A socio-economic assessment of the interaction between cruise tourism and land-based tourism in Isafjordur, Iceland

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Declaration

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

__________________________________________
Student’s name
Abstract

Historically, Isafjordur (population 2500), the main town of the Westfjords region of Iceland, has been a fishing town, but in recent years, tourism has become increasingly important, developing around the rich natural and cultural heritage of the area. Both land-based and cruise tourism have increased, but cruise tourism has increased much faster, with the passenger capacity of the larger cruise-ships matching and even exceeding the population of the town itself.

Cruise tourism typically has the characteristics of mass tourism, and brings less income than land-based tourism, while bearing a number of hidden costs, some of which are associated with negative impacts on the experience of land-based tourists. This raises a number of issues regarding the capacity of the town to accommodate both cruise and land-based tourists, and the way in which these two segments interact, particularly how and whether cruise tourism impacts land-based tourism operations, and what kind of development of cruise tourism is desirable for the town if any at all, such that the town economy benefits most.

Research methods included surveys of the international land-based tourists to Isafjordur and local businesses, semi-structured interviews with local businesses and experts, and an analysis of both primary and of secondary data from surveys and interviews and from the official records of the harbour authorities.

Results showed that cruise tourism has both positive and negative impacts on land-based tourism, although at the current level of cruise tourism, the negative impacts were rather low, with the main issues arising from competition for similar services for cruise and land-based tourists. Cruise tourism likely had a lower direct economic impact than land-based tourism, and lower spending per tourist. However, while larger cruise-ships generated an overall higher income, smaller cruise-ships tended to generate higher income per passenger, both for the harbour and for the local businesses, with fewer negative impacts.

After considering several scenarios, it appears likely that cruise tourism and land-based tourism in Isafjordur can develop together, and that, to some extent, cruise tourism may support land-based tourism and both may be compatible with sustainable tourism, provided that the town imposes some restrictions on the visiting cruise-ships, such as a cap on their passenger capacity. This may also be the more economically efficient solution as well, depending on the town’s policies and objectives.
Ágrip

Ísafjarður, höfuðstaður Vestfjarða (með 2500 íbúa) hefur í sögulegu tilliti verið fiski- eða útgerðarbær, en síðustu ár hefur ferdafjórunusta, ekki síst nátúrutengd og menningartengd, aukið vægi sitt verulega. Almenn ferðaþjónusta og komur skemmtiferðaskipa eru vexandi, en skemmtiskapaferðamennska hefur aukist mun hraðar og fjöldi farþega einstakra stærri skipa getur verið jafnmikill eða jafnvel farið yfir fjölda íbúanna sjálfrá.

Mótataka skemmtiferðaskipa hefur venjulega verið flokkuð undir fjöldaferðamennsku, og aflar minni tekna fyrir samfélag en hin almenna ferðamennska. Dulinn kostnaður eins og neikvæð upplifun almennra ferðamanna getur einnig verið eitt þáttur skemmtiskapaferðamennska. Petta vekur upp ýmsar spurningar varðandi getu bæjarfélagisins til að taka á móti bæði almennum ferðamönnum og ferðamönnum sem ferðast með skemmtiferðaskipum og hvernig þessar tvær breytur eiga saman. Sérstaklega hvernig og hvort mótataka skemmtiferðaskipa hefur áhrif á almennu ferðafjórunustu og hvers konar þróun móttoku skemmtiferðaskipanna, ef einhver, er æskileg fyrir bæinn, þannig að bæjarfélagið hagnist sem mest.

Rannsóknaraðferðir eru meðal annars könnun meðal almennra ferðamanna sem komu til Ísafjarðar og þjónustúaóla í bænum, hálfopin viðtöl við aðila með fyrirtæki í bænum og sérfræðinga, greining á frumheimildum og fyrirliggjandi heimildum frá könnunum og viðtölum og opinber gögn frá hafnaryfirvöldum.

Niðurstöður sýnda að mótataka skemmtiferðaskipa hefur bæði jákvæð og neikvæð áhrif á almennu ferðamennska, þó svo að á því stigi sem mótataka skemmtiferðaskipa er í dag, séu neikvæðu áhrifin fremur lítil. Þar ber þó hæst samkeppni um svipaða þjónustu við skemmtiskapaferðamenn og almenna ferðamenn. Liklegt er að mótataka skemmtiferðaskipa hafi lægri bein efnahagsáhrif fyrir bæinn en almenn ferðamennska og að hver ferðamaður sem ferðast með skemmtiferðaskipi eyði minna en hinn almenn ferðamaður. Þó svo að stærri skemmtiferðaskip komi með meiri heildartekjur inn í bæinn, hafi ferðamaðurinn á minni skipum eytt meiru en þeir sem voru á stóru skipunum.

Þannig hafi minni skipin haft meiri efnahagsleg áhrif bæði fyrir höfnina og fyrirtæki í bænum, og minni neikvæð áhrif.

Eftir að hafa þugad þær aðstæður sem eru til staðar er líklegt að mótataka skemmtiferðaskipa og almenn ferðamennska á Ísafirði geti þróast saman og upp að vissu marki geti skemmtiskapaferðamennska stutt við almenna ferðamennska. Báðar greinarar geti verið í samræmi við sjálfþæra ferðamennsku að því tilskildu að bæjarférvöld setji ákveðnar hömlur á skemmtiferðaskip sem koma í heimsókn, eins og það á farþega fjölda hvers skips. Það geti einnig verið áhrifameiri lausn til að auka teknir bærjarsins, allt eftir
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Acronyms

General
GRT – Gross Registered Ton
ISK – Icelandic krona, currency of Iceland
USD – US Dollar, currency of the United States of America
EUR – Euro, currency of the EuroZone
UNWTO – The United Nations World Tourism Organization
CLIA Europe – Cruise Lines International Association Europe

Harbour
SE – Standard error of the estimate
Hafnir Isafjardarbaer – Harbour of Isafjordur (in Icelandic); Data collected directly from the harbour is referenced as (Hafnir Isafjardarbaer, 2013)

Regression variables
SGRT – Gross Registered Tonnage of a cruise ship
NPass – Number of passengers on the cruise-ship
IS – Revenue per cruise-ship call
NHr – Number of hours a cruise-ship spends in Isafjordur
D – Dummy variable that has the value of 1 if the cruise-ship is docked and 0, if the cruise-ship is anchored
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1 Introduction

1.1 Research motivation

With a population of around 2500 (Statistics Iceland, 2014), Isafjordur is the main town in the Westfjords peninsula of Iceland. The greater Isafjordur municipality, called Isafjardarbaer, also includes the villages Hnifsdalur, Sudureyri, Flateyri and Thingeyri, has a population of around 3600 (Statistics Iceland, 2014) and covers around 2400 km\(^2\) (Isafjardarbaer, n.d.).

The town of Isafjordur is situated on a narrow spit of sand in the fjord Skutulsfjordur, which joins the larger fjord of Isafjardardjup. Being surrounded by mountains from three sides, Isafjordur is an almost perfect natural harbour. (Cruise Iceland, n.d.)

Historically, fishing has been the main industry in Isafjordur, with the town being one of the largest trading and fishing centers in Iceland in the late 19\(^{th}\) century, and the better part of 20\(^{th}\) century. Starting with the 1980s, the fishing industry in Isafjordur has declined, with some of the main companies closing down, and people losing their jobs. This also led to emigration of a part of the local population to other areas. The town has since partially recovered, and new high-tech and research industries based on the rich knowledge of fishing have developed. Fishing continues to be a significant industry in Isafjordur, although to a smaller scale than in the 1970s. Tourism is becoming increasingly important. (Isafjardarbaer, n.d.). Both land-based and cruise tourism have increased in the past few years. (Icelandic Tourist Board, 2013)

Tourists are typically drawn to Iceland’s pristine nature and rich culture and Westfjords is a prime destination in this regard, being close to the wild and spectacular Hornstrandir Natural Reserve, and in one of the most remote and least visited areas of the country. (Boston Consulting Group, 2013)

However, Isafjordur has also seen a spectacular evolution in cruise tourism, with the number of cruise passengers doubling during 2011-2013, and exceeding 41,000 in 2013 (Hafnir Isafjardarbaer, 2013), and the cruise ships continuously growing in size, the largest being over 3,600 passengers. While cruise tourism may bring some economic benefits to the town, it also raises questions regarding the compatibility between the development of
land-based tourism, which largely relies on an authentic experience and pristine nature, and cruise tourism, that has the characteristics of mass tourism (Jaakson, 2004), and various environmental issues associated to it (Klein, 2005). Additionally, research on cruise tourist expenditures indicate that cruise tourists typically spend less than land-based tourists at a destination, and that, frequently, the local community does not have important economic benefits from cruise tourism (Brida & Aguirre, 2008), (Center on Ecotourism and Sustainable Development, 2006).

Given these above-mentioned aspects, this research will focus on the following questions:

**Question 1**: How economically significant is cruise tourism compared to land based tourism in Isafjordur, Iceland?

**Question 2**: What are the socio-economic impacts of cruise-tourism on land-based tourism in Isafjordur, Iceland?

**Question 3**: What are the recommended strategies to better accommodate cruise tourism and land-based tourism in order to achieve a sustainable and profitable development of tourism in Isafjordur?

**Thesis statement**: The interactions between cruise tourism and land-based tourism are complex, with both positive and negative aspects. If properly managed, cruise tourism can be a positive influence and support land-based tourism in the area. The thesis suggests that a moderate level of cruise-ship tourism in Isafjordur is desirable, could be compatible with sustainable tourism and could provide important economic benefits, as well as improved tourist experience, without significant negative impacts.

In order to answer the research questions, both quantitative and qualitative methods are used, as described further in the “Methodology” chapter.

### 1.2 Tourism worldwide

Tourism is one of the largest and fastest-growing economic sectors in the world, having experienced continued expansion and diversification for the past six decades. During this time, the number of tourists worldwide has increased almost uninterruptedly, from 25
million in 1950, to 528 million in 1995, and breaching the 1 billion mark in 2012 (1.035 billion tourists) (UNWTO, 2013).

On the demand side, the main drivers of tourism growth were the increase in income and available leisure time. On the supply side, some of the main drivers of growth were the reduction in the cost of travel and of the time needed to travel between locations, greater frequency and density of travel services, better knowledge about travel possibilities, as well as lower risks of touring (Tisdell, 2013).

Tourism is a composite commodity to which many industries contribute, and when it is fully accounted for, tourism is the world’s largest industry in terms of employment and global production (Tisdell, 2013). Tourism accounts for 9% of the world GDP in direct, indirect and induced impact, and 6% of the World’s export (over 1.3 trillion USD in 2012). One in eleven jobs worldwide is connected to tourism. Forecasts suggest a continued increase, up to 1.8 billion international tourists in 2030 (UNWTO, 2013).

In 2012, Europe1 was the most visited region of the world, accounting for 52% of the international tourist arrivals and 43% of the international tourism receipts (UNWTO, 2013).

### 1.3 Tourism in Iceland2

Between 2000 and 2010, the share of tourism in Iceland’s GDP oscillated between 4.4-6.0%. In 2010, the share of tourism in Iceland’s GDP was 6%. The share of tourism in export revenue has increased rapidly and almost doubled between 2008 and 2012, from 12% in 2008 (Statistics Iceland, 2011), to 18.8% in 2010 and 23.5% in 2012 (Icelandic Tourist Board, 2013). Tourism in Iceland provides around 7,400 jobs. (Boston Consulting Group, 2013). In 2012, international visitors to Iceland spent 106 billion ISK (excluding airfares), which was 15% more than in 2011. However, expenditure per tourist has remained almost constant over 2009-2012, fluctuating around 160,000 ISK per person3 (Icelandic Tourist Board, 2013).

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1 Source considers that Europe includes the whole of Russia, Turkey, the Caucasus, Israel, and former soviet countries of Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan
2 Figures in this section do not include cruise tourism
3 At 2012 price level, no airfares included
Figure 1: Evolution of the number of tourists to Iceland, 2000-2012. Data source: Icelandic Tourist Board, 2013.

The number of international visitors to Iceland has more than doubled, from 302,900 visitors in 2000, to 673,000 in 2012 (see Figure 1), increasing at an average rate of 7.3% annually (Icelandic Tourist Board, 2013). Boston Consulting Group (2013) predicts that by 2023, there will be nearly 1.5 million international tourists to Iceland.

In 2012, the number of overnight stays in Iceland has been 3.7 million, which was a 15.6% increase over 2011. Almost 2.9 million overnight stays were of foreign visitors, and around 750,000 were of domestic tourists. Since 2000, the average increase in the number of overnight stays for foreign tourists has been 8.4% per year, higher than for domestic tourists, which was of 3.1% per year (Icelandic Tourist Board, 2013).

Tourism in Iceland is highly seasonal, with summer\(^4\) (2011) accounting for around 61% of the total overnight stays and 49% of the foreign visitors (Icelandic Tourist Board, 2013). Unlike Finland, for example, Iceland has not been able to reduce the seasonality of tourism between 1995 and 2010 (Boston Consulting Group, 2013). However, there are some signs that tourism is becoming less seasonal, as the percentage of tourists visiting during summer has decreased by 2.4% between 2011 and 2012, to 46.6%. (Icelandic Tourist Board, 2013). A further indicator suggesting a decrease of seasonality is that the number of arrivals

\(^4\) Summer is defined by the Icelandic Tourist Board as consisting of the months of June, July and August and winter is defined as the rest of the year, from September to May.
between January and May 2013 has increased by 21% over the same period the previous year, while the increase during the summer months of 2013 over 2012 has been of only 10% (Boston Consulting Group, 2013).

