	15836
Eigersund	13969
Strand	11045
Gjesdal	9969
Randaberg	9867
Tysvær	9712
Vindafjord	8161
Sauda	4730
Other (Lund, Bokn, Kvitsøy, Usitra)	4678
Rennesøy	3888
Suldal	3833
Sokndal	3246
Finnøy	2790
Hjemeland	2701
Bjerkreim	2580
Forsand	1134
ROGALAND	420574