Tourism in Iceland is to a high degree concentrated in the capital area (including Reykjanes), that accounted for 46.9% of the overnight stays in 2011. (Icelandic Tourist Board, 2013)

The main factors that drew international tourists to Iceland in 2011 were the Icelandic nature (79.7%) and the Icelandic culture/history (38.6%). (Market and Media Research, 2012)

1.4 Tourism in the Westfjords

In the summer of 2011, there were 265,200 international tourists to Iceland, of which 13.9% have visited the Westfjords (Icelandic Tourist Board, 2013), which means approximately 36,900 tourists. In winter (which Icelandic Tourist Board (2013) considers as September to May), there were 275,600 tourists to Iceland, of which 4.6% had visited the Westfjords, meaning 12,700 tourists. The total estimated number of international tourists to the Westfjords during 2011 was 49,600 (8.8% of total for Iceland). Applying the same percentages (13.9% for summer, and 4.6% for winter) for the 2012 figures, we get 42,100 tourists in the summer of 2012 and 15,900 during the rest of a year, for a total of 58,000 international tourists to the Westfjords in 2012 (16.9% increase over 2011). The figures for 2012 suggest that tourism in the Westfjords exhibits stronger seasonality than for Iceland overall, with the summer months accounting for 72.6% of the total number of international visitors to the Westfjords (compared to 46.6% for Iceland). The percentage of international summer tourists to Iceland that visit the Westfjords has increased between 2007 and 2011, from 9.3% (Icelandic Tourist Board, 2009) to 13.9%, which suggests that the number of foreign tourists to the Westfjords is increasing faster than it is increasing in Iceland overall. If this trend continued after 2011, then the above figures for 2012 are underestimates.In the summer of 2011, the Westfjords was by far the least visited region of Iceland. The East and the Interior (Highlands), visited by 32.2% and 36.3% of the international tourists, were the second and third least visited respectively. The Reykjavik area was the most visited (94.3%) region of Iceland. (Market and Media Research, 2012)
In 2012, the Westfjords had 33 hotels and guesthouses, with 494 rooms and 1190 beds (Statistics Iceland, 2013). The region had 5% of the beds available in Iceland overall (Icelandic Tourist Board, 2013). The average duration of stay in the Westfjords was 3.1 nights (Market and Media Research, 2012) In total, there were 77,461 overnight stays in the Westfjords in 2013. Of these, 60,731 (78.4%) were during summer (Statistics Iceland, 2014).

A research commissioned by the Westfjords Marketing Office (Interview 18) studying the profiles of tourists coming to the Westfjords is being carried out during the summers of 2013-2014.

1.5 Tourism in Isafjordur

In 2011, 11.1% of the summer and 4.2% of the winter international tourists to Iceland visited Isafjordur. This means around 80% of the summer and over 90% of the winter foreign tourists to the Westfjords visit Isafjordur. By the same procedure as described above, in the “Tourism in the Westfjords” sub-chapter, it can be estimated that in 2011, there have been 29,400 international tourists to Isafjordur in summer, and 11,600 in the rest of the year, for a total of 41,000. In 2012, there have been 33,500 international tourists to Isafjordur in summer, and 14,500 in the rest of the year, for a total of 48,000. This represents an increase of 17.1% between 2011 and 2012. The figures for 2012 suggest that tourism in Isafjordur exhibits stronger seasonality than for Iceland overall, with the summer months accounting for 69.8% of the total number of international visitors to Isafjordur (compared to 46.6% for Iceland). Isafjordur was the most visited destination in the Westfjords, followed by Holmavik/Strandir, Latrabjarg and Arnarfjordur/Dynjandi.

1.6 Cruise tourism worldwide

The first cruise can be traced back to the steamship Britannia’s first transatlantic voyage in 1,840, carrying 63 passengers aboard (Gulliksen, 2008). However, the modern cruise market emerged in the late 1960s, beginning of the 1970s (Klein, 2005). The industry, which in its early days, used mostly refurbished ocean liners, was revolutionized when the “Tropicale”, a purpose-built cruise-ship that could carry 1,022 passengers, was launched, in 1982. The cruise ship brought a number of innovations in comfort, design and
entertainment, and was precursor to the present days “floating resorts”. Over 100, progressively larger cruise ships were launched since then (Gulliksen, 2008).

In 2012, there have been 20.9 million cruise passengers worldwide, of which 56% were from North America and 30% from Europe (CLIA Europe, 2013). During 2001-2011, cruise tourism has grown 108%, significantly higher than the increase of land-based tourism over the same period (43%). In 2011, the increase in cruise tourism over the previous year was 9.6%, double that of land-based tourism (4.8%). (European Cruise Council, 2012)

Between 2000 and 2011, despite an overall increase of 66%, North America has seen a decline of market share from 70% to 56%. This was mainly due to the fast growth of the European market (189% between 2001 and 2011, from 2.14 million to 6.18 million passengers). Growth of cruise tourism in Europe has by far outpaced the growth of land-based tourism over the same period of time (27%). (European Cruise Council, 2012)

In 2012, the UK was the largest European source market for cruise passengers (1.7 million passengers), followed by Germany (1.54 million) and Italy (835,000). Of the top three, however, Germany had the highest increase over 2010-2012, at 27%, with UK growing only 5%, and Italy decreasing by 6%. France (5th largest source market for passengers in Europe) is also growing fast (24% over 2010-2012) (CLIA Europe, 2013).

In total, in 2012, there have been 29,261,000 cruise passenger visits in Europe. Four of the top 5 destinations in Europe - Italy, Spain, Greece and France, ordered by number of cruise visitors - are in the Mediterranean and account for 63.2% (down from 66.4% the previous year) of the total number of the port-of-call visits in Europe (CLIA Europe, 2013).

In 2012, Norway, with 2.493 million passenger visits (up from 1.947 million in 2011) was the main cruise destination in Northern Europe and 4th largest in Europe overall. It’s fast growth (28% between 2011-2012), saw it overtake France in 2012 (CLIA Europe, 2013). With 4 million port visits in 2012, the Baltic was the most visited area in Northern Europe (European Cruise Council, 2012).

In 2012, passengers and crew to Europe spent 3.63 billion Euro (5.5% increase over 2011, which in turn had a 10.7% increase over 2010) (CLIA Europe, 2013). On average a passenger spent 290 Euro in airfares to the embarkation cities, 74 additional Euro at
embarkation port cities, and another 62 Euro at each port visit on their itinerary, while members of the crew spent on average 21 Euro per crewmember at each port visit (European Cruise Council, 2012). The Norwegian Epic, with a passenger capacity of 4200 was the largest cruise ship to be deployed in European waters in 2013 (CLIA Europe, 2013).

1.6.1 Characteristics of the cruise tourists

Cruise tourists typically consisted of older aged (over 50), affluent consumers, seeking high quality services. Despite efforts to attract younger age groups, the average age of the cruisers in 2011 was still at 50 years old (Florida-Caribbean Cruise Association, 2011). However, there are variations of the average age between ships, with some being oriented towards younger consumers, and others, towards the older ones (Florida-Caribbean Cruise Association, 2011). Hung & Petrick (2011) suggest that the main motivations for ocean cruise passengers are: social recognition, relaxation, learning/discovery and bonding.

According to the market segment that they fill, cruises can be divided as follows (Florida-Caribbean Cruise Association, 2013) (Cruise Corner, n.d.):

- Contemporary cruises. Are the most affordable cruises and ship size typically ranges from 500 to over 3000 passengers capacity. The largest cruise-ships are usually contemporary cruise-ships, and they are the closest equivalent of a “resort at sea”.
- Premium cruises. More expensive than contemporary cruises, and offers higher quality service. Ship size ranges from 500 to over 1500, but not over 3000.
- Luxury cruises. More expensive than premium cruises, but higher quality services, furnishings and events. Ships are smaller, up to 900 passengers. There is more space for the passengers and a lower crew to passenger ratio (2:1), reflecting the higher level of service.
- Niche and specialty cruises focus on distinct experience, destination or theme. Cruises that (Florida-Caribbean Cruise Association, 2013) classifies as “Destination” are of this type. The niche and specialty cruisers have the opportunity to immerse themselves in the cultures of the places they are visiting. Destinations may include Antarctica, Hawaii, South America, Asia or Scandinavia, and the cruise may focus on a “soft-adventure” vacation. Personnel on board may include
scientists (naturalists, geologists), various experts that help enrich the experience and licenced guides. Food may include regional cuisine of the places visited. These cruises typically last longer than the other types.

- River cruises are voyages along inland waterways. They can carry up to 1000 passengers, but are typically between 90-240 passengers. They are smaller in size and have lower draft than ocean cruises, and can reach inland destinations that would otherwise be difficult to access (such as in Russia, China or on the lower Amazon). The most popular river cruises are on the Nile, the Amazon, the Mississippi, the Danube or the Rhine. There are no river cruises in Iceland, and thus, any reference to cruise-ship tourism in Iceland will be only to ocean cruise tourism.

On average, cruisers can spend between 171 USD for a Contemporary cruise to 234 USD for a Destination cruise. In terms of total expenses for a vacation, unsurprisingly, those who take Contemporary cruise lines averaged the least (1,690 USD), followed by Premium passengers (2,080 USD), Luxury passengers (2,840 USD), and Destination passengers (3,220 USD) (Florida-Caribbean Cruise Association, 2013).

Specialty cruises are seen as a growing sales opportunities by 77.2% of the travel agents. These types of cruises are attractive because of their destination/itineraries, small ship size, slower pace of vacationing, possibility to visit smaller port/destinations and opportunities for soft adventure. In 2012, the CLIA fleet sailed at approximately 102% capacity (Cruise Lines International Association, 2013), an indicator that demand for cruising likely exceeds supply.

1.6.2 Revenues and expenses of the cruise lines

On average, in 2011, a cruise-ship had revenues of 1,530 USD/ passenger/week, of which: 75.5% was the revenue from the ticket sold, 13.5% revenues from casinos and bars, 4.9% (75 USD) - from shore excursions, 2.4% - spa and 3.7% - other revenues from onboard spending. On average, the cruise-lines had expenses of 1,373 USD/pasenger/week, split into a number of categories, of which the largest were the corporate operating costs (31%). Harbour fees represented less than 4.5% of the costs for the cruise-ships. (Bull, 2013)
The expenditures in ports visited by cruise-ships can be classified in passenger expenditures (food and beverage; local tours; activities purchased in port; transport; souvenirs; duty-free items), and ship expenditures (port agency fees; water; berthing; waste disposal; security; port charges including towing and terminal; pilotage; fuel bunkering; provedore; and customs) (Douglas & Douglas, 2004)

1.7 Cruise tourism in Iceland

Cruise tourism to Iceland has increased significantly over the past decade. The number of cruise tourists arriving in Iceland\(^5\), has increased from around 25,600 in 2000, to 92,000 in 2012, for an average increase of 12.4% per year (Icelandic Tourist Board, 2013), higher than the average 7.3% increase in the number of international tourists to Iceland (excluding cruise tourists). Iceland is not believed to be a major source of cruise passengers.

The main cruise-ship destinations in Iceland in 2012 have been Reykjavík (92,000 passengers, 81 vessels), Akureyri (66,400 passengers, 62 vessels), and Isafjordur (31,400 passengers, 34 vessels). Smaller destinations included Grundarfjörður, Vestmannaeyjar (Westman Islands), Seydisfjordur, Djupivogur and Husavik (Icelandic Tourist Board, 2013).

With a total number of visitors of 204,000\(^6\) in 2012, Iceland held a share of 0.7% as a destination for cruise visitors in Europe (up from 0.5% in 2011). The increase in the total visitors in 2012 over 2011 (when there were 137,000 visitors) was of 49%. (CLIA Europe, 2013).

1.8 Cruise tourism to Isafjordur

The first cruise-ships arrived in Isafjordur in 1992. Between 1995 and 2002, the number of cruise-ship calls has increased from 6 to 13 and the number of passengers from 1,705 to 2,992 (van Deursen, 2002).

\(^5\) Data represents the number of cruise tourists arriving in Reykjavik. Since 96% of the cruise-ships to Iceland berth in Reykjavik, these figures are reasonably good estimates for the total number of cruise tourists arriving in Iceland overall.

\(^6\) The number represents the sum of visitors to all Icelandic ports of call, not unique visitors. Since the same cruise-ship may visit several ports in Iceland, a cruise tourist that visits 2 ports would be counted twice.
Starting with 2003, the number of cruise-ship calls, total passengers and total GRT (Gross Registered Tons) of the cruise-ships visiting Isafjordur have all increased significantly, as follows (see Figure 2):

- The number of cruise-ship calls, from 10 in 2003 to 37 in 2013;
- The total number of passengers on the cruise-ships, from 2,242 in 2003 to 41,214 in 2013;
- The total tonnage (in GRT), from 73,597 GRT in 2003, to 1,432,954 GRT in 2013;

![Figure 2: Evolution of the number of cruise-ship calls and passengers on the cruise-ships arriving in Isafjordur between 2003-2013. Data source: Hafnir Isafjardarbaer(2013). Original data reprocessed.](image)

The average GRT and number of passengers on the cruise-ships to Isafjordur, have also increased significantly in the past decade, from 7,360 GRT/ship and 224 passengers/ship in 2003 to 38,728 GRT/ship and 1,114 passengers/ship (see Figure 3).

The trend will likely continue in 2014, when there are 48 cruise-ships calls confirmed, with total GRT of 1,553,231 and a capacity of 47,291 passengers (Hafnir Isafjardabaer, 2013).
Figure 3: Evolution of the average GRT/ship and average passengers/ship for the cruise-ships arriving in Isafjordur between 2003-2013. Data source: Hafnir Isafjardarbaer (2013). Original data reprocessed.
2 Literature review

2.1 Sustainable development and sustainable tourism

There are over 100 definitions of „Sustainable development“ (Bečić & Švarc, 2009), but the most commonly used is the original definition from the „Our Common Future“ report of 1987 (The world commission on environment and development, 1987):

*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

The initial concept of sustainable development has been criticized by several authors, such as (Lele, 1991), for its lack of clarity and was subsequently improved upon through Agenda 21, the action plan of the UN Conference on Environment and Development (Rio, 1992), and the plan of implementation from the World Summit on Sustainable Development (Johannesburg, 2002) (UNEP UNWTO, 2005) As a result, there are now 3 dimensions, or “pillars” of sustainable development that are recognized: economic, social and environmental sustainability.

Following the concept of sustainable development, the concept of sustainable tourism was defined as: “Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities.” (UNEP UNWTO, 2005, p. 12)

This thesis will attempt to focus particularly on sustainable tourism with regards to visitors, industry and the environment, focusing less on the host communities, as the sustainable development of the community in Isafjordur was the focus a parallel study, by Megan O’Brien, my colleague in the Master’s program in Coastal and Marine Management at the University Center of the Westfjords, as part of her Master’s thesis at the University Center of the Westfjords („Sustainable Cruise Ship Tourism: A Carrying Capacity Study for Ísafjörður, Iceland,“ defended in January, 2014) The scope of this research and Megan’s were coordinated as to be complementary, with minimum overlap, and together offer a complete picture of cruise tourism in Isafjordur.
2.2 Economic impact of tourism

Tisdell (2013) emphasizes that it is difficult to assess the economic impacts of tourism, because tourism draws on services and commodities supplied by several industries, and thus, it requires inter-industry analysis, by methods such as Tourism Satellite Accounts, computable general equilibrium, or input-output analysis.

Tourism has direct, indirect and induced effects on the economy. Direct effects are the result of immediate changes in tourism expenditures, for example an increase in the number of tourists that lead to an increase in sales by the hotels, and hotel payments for wages, taxes, supplies and services for the employees of the hotels are direct effects of tourist spending.

Indirect effects are the results of successive rounds of re-spending of the hotel’s receipts in industries that supply products and services to the hotels. Changes in these industries that are traceable to changes in tourism spending are indirect effects.

Induced effects are the changes to economic activity that results from household spending by the employees of the industries directly and indirectly linked to tourism that can be traced to tourism spending. The total economic impact of tourism is the sum of the three effects. (Ardahaey, 2011)

According to (Stynes, 1997), there are several types of economic analyses with regard to tourism:

- Economic impact analysis – analyses the flows of spending associated with tourism activity in the area, focusing on the changes in sales, tax revenues, income and jobs due to tourism. This is done by visitor spending surveys, economic models, analysis of secondary data from Government statistics, input-output models and multipliers.
- Financial analysis – analyses short-term and long-term profitability of the businesses involved in tourism.
- Fiscal impact analysis – similar to the financial analysis, but for the public sector, instead of private.
- Demand analysis – aims to predict future changes in demand for tourism in the area, by using various methods and models (e.g. number of visitors)
- Benefit Cost analysis (B/C) – focuses on evaluating the economic efficiency of alternative policies from a societal point of view.
- Feasibility study – analyses the feasibility of an action. Similar to a Benefit Cost analysis, but with the analysis focused on the business or organization.
- Environmental Impact assessment – focuses on determining the impacts of a proposed action on the environment, while also including economic impact assessment methods.

The economic impacts of tourism are typically estimated by some variation of the formula (Stynes, 1997):

\[
\text{Economic Impact of Tourism} = \text{Number of Tourists} \times \text{Average Spending per Visitor} \times \text{Multiplier}
\]

According to Stynes (1997), an economic impact analysis of tourism seeks to determine the contribution of tourism to the local economy, but determining how much the tourists spend in the area, the portion of sales by local businesses that is due to tourism, the income generated by tourism for the households and businesses in the area, the number of jobs supported by tourism, and the tax revenue generated by tourism, and it also studies the relationships existing among economic sectors.

In this paper, the economic impact of tourism is studied through a survey to land-based tourists, a survey for the businesses in Isafjordur, and additional data through qualitative research. The analysis focuses on the direct effects of tourism.

### 2.3 Social, economic and environmental impacts of cruise tourism

From an economic point of view, cruise tourism has the same types of impacts as tourism, but they are even more difficult to track, as cruise-ships often sail on flags of convenience, with multinational crew and complex supply chains. (Brida & Aguirre, 2008)

As previously mentioned (see subchapter 1.6), cruise tourism brings economic benefits to the destinations visited, through spending by cruise-line, crew and passengers. This also
translates into more jobs at the destination, and indirect benefits resulted from local respendng of the income from cruise tourism. (Bull, 2013)

However, several studies found that cruise tourists typically spend at the destination less than land-based tourists, even when taking out accommodation costs for the land-based tourists. (Larsen, Wolff, Marnburg, & Ogaard, 2013) (Center on Ecotourism and Sustainable Development, 2006)

Cruise tourism, especially at large scale, also tends to have negative impact on the local communities and the other tourists, due to the crowding and congestion associated to it. While cruise tourism can be profitable for the local communities, it also bears a number of hidden costs (Brida & Aguirre, 2008):

- the depreciation of the port, transportation and other public infrastructure;
- ensuring public security in the destination;
- emergency medical services;
- the cost of enhancing streets and attractions;
- the cleaning and trash collection;
- the costs of cancelling or changing itineraries for a port;
- the damage in the long term of marine life and the cost to preserve the destination’s tourism inventories.

A cruise-ship may have significant adverse effects on the environment as well. (Klein R., 2012) makes a record of the pollution and environmental violations and fines related to cruise-ships between 1992 – 2012 (only those reported in the media or public documents) and finds 286 cases of such violations. Of these, 20 cases incurred fines of 100,000 USD or more, with the highest amounting to 18 million USD (twice). Of these major cases, 11 were related to oil discharge. Other infringements were related to breaking the regulations on ballast water, discharge of wastewater, sewage or other dangerous substances. There were also two cases of damaging reefs and one of a whale strike.

Cruise-ships also generate significant amounts of waste and other direct environmental impacts, of different types: blackwater, graywater, solid waste, hazardous wastes, bilge water, ballast water and air pollution (Brida & Aguirre, 2008). Caric (2010), making a valuation of the environmental costs associated with cruise tourism in Croatia, determined
that the environmental costs far exceeded the benefits. While in this thesis’ author’s opinion, the cost was significantly overvalued, by attributing the full air pollution cost to the cruise destination, the study still showed that environmental costs of cruise tourism can be quite significant compared to the benefits.

2.3.1 Cruise tourists as potential future land-based tourists

One of the possible benefits of cruise tourism is that it may serve as a way to promote the destinations visited. Cruise tourists may later return as land-based tourists, or recommend the destination to their friends and relatives (Brida, Pulina, Riaño and Zapata-Aguirre, 2010).

A survey by Florida-Caribbean Cruise Association (2011) indicated that 80% of the cruise tourists consider that cruising was a good way of find potential areas to which they may return later as land-based tourists. Florida-Caribbean Cruise Association (2013) indicated that cruisers most often express desire to return for land-based vacations to the Caribbean (49%); Niche and specialty (Destination) cruisers prefer Alaska (40%), Luxury cruisers also rate Europe highly (33%) along with the Caribbean (41%).

The factors that influence the likelihood of cruise tourists to return to or recommend the destination they visited during their cruise were researched in studies such as Brida et al (2010) and Gabe, Lynch and McConnon (2006). Gabe et al focused on the likelihood of return of cruise tourists to the destination visited in general, and determined that the passenger’s age, number of previous visits, length of stay at the destination and distance between the respondent’s place of residence and the destination were the main factors affecting the likelihood of a repeat visit, while economic factors, such as household income, are not significant factors.

Brida et al (2010) focused specifically on the likelihood of a cruise tourist to return as a land-based tourist to the destination visited and determined that the main factors that influence this decision were related to the satisfaction with the human capital (guide tours and bus/taxi drivers), physical capital (harbour facilities and transportation), as well as the level of prices and the level of safety. The probability to recommend a destination was linked to the same factors, but to a lesser degree.
However, studies of this type have the disadvantage that they only survey tourists about their intentions, and do not measure the actual rate of return. Brida et al (2010) indicated that a program to motivate the cruise-tourists to Cartagena to return as land-based tourists, by using incentives such as special discounts, had very poor results, and the hotel owners did not register any use of the special discount (although a possible cause was considered the poor advertising of the program). A similar program in Belize yielded similarly poor results, with few cruise tourists returning later as land-based tourists (Center on Ecotourism and Sustainable Development, 2006)

2.4 The Tourist Area Life Cycle

Butler (1980) proposes the Tourist Area Life Cycle model, describing the evolution of a tourist destination over time. According to this model, a tourist destination passes through the following stages over time: exploration, involvement, development, consolidation, stagnation, and stagnation, decline or rejuvenation.

During the exploration stage, a small number of tourists looking for novelty and adventure engage with the place for its cultural and/or natural peculiarities. These visits have an irregular pattern, presuppose frequent contacts with the residents (touristic facilities are most likely not present), and have little impact on the place from an economic and social point of view.

The involvement stage is reached once locals begin to provide facilities and services targeted specifically at tourists. This lays the foundations of a market area for visitors. The growing businesses of the local entrepreneurs and their organized efforts to attract tourists trigger changes in the infrastructure, as well as in the visiting patterns, which become seasonal.

As the tourist market area expands, the place enters the development stage, characterized by a decrease of the locally-run activities that cater for the tourists, and the proliferation of external organizations that provide touristic facilities and services. The tourist industry becomes more complex and sophisticated, creating massive job opportunities in the region, and the number of tourists may even exceed the local population during peak periods. During this stage, tourism is tolerated by the locals due to its economic benefits.
During the consolidation stage, the increase in the number of visitors typically declines (although the total figure is still growing). Wide-reaching efforts are carried out to develop the market area and tourism occupies a predominant role in the local economy. A feeling of discontent may appear among the locals, particularly because of the large number of tourists (exceeding the local population) that limits the access to local activities or resources.

Once visitor numbers reach the peak, the stagnation stage sets in. The destination functions at full capacity and further development is unlikely. A major effect of this stage is the loss of local flavor, and a growing hiatus between the place's physical characteristics and its touristic „image.“ Efforts are directed at maintaining the number of tourists. The overgrowth may have social, environmental and economic consequences of a negative nature.

As the area loses its significance for the tourists, it enters the decline stage. Tourist numbers drop and facilities begin to be shut down. Control of tourist activities is regained by the locals, who purchase them from the organizations willing to withdraw from a declining market. If the area's touristic appeal continues to wither, then it may completely move out of tourism. However, if the touristic offer is reshaped and refreshed, and the region can thus become a strong competitor for the newer attractions, rejuvenation may occur, with a boost of popularity.

The model was revisited by Johnston (2006), and modified to included pre-tourism and post-tourism eras, and using accommodation units as a variable instead of the more volatile number of tourists, used by Butler.

### 2.5 Carrying capacity and other planning frameworks in tourism management

The concept of carrying capacity was originally introduced in biology, to indicate “the capacity of an ecosystem to support healthy organisms while maintaining its productivity, adaptability, and capability for renewal” (IUCN, 2000). In the 1950s-1960s, this concept was transferred to tourism, particularly to visitor management in natural parks, as a response to perceived overcrowding in several areas. UNWTO (1981) defines tourism
carrying capacity as “The maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic and socio-cultural environment and an unacceptable decrease in the quality of the visitors' satisfaction.”

The concept of Tourism Carrying Capacity is closely related to sustainable tourism and the Tourist Area Life Cycle. In Butler’s TALC model, the tourism destination reaches its peak and starts declining after reaching and exceeding its tourism carrying capacity.

Early use of the concept was inspired by a neo-Malthusian perspective of resource limitation and exponential growth, and focused strictly on a maximum numbers of tourists that should be allowed to a protected area. However, starting with the 1970s, many authors have criticized this approach and more recently, Pedersen (2002), McCool & Lime (2001), or Lindberg, McCool, & Stankey (1997) have made a compelling case against the usefulness of the concept of carrying capacity in tourism management. Pedersen, for instance, illustrates the case when the number of tourists on a site is below the overall carrying capacity, but most of the tourists are concentrated on one particular, sensitive area, putting it at risk. Similarly, even if the number of tourists is very low, their behaviour may be such that the environment or the experience of other tourists can suffer significantly.

McCool & Lime (2001) criticized the concept of carrying capacity, arguing that a number of its assumptions are unsupported and rarely achieved in the real world, and rather than focusing on numbers, the approach to carrying capacity should focus on the management objectives of the site; the question of “How many is too many?” should be changed to “What are the appropriate or acceptable conditions?”.

The emphasis was changed from quantity to quality of the visitors, from maximum number of visitors, to maximization of benefits; from numbers to management goals. The carrying capacity approach suffered a transformation, by which its aim was not to provide a unique number, but many different capacities, corresponding to different management goals (Massiani & Santoro, 2012)

As a result of the conceptual and practical failure of the single numeric carrying capacity, a number of visitor management frameworks were developed, that focused on the management objectives instead. Some of these are: Limits of Acceptable Change, Visitor
Impact Management, Visitor Experience and Resource Protection, Visitor Activity Management Planning, and the Tourism Optimization Management Model (McCool & Lime, 2001), and the Protected Area Visitor Impact Management (Farrell & Marion, 2002).

While carrying capacity as a tourist management framework has not been effective, the concept of carrying capacity is useful when addressing some issues of tourism experience, such as crowding.

### 2.6 Crowding

Crowding can be defined as a negative evaluation of a certain use level (Cole & Steward, 2002). An alternative way to define crowding is as a violation of the socio-cultural carrying capacity, leading to a decline in the tourist experience (Bryon and Neuts, 2008).

The feeling of crowding is influenced by the personal norms of the tourist. These norms are affected by factors such as: the situational characteristics of the destination (time and season, accessibility, availability of recreational activities); characteristics of the other tourists; and personal characteristics (expectations or travel motive). (Bryon & Neuts, 2008). Figure 4 shows a model of crowding perception.

While often perceived as intrinsically negative, research by Bryon & Neuts (2008) and Neuts & Nijkamp (2012), focused on an urban setting – the city of Bruges, Belgium - showed that it may not always be the case. The behaviour of other tourists was by far the most influential factor affecting crowding perception, and high levels of perceived crowding were not always associated with negative feelings, but sometimes with positive feelings as well. The tourists that were significantly affected by crowding were the ones that had preference for lower level of crowding in the first place. Tourists traveling for “cultural reasons”, tended to see crowding more positively than other groups. Since in the preliminary research, crowding from cruise-ships was seen as a potential threat by cruise tourism to land-based tourism, perceived crowding levels and feelings towards the perceived crowding levels were also studied in the tourist survey.
2.7 Relevant studies

Cruise tourism and its social, economic and environmental impacts has been researched in a number of studies. Some of the most relevant for this research are shortly described below.

Center on Ecotourism and Sustainable Development (2006) was a major study of cruise tourism in Belize and its impact on the local community and the land-based (stayover) tourists.

Diedrich (2010) studies the impacts of cruise tourism on an ecotourism destination, by using the study case of Belize. Both cruise tourists, and land-based tourists are included in the study, for the purpose of comparing the attitudes of the two groups with regard to tourism development.

Larsen, Wolff, Marnburg, & Ogaard (2013) make a comparison in spending between cruise and land-based tourists.
In Iceland, studies about the impacts of cruise tourism have been done in Akureyri, for example Karlsdottir (2004).

The research in Belize, in particular Center on Ecotourism and Sustainable Development (2006) is a benchmark study, and several elements of its design can be found in this thesis, in all the areas of study (surveys to tourists and businesses, qualitative research, analysis of economic impacts), adapted for the context of the study area of Isafjordur and the specifics of the research. Since this study was more focused on interactions between cruise and land-based tourists than the Belize study, which sought a more general view on the cruise tourism and its social, economic and environmental impacts, the questionnaire for the land-based tourists also draws significantly from Bryon & Neuts (2008) (see subchapter 2.6) applying its methods to the context of cruise tourism.
3 Methodology

Both quantitative and qualitative methods were used in order to address the research questions. Data about tourists and income data was gathered by quantitative methods. Qualitative methods were employed to get an overview of tourism, cruise tourism, and their interconnections in Isafjordur, as well as supplement the data from quantitative analysis. Data collection took place in Isafjordur.

3.1 Quantitative research

3.1.1 Survey for the land-based tourists

In order to find out the characteristics of the land-based tourists in Isafjordur, and assess the impact of cruise tourism on land-based tourists, a questionnaire was handed out to land-based tourists. The questionnaire covered the following aspects:

- Basic information about the tourists
- General traveling expectations and habits
- Expectations regarding Isafjordur prior to the visit
- Activities in Isafjordur
- Experience in Isafjordur, including experience of crowding
- Spending in Isafjordur

The priorities in designing the questionnaire were the following:

- Compactness. Although a more comprehensive questionnaire may have allowed for more detailed information on the tourists, this aspect had to be weighted against the possibility that a longer questionnaire would result in a lower response rate and a lower sample size. Getting a high response rate and sample size were considered priority, and thus the size of the questionnaire was reduced to 4 pages, which would take 10 to 15 minutes to complete. Observations during the survey showed that the questionnaire could take less than 10 minutes for respondents fluent in English, but could go up to 20 minutes for those without a good command of English. However, some respondents considered the questionnaire to be too long even in this format.
- Comprehensiveness. The questionnaire had to cover the main points of the research related to land-based tourists.
- Accessibility. The questionnaire had to be reasonably easy to understand for a non-native English speaker. Also, due to the observed high number of French-speakers that did not have a good command of English, the questionnaire was translated and also offered in French.

Several important questionnaire design decisions were taken:

- The questionnaire would be addressed to all the international tourists that came to Isafjordur, not only those that have been in town during a cruise day. The group that was in town in a non-cruise day would serve as a control group to which the group present in town during a cruise visit would be compared.
- Since the number of cruise days in the research period was lower than the number of days without cruise-ships, in order to get a higher sample for the tourists that were in Isafjordur during a cruise-ship day, the questionnaire asked the tourists to describe their experience on a cruise-ship day rather than the current day if they had witnessed a cruise-ship day during their stay.
- The questionnaire also asked the tourists to describe “Today” if they filled in the questionnaire in the afternoon, and “Yesterday”, if they filled it in the morning. It was assumed that if a tourist filled in a questionnaire in the morning hours then it was less likely that (s)he had engaged in activities or spending in the town or the area and that by the end of the day, (s)he would have a more complete experience and more informed opinion about Isafjordur and the surrounding area than at the beginning of the day, and thus give a more accurate and complete account of his/her experience.
- Preliminary talks with tourists suggested that there might be a bias for or against the idea of cruise tourism and the crowding and other mass tourism characteristics associated to it. Because of that, questions were made in a neutral way, with little reference to cruise tourism, and no opinion questions regarding cruise tourism. The only question mentioning cruise-ships is the one in which tourists are asked to describe one of the days, with the last day of the cruise-ship visit being one of the options. For the same reason of avoiding references to cruise tourism, the questionnaire was titled “Tourist interactions and experience in Isafjordur”.
The questionnaire was divided in 3 parts: “General tourism information” (8 questions), “Experience and interactions in Isafjordur” (8 questions) and “Personal information (5 questions). Some of the questions also had sub-questions. Both close and open-ended questions were used, and a section of the questionnaire was dedicated to comments from tourists. The options for the answers either nominal or ordinal, based on the Likert 5-point scale. Question 13, about the feeling of crowding used a 9-point scale, as it was necessary for it to be more precise than the regular 5-point, but at the same time symmetrical, offering just one option for the feeling of an ideal level of crowding.

The options to question 15 were based on a 10-point scale, to provide a finer scale of measurement, but also a familiar one (like the marking system of 1 to 10).

The questionnaires were distributed in English and French, depending on the choice of the respondents. The French version was translated by the researcher and checked for language accuracy by a native French speaker.

A simple random sampling (Singh, 2003) was used, as described below. The questionnaire was distributed through 3 means:

- Personal approach. The tourists were approached, most often during the evening or morning hours, and asked whether they would take part in the survey. The survey was described as being on “Tourist interactions and experience in Isafjordur”. If they agreed, it was then suggested that they may fill in the questionnaire when they feel most comfortable doing it, but preferably towards the end of the day, or the end of their stay. If the tourists preferred to fill in the questionnaires on the spot, then the researcher assisted them. If the tourists preferred to take the questionnaire with them and answer it later, they were instructed that they could leave the questionnaire at one of the eight possible places in town (3 hotel receptions, Tourist Information Center, Museum, and 3 pubs/restaurants), at their convenience.

Most frequently, the tourists were approached on the street, in 2 of the restaurants and at the Tourist Information Center of the town. The airport (before the morning flight) was also tried, but with unsatisfactory results. Through this method, an estimated 60% of the total questionnaires were
gathered. There were only 4 rejects on approach, all for reasons of language barrier.

- A number of questionnaires were left in the above-mentioned 8 places, so that the tourists may fill them in. The owners were also involved sometimes, with some of them advertising the research. The method had mixed success, depending on the place. An estimated 35% of the questionnaires were gathered this way.

- An estimated 5% of the questionnaires were gathered with the help of Claudia Matzdorf, fellow student at the University Center of the Westfjords, who was instructed to use the same approach as described above in the researcher’s personal approach.

The tourists were approached through the whole area of downtown Isafjordur (every research day, the entire area of downtown Isafjordur was covered by bike), plus Tungudalur campsite and airport; in various contexts for the tourists (walking through the town, at food/beverage units, at the end of tours taken, before flights, at accommodation places), without particular emphasis on any place or context. The researcher did not have control over a part of the questionnaires (those that were left for completion at the 8 places), but it is unlikely the tourists would fill in a 15-minute questionnaire multiple times. Considering the above it can be assumed that that the sample has the qualities of a simple random sample and reflects to a large extent the actual population of land-based tourists to Isafjordur during the research period.

The research period for the survey was 16.08.2013 – 18.09.2013. Initially, the survey was planned to end on 7 September 2013, three days after the last cruise-ship, which, according to the harbour schedule, was Caribbean Princess (112,894 GRT and 3,622 passengers), the largest cruise-ship of the season. However, the cruise-ship list was updated at the beginning of September, with the cruise-ship MV Fram (11,657 GRT, 223 passengers) coming on 16.09.2013, and the survey period was extended, accordingly, to 18th September, 2 days after the MV Fram’s visit. However, most of the questionnaires – 93.7% - were collected by 7th September (see Appendix 1 for number of questionnaires completed for each day).
The targeted group included international, land-based tourists, over 18 years of age that stayed in Isafjordur for 31 days or less. There were two reasons for the last condition:

- Because of the methodology, it was already more likely that the sample would be biased towards those who stay longer, so cutting it to 1 month was a way to limit that bias.
- It was considered that, if the visitor stays in Isafjordur for more than a month, the line between tourist and resident starts to blur, particularly if the goal of stay is not leisure, or the period of stay is longer, toward one year.

A total of 224 questionnaires were collected. Of these, the following were taken out of the sample:

- 2 because the respondents were under 18.
- 2 because they were filled in by cruise tourists.
- 5 because the respondents declared Iceland as their country of residence.
- 4 because the respondents stayed on their boats, and were thus not land-based tourists.
- 10 because the respondents stayed for longer than 31 days, or the duration of their stay was unknown (in some of these questionnaires, the date of departure was missing, but instead, “long-term stay” was written).
- 18 because it was not identified the day that the respondent was describing, thus making the entire section about crowding experience in Isafjordur unusable. Of these, 14 respondents had seen a cruise-ship more than 3 days before, and did not write the date on the survey (due to a design flaw, the respondents that had seen a cruise-ship more than 3 days before the day of filling in the questionnaire were not asked to specify the date). Another 4 respondents did not indicate the date.
- 8 surveys had large sections unfilled.

Two respondents declared Iceland/Germany as their country of residence. One was a long-term stay in Isafjordur and was thus removed. The other was a short-term stay, but it was mentioned that the respondent was not a resident in Iceland, but rather a person staying in Germany, who was “trying to move to Iceland”, so it qualified as foreign and accepted in the sample. In total, 175 valid questionnaires were included in the data analysis.
Data from the Isafjordur harbour, with the day and passenger capacity of the visiting cruise-ships was added to the questionnaire data. The visiting cruise-ships were coded as an ordinal variable and classified according to their passenger capacity. The categories were defined as follows:

- No cruise-ship (passenger capacity = 0)
- Small cruise-ship - 1-500 passengers (3 cruise-ships)
- Small-medium cruise-ship: 501-1500 passengers (1 cruise-ship)
- Medium-large cruise-ship: 1501-2500 passengers (1 cruise-ship)
- Large cruise-ship: over 2500 passengers (1 cruise-ship)

The day that the tourist described was calculated as follows:

- If the tourist ticked that he would describe “Today”, then the day was the one filled in under “Date of Today”. If the tourist chose to describe “Yesterday”, then the day was the date filled in under “Date of today” minus 1 ;
- If the tourist ticked that he would describe “The last day of a cruise visit”, then this was corroborated with the answer to question 8 - “When did you witness the last cruise-ship visit to Isafjordur?”

Another issue was that a tourist might not necessarily see a cruise-ship on the day of a cruise-ship visit. Some of the reasons for that could be that:

- the tourist was not in town during the cruise-ship visit (for example, (s)he arrived in town after the cruise-ship was gone, or left early in the morning for some activity around Isafjordur and returned late, after the cruise-ship was gone);
- the cruise-ship was a small one and its presence was not obvious;
- the respondent could not identify a cruise-ship.

In order to address this issue, a new variable was constructed, based on the day described by the respondent and the days of cruise-ship visits, according to the harbour schedule. If the day that the tourist described was a cruise day, then the variable took the value of 1, otherwise 0.

Similarly, the variable assessing whether the tourist had seen a cruise-ship or not was recoded and subsequently, this new variable was used in calculations. Harbour schedule of
the cruise-ships was used as reference, and if a cruise passenger claimed to have seen a cruise-ship on a day when no cruise-ship was supposed to be in Isafjordur, then it was considered that the tourist had not seen a cruise-ship on that day. Harbour schedule was checked for reliability. Additionally, the researcher’s observations of the cruise-ship presence matched the harbour schedule as well.

This procedure also showed that there were some (8) cases in which a tourist claimed to have seen a cruise-ship when none were in town during the day described, or during the visit overall. The cause for this is not clear, but some possibilities include that either the respondent erroneously considered one of the other ships in harbour to be a cruise-ship, when it was not, that (s)he wrote the wrong date, was confused by the question, or filled in the question negligently. These questionnaires were included in the data analysis, but it was considered that the respondents had not seen a cruise-ship during the day described, as the data from the harbour was considered more reliable.

On question 5, after distributing the first set of questionnaires and considering the feedback from respondents, the option “Hiking opportunities in and around the area” was changed to “Hiking and other outdoors opportunities in the area”, as it was considered that it was a more general option that would better describe the characteristics of Isafjordur.

When calculating spending, conversion from foreign currency to ISK was done by using the average monthly exchange rate for August and September 2013 respectively, using the exchange rates provided by (X-RATES, 2014), a professional online exchange rates aggregator. The figures were rounded to 2 decimals (0.5 rounded down and 0.51 rounded up). If the date of arrival was in a different month than the date the questionnaire was filled in, then an average between the average August and September rates was used. The table of currency conversion rates can be found in Appendix 2.

Dichotomous variables (Presence/Absence; Yes/No) were coded as nominal. Likert-type data was considered as ordinal and always treated as such.

The minimum desired sample size (also see Chapter 4.1, first 2 paragraphs) was calculated as:

- 382, for a confidence level of 95% and a maximum margin of error of 5%
- 270, for a confidence level of 90% and a maximum margin of error of 5%
Data was processed using SPSS 17 and MS Excel (mostly for graphs), by following guidelines of (Laerd), an online research and statistics resource, overseen by Lund Research Ltd.

### 3.1.2 Survey for businesses

In order to assess the economic impact of cruise tourism and land-based tourism on the local businesses, a questionnaire was given to the businesses in Isafjordur. The standardized questionnaire had 6 questions, of which 5 were close-ended, and one open-ended. One of the questions had 3 sub-points. In total, 14 questionnaires were collected and used in the data analysis. Typically the person answering was the owner, or one of the co-owners of the business, but in one instance, the questions were answered by the financial manager, who had the knowledge to answer the questions. Two of the questionnaires were collected from businesses that were not formally included in the interviews, but were asked the same control questions (whether they know when a cruise ship is in town and what is their source) as well as some of the other questions as the interviewed businesses in an informal exchange before giving the survey. Nine of the questionnaires were collected in December 2013, in person. Another 5 were collected by e-mail in February 2014. Of the important stakeholders in town, Westtours was contacted but it was not possible to have an appointment in December, and there was no response (twice) upon contact by e-mail in February. Most of the companies involved in tour operations were also not part of the sample, so the results are more reflective of the income for the local shops and restaurants. Questionnaire was distributed after initial attempt to collect financial data on daily sales during the cruise season had failed.

The businesses surveyed are situated downtown, in the area where cruise tourists typically spend most of their time when they are not having a tour. The sample is a convenience sample, but it covers most of the important stakeholders in tourism in Isafjordur among the shops and food/beverage units, some of the important stakeholders involved in organizing tours, as well as some of the less tourist oriented units. The survey can be found in Appendix 9.

In collaboration with Interviewee 2, it was determined that the number businesses in Isafjordur downtown (that are most likely to have direct sales to tourists) is: 10
food/beverage; 6 tourist/art shops; 2 culture/entertainment (excluding food/beverage that qualify for this as well), around 15 others (including 2 banks and the post office).

### 3.1.3 Harbour data

Data was collected from the harbour about the revenue per cruise-ship, in order to assess a correlation between various characteristics of the cruise-ship and the revenue associated to it. The harbour revenue from cruise-ships is the amount that the harbour receives from the visiting cruise-ships for the services provided, as recorded in the invoices to the cruise-ships. It is assumed that the entire invoiced amount is converted to revenue. These figures are summarized in the harbour records and it is public data available on request. A summary of the fees paid by the cruise-ships can be found in subchapter 4.3.1 and Appendix 4. In some instances, in this research, “harbour income” is used interchangeably with “harbour revenue”.

Harbour data was checked for outliers and subsequently corrected, by consulting with the harbour master.

Additional data from the harbour was collected regarding number of cruise calls, GRT and passengers on cruise-ships that visited Isafjordur during 2003-2013. These are summarized in subchapter 1.5.

### 3.2 Qualitative research

There are three types of in-depth interviews. Unstructured interviews have a theme, but not a list of questions, and are usually used in the preliminary phases of the research, in order to explore the subject of study and determine the main points for further focus. Structured interviews are the opposite, in that they have a list of questions, and the interviewer does not deviate from it; it is like a qualitative survey. In semi-structured interviews, the researcher has a list of questions, but (s)he can deviate from them to explore interesting aspects, when such aspects appear during the interview. Such interviews have characteristics of both structured and unstructured interviews. (Newton, 2010)

Semi-structured interviews were conducted with various important stakeholders connected to the tourism industry in Isafjordur in order to gather information about tourism in town, including cruise tourism. Questions were tailored for the interviewee’s particular expertise.
Interviewee expertise covered economic, social and environmental issues, as well as development and tourism research perspectives. Some of the interviewees were obvious choices, such as the Tourism Information Officer, while others were chosen as a result of recommendation from the previous respondents (during the first interviews, respondents were often asked for suggestions on other people to be interviewed). With the exception of one business interview, in which there were 2 interviewees (necessary because of how competences in the business were split), all the others were individual.

Semi-structured interviews were also conducted with nineteen of the local businesses. The questions used depended on the type of business (Accommodation; Tour operator; Shops and Food/beverage). Semi-structured interviews were preferred as it allowed gathering more detailed information about the business operations, particularly operations with tourists, both land-based and cruise. Some of the businesses were interviewed both as businesses and as “experts”.

4 Results

4.1 Tourist survey

The maximum margin of error for the sample was calculated as follows:

\[
\text{ME} = \frac{Z(0.025)}{2} \times \sqrt{\frac{N-n}{Nn-n}},
\]

where \(Z(0.025)\) is the Z-score for a 95% confidence level, \(N\) – population size, \(n\) – sample size.

Taking into account the figures for tourists in Isafjordur estimated from the Icelandic Tourist Board (2013), population size was considered as 50,000, which should be sufficient to account both for the number of tourists between 15 May – 18 September, and cover for an eventual increase in the number of tourists (in summer, 2012, there were an estimated 33,500 international tourists to Isafjordur). The maximum margin of error for the sample, for a confidence level of 95% is 7.4%.

In the sample, 48% of the respondents were male, 50.3% were female. In one questionnaire the answer was missing, and in 2 others the respondents chose to write a different option, that was not available initially: one chose “Other”, and another wrote down a third option as “queer”. Of the answered questionnaires, 48.8% were male and 51.2% female.

The age distribution of the respondents was as follows: 22.3% of the respondents were 18-25 years old, 39.4% were aged 26-35, 14.9% - 36-45, 10.3% - 46-55, 11.4% - 56-65, and 1.7% - older than 65 (See Figure 5).

The sample had respondents from 24 countries (excluding the unknown). Most frequently, the respondents came from France (18.3%), Germany (17.1%), USA (10.9%), Italy and Switzerland (5.7% each). In general, the EU accounts for 64.8% of the sample. There is also a relatively high percentage (8%) of questionnaires where the country of residence has not been stated. This may be because of how the questionnaire was formatted.
On average, the foreign land-based tourists spent 3.15 nights in Isafjordur. The median was 2, and the mode was 1. The number of nights stayed was obtained by deducting the arrival date from the departure date.

Of the tourists approached, 69 (39.4%) answered the questionnaire on the same day that they arrived in Isafjordur, 51 (29.1%) answered it one day after their arrival, meaning that they had spent at least one night in Isafjordur. A further 21 (12%) answered it 2 days after their arrival, meaning that they had spent 2 nights in Isafjordur. The rest of 19.4% have completed the questionnaire 3 or more days after their arrival in Isafjordur.

Of the tourists surveyed, 14 (8%) did not stay overnight in Isafjordur, 57 (32.6%) spent one night in Isafjordur, 53 (30.3%) spent two nights in Isafjordur, 9 (5.1%) spent 3 nights in Isafjordur, 10 (5.7%) spent 4 nights and the rest 18.3% spent more than 4 nights in Isafjordur. It should be noted that not all respondents actually stayed in Isafjordur, but some spent their nights in nearby villages, most of which are part of the municipality of Isafjardarbaer, with the exception of Bolungarvik, which is a municipality on its own. Thus, in this case, by “night spent in Isafjordur”, it is meant a night spent in the Isafjordur area. The longest stay in this sample was of 23 days. Table 1 shows the duration of the visit to Isafjordur.

Tourists that had arrived on the same day that they answered the questionnaire were also asked to write their hour of arrival. There were 64 tourists that responded to this question.
Table 1: Duration of stay for the tourists to Isafjordur (nights). SPSS output.

<table>
<thead>
<tr>
<th>Days stayed</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>14</td>
<td>8</td>
<td>8.00</td>
</tr>
<tr>
<td>1</td>
<td>57</td>
<td>32.6</td>
<td>40.60</td>
</tr>
<tr>
<td>2</td>
<td>53</td>
<td>30.3</td>
<td>70.90</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>5.1</td>
<td>76.00</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>5.7</td>
<td>81.70</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>4</td>
<td>85.70</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>3.4</td>
<td>89.10</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>1.1</td>
<td>90.30</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>4</td>
<td>94.30</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>0.6</td>
<td>94.90</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>0.6</td>
<td>95.40</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>0.6</td>
<td>96.00</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>0.6</td>
<td>96.60</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>0.6</td>
<td>97.10</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>1.1</td>
<td>98.30</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>0.6</td>
<td>98.90</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>0.6</td>
<td>99.40</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>0.6</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The median hour of arrival was 16:00, and the mode was 18:00. Figure 6 shows the distribution of tourists by their hours of arrival throughout the day. Since the busiest hours of a cruise day are typically from 8:00 until 15-16 hrs (e.g. Interview 7 and others), this means that a significant proportion of tourists arriving on a cruise day will not be in town during the busiest hours, and some of them will not even know that a cruise-ship was in town during that day, if they have arrived after the cruise-ship has left. Thus, during a cruise day, not all the tourists arriving to Isafjordur will actually experience the busy hours of cruise tourism.

For 92.1% of the respondents, it was the first visit to Isafjordur. Of those who had visited Isafjordur before, 8 had been to Isafjordur once, 2 – twice, 3 – thrice, 1 – four times and another one - more than 4 times.

65.1% of the respondents were employed, 10.3% were self-employed, 4% declared themselves unemployed, 22.9% were students, 2.3% - retired, while another 1.7% declared
their job status as “other”. The respondents could fill out more than one option on this question.

Figure 6: Percentage of tourists arriving in Isafjordur at various times of the day

The reasons for visit were stated as follows: 85.1% - travel; 1.7% - business; 12% - study or research; visit friends and relatives – 5.1%; 1.1% - special event; other – 2.3%. The respondents could pick more than one answer. An issue in this question was that “travel” can include a number of reasons, including business and study/research, visiting friends/relatives, special events, and thus it is difficult to interpret. Generally speaking, from observations, the respondents would pick “travel” for any leisure-related reason for visit, while respondents that came for business, study/research, visit friends and relatives, special event, would only pick their categories most of the time. However, there were also 2 respondents that picked “other” and mentioned “holiday” as the reason, which would have qualified as a leisure reason. At the very least, the results to this question indicate that 85.1% of the respondents are not residents and very likely qualify as tourists.

17.7% of the visitors stayed at a hotel, 41.1% stayed in a guesthouse/B&B, 10.3% were camping, 7.4% stayed at private accommodation; 2.3% came with a camper van and 20.6% - stayed at other accommodation. The types of other accommodation mentioned were:

- Airbnb.com - 8 respondents (4.6% overall)
- Apartment rental –5 respondents (2.9%)
- Other accommodation, in Sudureyri, Flateyri or Bolungarvik; own car and toilet/washroom.

On the question “On a scale from 1 to 5 (1-no information at all; 5 – thorough information about the place), how much information about Isafjordur and its surroundings did you have before coming here?”, 12.6% of the respondents rated their prior knowledge of Isafjordur and surroundings at 1; 28% gave a rating of 2; 32% - a rating of 3; 17.1% - a rating of 4; 1.7% - a rating of 5 and 8.6% did not answer. Feedback from respondents suggests that the likely reason for this relatively high lack of response may be related to how the page was formatted. If only the valid responses are taken into account (N=160; CL=95%, maximum margin of error = 7.74%), then 13.8% gave a rating of 1; 30.6% – rating of 2; 35% - rating of 3; 18.8% - a rating of 4; 1.9% - a rating of 5.

“Nature” has been rated as very important or important by 91% of the respondents. “Hiking and other outdoors opportunities” and “Remoteness and tranquility” were considered important or very important by around 60% of the respondents. On the question “How important was each of these factors in your decision to come to Isafjordur?” the answers were as follows (see Figure 7 for a graphical summary):

- The cultural heritage: 4% considered it as a very important reason, 21.1% - important, 36% - moderately important, 26.3% – not important, 9.7% - totally unimportant; 2.9% - no answer.

- The nature: 62.9% considered it as a very important reason, 25.1% - important, 3.4% - moderately important, 2.3% – not important, 3.4% - totally unimportant; 2.9% - no answer.

- Tranquility and remoteness of the place: 26.3% considered it as a very important reason, 33.7% - important, 22.3% - moderately important, 10.9 – not important, 4.6% - totally unimportant; 2.3% - no answer. This question may be difficult to interpret as it has 2 items - tranquility and remoteness.

- Hiking and other outdoors opportunities in the area: 30.3% considered it as a very important reason, 26.3% - important, 14.9% - moderately important, 12% – not important, 8% - totally unimportant; 8.6% of the answers were missing. This percentage includes 4 answers that were missing and 11 questionnaires that had the
old option “Hiking opportunities in and around the area”. The answers to that option were: 4 (36.4%) – very important; 3 (27.3%) – important; 18.2% - moderately important; 1 (9.1%) – unimportant and 1 (9.1%) – totally unimportant.

- Shopping: 1.7% considered it as a very important reason, 1.1% - important, 11.4% - moderately important, 32% – not important, 50.9% - totally unimportant; 2.9% of the answers were missing

![Factor Bar Chart]

**Figure 7: Factors that influenced the respondent’s decision to come to Isafjordur (numbers on the bars are percent). SPSS and Excel output.**

The option “Opportunities to have fun” was dropped due to difficulties in interpretation, because “fun” was confusing for a number of tourists.

The results for the statement “Wherever I go, I want to have fun” were not included, because a number of respondents complained that “fun” was not sufficiently well defined, and thus the results were difficult to interpret.

Question 6 explores some behavioural characteristics of the foreign land-based tourists. The frequency distribution of the answers can be seen in Table 2.

Of the total 175 respondents, 54 (30.9%) answered that they had seen a cruise-ship during their stay in Isafjordur, while 121 (69.1%) – that they had not seen a cruise-ship. 49 (28%) claimed that they had seen cruise-ships on one of their days of stay, while 4 answered that they had seen cruise-ships during 2 of their days of stay. It should be noted though (see Methodology and Limitations) that these numbers may not accurately represent the number
of cruise-ship sightings, or the number of questionnaires describing a cruise day (the latter can be found in Table 3 below).

Table 2: Behavioural characteristics of the tourists. Summarized SPSS output.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (%)</th>
<th>Agree (%)</th>
<th>Neutral (%)</th>
<th>Disagree (%)</th>
<th>Strongly disagree (%)</th>
<th>Missing (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When traveling, I want to interact with locals as much as possible</td>
<td>28</td>
<td>49.1</td>
<td>21.1</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>I prefer isolated and remote places</td>
<td>16.6</td>
<td>35.4</td>
<td>35.4</td>
<td>9.7</td>
<td>2.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Tourists from other parts of the world enrich the destination</td>
<td>4.6</td>
<td>29.7</td>
<td>42.3</td>
<td>21.7</td>
<td>1.7</td>
<td>0</td>
</tr>
<tr>
<td>I sometimes start a conversation with other tourists</td>
<td>13.1</td>
<td>65.1</td>
<td>13.7</td>
<td>6.9</td>
<td>1.1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3 shows the 6 cruise-ships that arrived in Isafjordur during the research period and the number of questionnaires describing the days of the cruise-ship visits.

A total of 66 respondents described a cruise day, while the other 109 described a day with no cruise-ship visits. Of the questionnaires describing cruise days, 8 described days with small cruise-ships, 16 – with small-medium cruise ships, 25 – medium-large cruise-ships and 17 – large cruise-ships.

In total, 74.3% of the respondents described the same day as the day they filled in the questionnaire, 22.9% described the day before, 1.1% - two days before, and 1.7% - 3 days before. On non-cruise days – 78% described the same day and 22% the previous day. On cruise days – 68.2% described the same day, 24.2 – the day before, 3% - 2 days before and 4.5% - 3 days before. These figures are good indicators that the way the questionnaires were organized did provide a better sample for cruise days than if the questionnaire would have asked only to describe “today”. Similarly, assuming that the 22% that described “yesterday” chose to do so because they had spent more time in Isafjordur on that day (which is a reasonable assumption, as it was required in the questionnaire), this would be
an indicator that the method provided a sample accounting for longer stays than if the respondents would have been asked just to describe the same day they filled in the questionnaire. This has to be put in balance with the disadvantages of the approach, such as possible confusion regarding the day to be described, or a more inaccurate description of previous days, due to imperfect memory.

Table 3: Cruise-ships that arrived in Isafjordur during the research period. “Questionnaires” refers to the questionnaires describing the cruise day. Source: Hafnir Isafjardabaer (2013); own

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Hours stayed</th>
<th>Anchored/ docked</th>
<th>Passengers</th>
<th>Questionnaires7</th>
</tr>
</thead>
<tbody>
<tr>
<td>18/08/2013</td>
<td>Polar PIONEER</td>
<td>07:00-18:00</td>
<td>Docked</td>
<td>56</td>
<td>3</td>
</tr>
<tr>
<td>23/08/2013</td>
<td>Black Watch</td>
<td>08:30-18:00</td>
<td>Docked</td>
<td>868</td>
<td>16</td>
</tr>
<tr>
<td>25/08/2013</td>
<td>Oriana</td>
<td>08:00-17:00</td>
<td>Anchored</td>
<td>2,179</td>
<td>25</td>
</tr>
<tr>
<td>28/08/2013</td>
<td>Ocean Nova</td>
<td>05:00-21:00</td>
<td>Docked</td>
<td>73</td>
<td>2</td>
</tr>
<tr>
<td>04/09/2013</td>
<td>Caribbean Princess</td>
<td>07:00-18:00</td>
<td>Anchored</td>
<td>3,622</td>
<td>17</td>
</tr>
<tr>
<td>16/09/2013</td>
<td>MV. Fram</td>
<td>12:00-20:00</td>
<td>Docked</td>
<td>223</td>
<td>3</td>
</tr>
</tbody>
</table>

The questionnaire system of asking the respondents to describe the day of the most recent cruise-ship visit, if such a day had occurred, may have also biased the sample towards the larger cruise-ships, which are easier to recognize by the tourists. Or, at least, it seems to function better with large cruise-ships than with small cruise-ships.

Figure 4 shows how much time the tourist spent in Isafjordur on the day they chose to describe. A Mann-Whitney U test was run to determine whether there were differences in the time spent in Isafjordur for respondents that described a day when a cruise-ship was in town (N=64) and those that described a day when no cruise was in town (N=109). The difference was not statistically significant (U=2975, z=-1.421, p=0.155).

7 Questionnaires that describe the respective day
On the day described, the tourists engaged in the following activities:

- 78.3% had a walk through Isafjordur’s city center
- 16% had a hike on the mountains around Isafjordur
- 41.1% went by car/bus/bike/scooter to one of the several locations around Isafjordur
- 4% booked a tour (walking/bus tour) of the city (and/or places surrounding it)
- 11.4% had some other leisure activity in Isafjordur or around (golf/kayaking/fishing etc)
- 73.1% spent some time in pubs/restaurants in Isafjordur
- 12.6% did some research or work-related activities in Isafjordur
- 26.9% were outside Isafjordur for most of the day, to places such as nearby towns and villages, and as far as Heydalur or Hornstrandir; or driving towards Isafjordur.

A high percentage of the land-based tourists were engaged in activities in the town of Isafjordur (having a walk or spending time in restaurants/pubs), but the percentage of people engaged in activities outside Isafjordur is also quite high. Since the main space for interaction between cruise and land-based tourists is the town of Isafjordur, then the people having activities out of town (hiking, driving, activities, in the percentages shown above), are probably less likely to share the same space with the cruise tourists during their day, so they would have less interaction with cruise tourists. Since cruise tourists also have tours outside town, there is also possibility for interaction at some of the attractions along the tours. This was outside the scope of the paper, but the interactions at the attractions outside Isafjordur are likely shorter and less regular than in town, due to the nature of the tours for cruise tourists – short visits at attractions, and the mobility of the land-based tourists.

Pearson Chi-Square tests were run for the activities above to determine whether there was an association between the variable indicating the presence of a cruise ship on the respective day and the activities undertaken by tourists. None of the Pearson Chi-Square tests yielded statistically significant associations. When the same series of Pearson Chi-Square tests were run for the activities the respondents had on the day described and the ship size (ordinal), there were again no statistically significant associations.

When the series of Pearson Chi-square tests were done only for the cluster of respondents that have seen a cruise-ship in Isafjordur (N=46), measuring whether there was any
association between the cruise-ship size and the activities done on the day described, there was one association that was statistically significant at the 0.05 level, and another one that was relatively close to that figure, as follows:

- Spent time outside Isafjordur statistically significant (Chi-Square = 10.78, p=0.005, Kramer’s V=0.484)

- Went by car around Isafjordur – almost significant (Chi-Square = 5.215, p=0.074, Kramer’s V=0.337)\(^8\)

However, the interpretation of this correlation is difficult, as it could simply be an artifact of the way the cluster was selected (namely, if one has been in town during a cruise-ship visit, then one was maybe less likely to have been outside town). The tables with actual and expected values do not show a clear relationship either direction.

Question 12 asked tourists to evaluate the experience during their day in Isafjordur. The overall answers were as follows:

Only a small percentage of tourists agreed with the statement “I had difficulty accessing some of the tourist services (organized tours, renting bikes etc)”. The responses were as follows: 30.9% strongly disagree; 22.9% disagree; 36.6% neutral; 4.6% agreed; 0.6% strongly agree; 4.6% no response. Similarly, a small proportion of the tourists agreed with the statement “I had difficulty finding a satisfactory place to eat or drink”. The responses were as follows: 44.6% strongly disagree; 36% disagree; 13.7% neutral; 2.9% agree; 1.7% strongly agree; 1.1% no response.

Although somewhat higher than for the previous two statements, the percentage of the people that agreed with the statement “There were more people in town than I expected” was still relatively low. The responses were as follows: 26.9% strongly disagree; 30.9% disagree; 22.3% neutral; 12.6% agree; 4% strongly agree; 3.4% no response.

\(^8\) In both cases, not all the cells had the minimum expected frequency, so result should be taken with caution
The overall level of crowding perceived by the respondents was generally low, with a median of 3 (corresponding to the lower option of “Not very crowded”) and the most frequent level of 1 (“Not crowded at all”). None of the respondents rated the level of crowding perceived at the highest level of 9. The highest level recorded was 8 (1 respondent; 0.6%). Only 7.5% of the respondents rated the level of crowding at 6 or above, corresponding to the “crowded” and “very crowded” categories. Table 4 shows the frequencies for the reported levels of crowding.

A Mann-Whitney U test was run to determine if there were differences in the perceived level of crowding for respondents that described a day when a cruise-ship was in town (N=64) and those that described a day when no cruise-ship was in town (N=109). Distributions of the feeling of crowding for the two groups were not similar, as assessed by visual inspection. The reported levels of crowding for respondents that described a day when a cruise-ship visiting Isafjordur (median=3; mean rank= 97.27) were statistically significantly higher than those that described a day when no cruise-ship was in town (median=2; mean rank=80.97), U=2831, z=-2.109, p=0.035.
Table 4: Perceived levels of crowding by the respondents. Summarized SPSS output.

<table>
<thead>
<tr>
<th>Level of crowding</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Not at all crowded</td>
<td>25.7</td>
</tr>
<tr>
<td>2 Not very crowded</td>
<td>22.3</td>
</tr>
<tr>
<td>3 About right</td>
<td>18.9</td>
</tr>
<tr>
<td>4 Crowded</td>
<td>10.3</td>
</tr>
<tr>
<td>5 Very crowded</td>
<td>4</td>
</tr>
<tr>
<td>6 NR</td>
<td>2.9</td>
</tr>
<tr>
<td>7</td>
<td>0.6</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>NR</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Table 5 shows the level of crowding reported for days with cruise-ships of different sizes (including no cruise-ship). The overall median is 3 – not very crowded, while the median is 2 for all the ship categories, with the exception of 1,500-2,500 passengers, where the median is 3.5. If taking into account both the ship size and whether the tourist has seen the cruise-ship (indicating that the respondent likely has spent some time in town while the cruise-ship was present), then the median level of crowding increases with the ship size, from 2 (501-1,500 passengers) to 4 (1,501-2,500 passengers), to 5 (more than 2,500 passengers).

The feeling towards the reported levels of crowding was generally positive or neutral, as follows: 7.4% - very positive, 33.1% - positive, 42.9% - neutral; 12.6% - negative; 0.6% - very negative; 3.4% - no response. In total, only 13.2% reported a negative or very negative feeling towards the perceived level of crowding.

Results in Table 6 suggest that, while an association may be present between the perceived level of crowding and the feeling towards the perceived level of crowding, it is likely not monotonic.

Considering that the variable quantifying the crowding level is an ordinal variable, a Spearman’s Rank correlation was run, in order to determine the degree of monotonic association between the perceived level of crowding and the feeling towards the perceived
level of crowding. The result showed a very weak positive\(^9\) correlation between the level of crowding and the feeling towards the perceived level of crowding, which was not statistically significant ($r_s (166) = 0.107, p = 0.169$). Thus we can reject the hypothesis that a monotonic association between the two variables is present.

Table 5: Median levels of crowding for the different ship sizes.

<table>
<thead>
<tr>
<th>Ship size (class)</th>
<th>Level of crowding (median) (n=173)</th>
<th>Level of crowding reported by those that have seen the cruise-ship (median) (n=44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ship</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>1-500 passengers</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>501-1500 passengers</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1501-2500 passengers</td>
<td>3.5</td>
<td>4</td>
</tr>
<tr>
<td>more than 2500 passengers</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

A Pearson Chi-square test was performed on the same couple of variables, and the results showed a Pearson Chi-square correlation of 41.490, which was statistically significant ($p=0.048$). Thus, a correlation between the two variables exists\(^10\), but it is not monotonic. Table 6 shows that there are no negative feelings towards levels of crowding of 4 and 5, while both levels below 4 and above 5 have some negative feelings associated to them. Interestingly, the level of crowding of 1 is percentage-wise the third most negatively-perceived level of crowding, and has the highest number of cases of negative perception towards a level of crowding. This suggests that both very low and above normal levels of crowding in town can be perceived as negative. On the other hand, however, the lowest 3 levels of perceived levels of crowding are associated with higher percentages of positive and very positive feelings than higher levels of crowding. This means that opinion about the lowest levels of crowding is quite split between tourists.

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\(^9\) In this case, the variable quantifying the feeling towards the level of crowding is increasing (1 - not at all crowded; 9 – very crowded), while the variable expressing the feeling towards the perceived level of crowding is measured from very positive to very negative. Thus, a positive Spearman Rank actually means that an increase in crowding correlates with a more negative feeling towards crowding.

\(^10\) Some of the cells for the Chi-square correlation did not have the minimum required number of data points, so the result should be taken with caution.
Table 6: Crosstab of perceived level of crowding and feeling towards the perceived level of crowding. Numbers represent actual frequencies. SPSS and Excel output.

<table>
<thead>
<tr>
<th>Level of crowding</th>
<th>Feeling about the level of crowding</th>
<th>Very positive</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
<th>Very negative</th>
<th>Total</th>
<th>% negative or very negative</th>
<th>% positive or very positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Not at all crowded all</td>
<td>6</td>
<td>16</td>
<td>12</td>
<td>9</td>
<td>0</td>
<td>43</td>
<td>20.93</td>
<td>51.16</td>
<td></td>
</tr>
<tr>
<td>2 Not at all crowded</td>
<td>1</td>
<td>14</td>
<td>16</td>
<td>5</td>
<td>0</td>
<td>36</td>
<td>13.89</td>
<td>41.67</td>
<td></td>
</tr>
<tr>
<td>3 Not very crowded very</td>
<td>3</td>
<td>14</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>33</td>
<td>12.12</td>
<td>51.51</td>
<td></td>
</tr>
<tr>
<td>4 Not very crowded very</td>
<td>0</td>
<td>7</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>38.89</td>
<td></td>
</tr>
<tr>
<td>5 About right</td>
<td>3</td>
<td>6</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>6 Crowded</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>42.86</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7 Crowded</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>8 Very crowded</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>100</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>9 Very crowded</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>58</td>
<td>74</td>
<td>22</td>
<td>1</td>
<td>168</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On question 14, regarding the attitude of the tourists towards the behavior of the other tourists, the answers suggest that to a large extent, the tourists did not have a negative attitude towards the behavior of the other tourists (see Table 7 below).

The respondents had the option to mention other behaviors of the other tourists as well. Three such behaviours were mentioned, as follows: “Asked for a shopping center”; “Behaving unpleasantly; not respectful to the country they visit”; “No room in small places”.

63
Table 7: Extent of disturbance of the respondents by the behaviour of other tourists.

<table>
<thead>
<tr>
<th>Behaviour of other tourists /Disturbance to respondent</th>
<th>Not at all (%)</th>
<th>Not much (%)</th>
<th>Much (%)</th>
<th>Very much (%)</th>
<th>No opinion (%)</th>
<th>No response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being noisy and disturbing the tranquility</td>
<td>77.49</td>
<td>16.6</td>
<td>2.3</td>
<td>0.6</td>
<td>5.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Standing in the way when taking pictures</td>
<td>78.9</td>
<td>12.6</td>
<td>0.6</td>
<td>0.6</td>
<td>6.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Traveling in large groups</td>
<td>67.4</td>
<td>14.3</td>
<td>7.4</td>
<td>2.9</td>
<td>7.4</td>
<td>0.6</td>
</tr>
</tbody>
</table>

On question 15, the respondents expressed positive feelings about returning to Isafjordur, with 71.1% of the respondents giving a rating of 6 (out of 10) or higher to the statement “I would like to return to Isafjordur” (median of 8 and mode of 10). Similarly, the respondents had a positive feeling about recommending friends to visit Isafjordur, with 82.1% rating the statement “I would recommend my friends to visit Isafjordur” at 6 or higher (median of 8, and a mode of 10). The respondents also expressed a relatively high likelihood of returning to Isafjordur, with 47.7% of the respondents rating the statement “It is likely that I will return to Isafjordur in the next 10 years” to 6 or higher (the median was 5, while the mode was 10).

Spearman’s rho correlations were run in order to determine the degree of association between the variables measuring the tourist experience in Isafjordur and his/her desire and likelihood to return to Isafjordur, and the willingness to recommend friends a visit to Isafjordur. The correlations showed that the perceived level of crowding yields very weak positive correlations for desire about returning to Isafjordur and for likelihood of returning. The feeling towards the perceived level of crowding shows a weak negative monotonic and statistically significant correlation with feeling about returning to Isafjordur ($r_s (165) = -.255$, $p=0.001$) and feeling about recommending Isafjordur to friends ($r_s (165) = -.268$, $p=0.001$). Similarly, difficulty accessing some tourist services and finding a place to eat or drink show negative monotonic, statistically significant correlations with the feeling about returning to Isafjordur and feeling about recommending Isafjordur to friends. The other correlations are weak and not statistically significant. The result is summarized in Table 9.
Table 8: Answers to questions regarding desire and likelihood to return to Isafjordur and likelihood of recommending a visit to friends (in percent)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would like to return to Isafjordur</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>3</td>
<td>7.4</td>
</tr>
<tr>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>5</td>
<td>9.1</td>
</tr>
<tr>
<td>6</td>
<td>6.3</td>
</tr>
<tr>
<td>7</td>
<td>14.3</td>
</tr>
<tr>
<td>8</td>
<td>20.6</td>
</tr>
<tr>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>10</td>
<td>22.9</td>
</tr>
<tr>
<td>N R</td>
<td>1.1</td>
</tr>
<tr>
<td>It is likely that I will return to Isafjordur in the next 10 years</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>11.4</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td>5</td>
<td>11.4</td>
</tr>
<tr>
<td>6</td>
<td>5.7</td>
</tr>
<tr>
<td>7</td>
<td>12.6</td>
</tr>
<tr>
<td>8</td>
<td>11.4</td>
</tr>
<tr>
<td>9</td>
<td>2.9</td>
</tr>
<tr>
<td>10</td>
<td>14.3</td>
</tr>
<tr>
<td>N R</td>
<td>1.7</td>
</tr>
<tr>
<td>I would recommend my friends to visit Isafjordur</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>3</td>
<td>4.6</td>
</tr>
<tr>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>9.7</td>
</tr>
<tr>
<td>8</td>
<td>21.1</td>
</tr>
<tr>
<td>9</td>
<td>10.9</td>
</tr>
<tr>
<td>10</td>
<td>31.4</td>
</tr>
<tr>
<td>N R</td>
<td>1.1</td>
</tr>
</tbody>
</table>

The average spending per day declared by the tourists was 14,278 ISK. Average daily spending for accommodation was 7,336 ISK, for restaurants and café’s – 4,127 ISK, for food – 2,510 ISK, for tours in and around Isafjordur – 2,927 ISK, souvenirs – 1,310 ISK, various leisure activities (golf, kayaking, fishing) - 1,567 ISK, other spending – 1,215.

When recalculated from items, the total amounts spent were on average 14,359 ISK per day, which is very similar to the total amount declared by the tourists themselves. If we don’t include accommodation costs reported, then the mean spending per tourist per day in Isafjordur is 8,771 ISK (approximately 55 Euro). The figures with their respective sample size and margin of error are displayed below in Table 10.

Using the formula for economic impact, we can calculate the total economic impact of land-based tourists to Isafjordur during the summer season. The average stay was 3.15 days, and the total number of tourists was considered as 33,500 - the number of international tourists estimated for 2012. It is unknown what would be a suitable multiplier for Isafjordur, and thus, only direct economic impact can be calculated. The direct economic impact of international land-based tourism to Isafjordur for summer, 2013, was calculated at 1,506,685,950 ISK (approximately 9,416,787 EUR\textsuperscript{11}). Of course, this figure has to be taken with some reserve. The number of tourists that visited Isafjordur is an estimate of unknown accuracy, and the sampling method likely biased the sample towards

\textsuperscript{11} Calculated at 160 ISK/EUR
longer-stay tourists. A part of the questionnaires were actually filled in early autumn, so may not be representative of summer spending. Additional uncertainty arises from the fact that spending was estimated by the tourists themselves, which is not a very precise method. Nevertheless, this estimate gives at least a ballpark figure for the economic impact of foreign land-based tourists to Isafjordur.

Table 9: Correlations (Speaman’s rho) between variables associated with the tourist experience in Isafjordur and the expressed feeling and likelihood of returning to Isafjordur, and feeling about recommending Isafjordur to friends. Edited SPSS output.

<table>
<thead>
<tr>
<th></th>
<th>Feeling about returning to Isafjordur</th>
<th>Likelihood of returning to Isafjordur in the next 10 years</th>
<th>Feeling about recommending Isafjordur</th>
</tr>
</thead>
<tbody>
<tr>
<td>I had difficulty accessing some tourist services</td>
<td>Rho -0.201**</td>
<td>0.01</td>
<td>0.089</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.01</td>
<td>165</td>
<td>164</td>
</tr>
<tr>
<td>I had difficulty finding a place to eat or drink</td>
<td>Rho -0.208**</td>
<td>0.006</td>
<td>0.208</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.006</td>
<td>171</td>
<td>170</td>
</tr>
<tr>
<td>There were more people in town than I expected</td>
<td>Rho 0.066</td>
<td>0.394</td>
<td>0.386</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.394</td>
<td>168</td>
<td>166</td>
</tr>
<tr>
<td>Level of crowding</td>
<td>Rho 0.161*</td>
<td>0.187*</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.161*</td>
<td>171</td>
<td>170</td>
</tr>
<tr>
<td>Feeling about the level of crowding</td>
<td>Rho -0.255**</td>
<td>0.001</td>
<td>0.077</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.001</td>
<td>167</td>
<td>166</td>
</tr>
<tr>
<td>Other tour behaviour - Being noisy</td>
<td>Rho 0.013</td>
<td>0.869</td>
<td>0.675</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.013</td>
<td>172</td>
<td>171</td>
</tr>
<tr>
<td>Other tour behaviour - Standing in the way when taking pictures</td>
<td>Rho 0.072</td>
<td>0.348</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.072</td>
<td>171</td>
<td>170</td>
</tr>
<tr>
<td>Other tour behaviour - Traveling in large groups</td>
<td>Rho 0.068</td>
<td>0.378</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>P (2-tailed) 0.068</td>
<td>0.378</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>N 172</td>
<td>171</td>
<td>171</td>
</tr>
</tbody>
</table>
The sample does not allow for statistically significant estimations of spending by land-based tourists per tourist per day, depending on their country of residence, but orientative estimates and respective ranks of the countries are shown in Table 11. Differences in ranks are most likely related to the type of accommodation that the tourists selected. Judging by this data (which, again, is not statistically significant), the Canadians and Americans are the highest spenders in Isafjordur, while the Germans and the Belgians are among the nationalities that spend the least.

Table 10: Average spending per day by foreign land-based tourists in Isafjordur. SPSS and Excel output.

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Mean</th>
<th>Std. Error</th>
<th>ME12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total spending per day</td>
<td>154</td>
<td>14278</td>
<td>1069.85</td>
<td>2113.48</td>
</tr>
<tr>
<td>-Accommodation</td>
<td>134</td>
<td>7336</td>
<td>574.00</td>
<td>1135.28</td>
</tr>
<tr>
<td>-Restaurant and cafe</td>
<td>135</td>
<td>4127</td>
<td>364.85</td>
<td>721.57</td>
</tr>
<tr>
<td>-Food</td>
<td>111</td>
<td>2510</td>
<td>219.29</td>
<td>434.54</td>
</tr>
<tr>
<td>-Tours in and around Isafjordur</td>
<td>76</td>
<td>2927</td>
<td>604.41</td>
<td>1203.78</td>
</tr>
<tr>
<td>-Souvenirs</td>
<td>79</td>
<td>1310</td>
<td>356.85</td>
<td>710.28</td>
</tr>
<tr>
<td>-Various leisure (golf, kayaking, fishing)</td>
<td>64</td>
<td>1567</td>
<td>604.18</td>
<td>1206.98</td>
</tr>
<tr>
<td>-Other spending per day</td>
<td>56</td>
<td>1215</td>
<td>344.87</td>
<td>690.86</td>
</tr>
<tr>
<td>Total spending per day, as calculated from items</td>
<td>170</td>
<td>14359</td>
<td>922.62</td>
<td>1821.26</td>
</tr>
<tr>
<td>Total spending per day, as calculated from items, without accommodation costs</td>
<td>134</td>
<td>8771</td>
<td>685.5</td>
<td>1355.8</td>
</tr>
</tbody>
</table>

Independent samples t-tests were carried out to determine whether there are statistically significant differences in spending (excluding accommodation) between groups staying in different types of accommodation (groups defined as staying at a hotel/not staying at a hotel; camping/not camping etc for all types of accommodation). However, the preliminary testing of data normality and outliers indicated that in all the tests, the data from all groups had outliers and most groups also had extreme points. Also, the Shapiro-Wilk test showed that normality was never met for both groups compared in all the tests, so instead, Mann-Whitney U tests were run.

12 Margin of error calculated in Excel as critical t-value for n-1 degrees of freedom and 95% confidence level multiplied by standard error of the mean, where n is the sample size indicated under “Number” in the table.
The Mann-Whitney U test gave statistically significant results for 2 comparisons, as follows:

- Tourists staying at a hotel tend to report spending more in town (excluding accommodation) than those not staying at a hotel (U= 2831, z=-2.402, p=0.016);

- Tourists staying at a camp site tended to spend less in town (excluding accommodation) than those not staying at a camp site (U=611, z=-2.286, p=0.022);

The Mann-Whitney U tests gave results that were somewhat different from the results of the independent samples t-tests with the available data (notably a statistically significant difference for spending, excluding accommodation, between people staying at a hotel and those not staying at a hotel, a difference that was not statistically significant for the independent samples t-test), indicating that in this case, the decision to use the Mann-Whitney U test, rather than the independent samples t-test after the data failed the assumptions for the latter was likely justified.

Table 11: Average spending per day by country of residence of the land-based tourists\(^{13}\).

<table>
<thead>
<tr>
<th>Country of residence</th>
<th>Valid answers</th>
<th>Spending without accommodation</th>
<th>Rank 1</th>
<th>Valid answers</th>
<th>Spending, including accommodation</th>
<th>Rank 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>7</td>
<td>15753</td>
<td>1</td>
<td>7</td>
<td>27881</td>
<td>1</td>
</tr>
<tr>
<td>USA</td>
<td>14</td>
<td>13301</td>
<td>2</td>
<td>18</td>
<td>19658</td>
<td>2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>7</td>
<td>12181</td>
<td>3</td>
<td>9</td>
<td>14344</td>
<td>6</td>
</tr>
<tr>
<td>France</td>
<td>25</td>
<td>9326</td>
<td>4</td>
<td>31</td>
<td>14759</td>
<td>5</td>
</tr>
<tr>
<td>UK</td>
<td>5</td>
<td>7508</td>
<td>5</td>
<td>5</td>
<td>16552</td>
<td>3</td>
</tr>
<tr>
<td>Germany</td>
<td>25</td>
<td>6431</td>
<td>6</td>
<td>30</td>
<td>11215</td>
<td>8</td>
</tr>
<tr>
<td>Italy</td>
<td>10</td>
<td>6022</td>
<td>7</td>
<td>10</td>
<td>15017</td>
<td>4</td>
</tr>
<tr>
<td>Belgium</td>
<td>6</td>
<td>5778</td>
<td>8</td>
<td>8</td>
<td>11942</td>
<td>7</td>
</tr>
</tbody>
</table>

The accuracy of the figures for tourist spending depends on the respondent’s ability to make an accurate estimate of his/her spending. However, that may not be the case. The questionnaire asked for individual expenses, not for traveling party expenses, and this could have made the tourists give wrong estimates if expenses were shared, like omitting to split the costs to the number of people in the party. This has been observed during the survey, and while this shortcoming was usually checked for when the researcher himself

\(^{13}\) Spending calculated from items. Only countries that have at least 5 respondents in both categories are included. The category of respondents for which nationality is not known was not included.
operated the survey, it is not clear what could be the extent of errors for questionnaires that were filled in without the assistance of the researcher.

Additionally, another source of error may have happened if the respondent made an expense in one of the days of his/her stay, but did not split the cost over the whole duration of stay, in order to account for the daily expenses for tours. This may lead to an overestimate of spending as well. Considering the above, if there is an error, then it is more likely in the direction of an overestimate, rather than an underestimate. The fact that the total spending calculated from items is so close to the total spending estimated by the respondent himself may be considered as an indicator of the fact that the respondents tried their best to make an accurate estimate. This was also observed a number of times by the researcher during the survey, as the respondents would get back to their figures and adjust the estimate for the total.

4.2 Business survey

In total, 14 questionnaires from the businesses were analysed. On question 1, the respondents’ types of business were as follows (multiple answers were possible): 2 - accommodation, 1 tour operator, 9 shops, 3 food/beverage units, 2 entertainment and cultural and 1 – other. On question 2, “What were your total sales during the tourist season (defined as May 15th – September 18th, 2013), 21.4% answered that they were below 5 million ISK, 28.6% - 5-15 million ISK, 14.3% - 15.1-25 million ISK, 21.4% - 25.1-50 million ISK and 7.1 - >50 million ISK (see Figure 9).

![Figure 9: Answers to the question “What were your total sales during the tourist season (defined as May 15th – September 18th, 2013)” Excel output.](image-url)
Figure 10 summarizes the answer to question 3 – “Sales during the tourist season represent how much of your sales over the past 12 months?”, 1 respondent estimated it to be 0-20% of the total, 7 respondents – 21-40%, 2 respondents – 41-60%, 2 respondents – 61-80%, and 2 respondents – 81-100%.

![Figure 10: Answers to question “Sales during the tourist season represent how much of your sales over the past 12 months?” Excel output.](image)

On question 4, “How much of the sales during the tourist season derives directly from tourists in general?” there were no answers estimating a weight of the sales to tourist of less than 16% (which was two options - <5% and 5-15%) or between 51-75%. The rest of the answers were as follows: 28.6% estimated that between 16-25% of the sales during the tourist season derive directly from tourists in general, 21.4% gave an estimate between 26-50%, and 50% - an estimate of 76-100%. The answers to this question are graphically summarized in Figure 11.

On question 5, the respondents were asked to estimate how much of their sales during the tourist season derives directly from cruise tourists, land-based tourists and locals, respectively. Of the three categories, sales to cruise tourists accounted most often for less than 5% of the sales during the tourist season (42.9% of respondents), with 57.1% of the respondents estimating sales to cruise tourists of up to 15% of the sales during the tourist season. None of the respondents estimated that land-based tourists account for less than 5%
of their sales during the tourist season, and only 14.3\% - that it accounted for 5-15\%, with 28.6\% estimating sales of 16-25\% and a further 35.7\% - of 26-50\%. For one business, the sales to land-based tourists accounted for 76-100\% of total sales during the tourist season. The overall results are summarized in Figure 12.

**Figure 11:** Answers to the question “How much of the sales during the tourist season derives directly from tourists in general?” Excel output.

![Chart showing sales distribution](chart.png)

**Figure 12:** Answers to question 5, “How much of the sales during the tourist season derives directly from cruise tourists, land-based tourists, and locals, respectively”? Numbers represent percentages. Excel output.
On question 6, “Of the sales to land-based tourists, how much (in percent) was to foreign tourists?” 50% of the respondents indicated a percentage of 40 or below, while for 71.4%, sales to foreign tourists accounted for no more than 50% of the sales to land-based tourists. More detailed results to question 6 are shown in Table 12.

Spearman rank correlations were run in order to determine the degree of association between the variables corresponding to questions 2 to 6.

The main associations (Spearman’s rho) were as follows:

- Question 2, “What were your total sales during the tourist season?” had a strong positive monotonic correlation with question 5.2 - the sales to land-based tourists as percentage of sales during the tourist season ($r_s(12)=0.653$, $p=0.016$).

- Question 3, “Sales during the tourist season represent how much of your sales over the past 12 months?” has a strong positive monotonic correlation with the Q4 “How much of the sales during the tourist season derives directly from tourists in general?” ($r_s(12)=0.686$, $p=0.007$), a moderate positive monotonic correlation with question 5.1, about the weight of the sales to cruise tourists as part of the sales during the tourist season ($r_s(12)=0.59$, $p=0.026$), and a very strong monotonic positive correlation with Q6 – weight of the sales to foreign tourists as part of the sales to land-based tourists ($r_s(12)=0.857$, $p<0.0005$).

- Question 4, “How much of the sales during the tourist season derives directly from tourists in general?” has a strong positive monotonic correlation with question 5.1 – the weight of sales to land-based tourists as part of the total sales during the ($r_s(12)=0.628$, $p=0.016$), and a strong positive monotonic correlation with question 6 – weight of the sales to foreign tourists as part of the sales to land-based tourists ($r_s(12)=0.647$, $p=0.012$).

- Question 5.1, “How much of the sales during the tourist season derives directly from cruise tourists?” has a strong positive monotonic correlation with question 6 – the weight of sales to foreign tourists, as part of the sales to land-based tourists ($r_s(12)=0.713$, $p=0.004$).
- Question 5.3, “How much of the sales during the tourist season derives directly from locals?” has strong monotonic negative correlations with question 3, “Sales during the tourist season represent how much of your sales over the past 12 months?” ($r_s (12) = -0.784, p=0.001$), strong monotonic negative correlation with question 4, “How much of the sales during the tourist season derives directly from tourists in general?” ($r_s (12) = -0.767, p=0.001$), moderate monotonic negative correlation with question 5.1 “How much of the sales during the tourist season derives directly from cruise tourists?” ($r_s (12) = -0.559, p=0.038$) and strong monotonic negative correlation with question 6, the weight of sales to foreign tourists, as part of the sales to land-based tourists ($r_s (12) = -0.724, p=0.003$).

Table 12: Answers to question 6: “Of the sales to land-based tourists, how much (in percent) was to foreign tourists?”

<table>
<thead>
<tr>
<th>Percentage of sales to land-based that is to foreign tourists</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>7.1</td>
<td>14.3</td>
</tr>
<tr>
<td>30</td>
<td>2</td>
<td>14.3</td>
<td>28.6</td>
</tr>
<tr>
<td>33</td>
<td>1</td>
<td>7.1</td>
<td>35.7</td>
</tr>
<tr>
<td>40</td>
<td>2</td>
<td>14.3</td>
<td>50</td>
</tr>
<tr>
<td>50</td>
<td>3</td>
<td>21.4</td>
<td>71.4</td>
</tr>
<tr>
<td>75</td>
<td>2</td>
<td>14.3</td>
<td>85.7</td>
</tr>
<tr>
<td>85</td>
<td>1</td>
<td>7.1</td>
<td>92.9</td>
</tr>
<tr>
<td>95</td>
<td>1</td>
<td>7.1</td>
<td>100</td>
</tr>
</tbody>
</table>
4.3 Harbour revenues

4.3.1 General characteristics

The harbour of Isafjordur has 3 quays, 2 in Sundabakki (190m and 120m in length), and one in Asgeirsbakki, 270m in length (Cruise Iceland, Isafjordur Port Facilities). Draft is 8m in Sundabakki and 7m in Asgeirsbakki. The approach to Asgeirsbakki is through a narrow channel, 7.5m depth. Anchorage depth is 12.5m – 13.7m (CSI – Cruise-shipping Iceland, n.d.).

The harbour of Isafjordur can accommodate 5 smaller cruise-ships on its quays, but this has not happened yet (Interview 9). The biggest ship to ever dock in Isafjordur was MSC Lirica, of 59,058 GRT, and 2,065 passengers, on 1st August 2012. (Interview 9)

In 2013, there were 37 cruise-ships that came to Isafjordur, generating total revenues of 39.6 mln ISK for the harbour. This was a 21.1% increase over the 32.7 mln ISK of revenues generated for the harbour by the cruise-ships in 2012. The revenue from the cruise-ships in 2013 is about 1/3 of the total revenue of the harbour (another 1/3 is the landing fee for fish, and 1/3 is common harbour business and harbour fees) (interview 9).

The harbour does not follow the costs of receiving cruise-ships separately (interview 9), and thus, all the analysis for the harbour is done only on the revenues.

The main fees that cruise-ships coming to Isafjordur have to pay, both those staying at anchor, and those docking, are the hold due, pilotage, pilot fee, pilot boat fee, pilot fund, passenger fees for adults and children, and a fixed and hourly security fee. Cruise-ships that dock in harbour also have to pay pier due, and an hourly linesman fee. Appendix 4 shows a summary of the fees for 2013. Some of the cruise-ships buy water, and the harbour also offers a waste disposal service, operated by the local waste disposal company. Cruise-ships don’t buy fuel in Isafjordur (Interview 9).

In 2013, on average, a cruise-ship arrived in Isafjordur at 8:22hrs, and left at 17:40hrs, staying 9:18hrs (=9.3hrs). Median and mode for arrival hour is 8:00hrs, and median and mode for departure hour is 18:00hrs. In total, the 37 cruise-ships spent 344 hrs in Isafjordur, generating on average revenues of 115,250 ISK/hour and 103.5 ISK/passenger/hour for the harbour.
Of the cruise-ships that came to Isafjordur in 2013, 22 docked in harbour, while another 15 stayed at anchor in the fjord. However, the revenues from the cruise-ships was split almost equally (19.1 mln ISK from anchored cruise-ships and 20.5 ISK mln from docked cruise-ships), which means that on average the cruise-ships that were docked brought 0.93 mln ISK/ship and the anchored cruise-ships brought 1.27 mln ISK/ship, which is approximately 36% more.

However, the ships that anchor are, on average, larger than the ships that dock, both in tonnage, and in the average number of passengers, which is something to be expected considering that the bigger ships are unable to dock, and so choose to stay at anchor. Data is summarized in Table 13.

4.3.2 Regression analysis on the harbour revenue

A regression analysis (ordinary least squares) was performed on the data for the revenues for the harbour for 2013, in order to determine an appropriate model to estimate revenues from a cruise-ship for each call. The regression model was also used to make predictions of revenues under different scenarios.

Technical notes

The number of passengers on the ship is considered according to the passengers manifest sent by the cruise-ship. The number of passengers that come ashore is usually less than the number of passengers aboard. Aside from the passengers on board, a cruise-ship also has considerable crew, a part of which may come ashore as well.

Some cruise-ships make more than one call in Isafjordur during the year (such as AIDAcara with 3 calls in 2013), but in the analysis, for convenience, each cruise-ship call is treated as a separate cruise-ship. This means that, for example, “Revenue per cruise-ship” is actually “Revenue per cruise-ship call”.
Table 13: Data on the cruise-ships that came to Isafjordur in 2013. Data source: Hafnir Isafjarðarbæar (2013)

<table>
<thead>
<tr>
<th>Cruise-ships</th>
<th>Number (2013)</th>
<th>Total revenue (mln ISK)</th>
<th>Average revenue per ship ISK</th>
<th>Total GRT / ship</th>
<th>Average GRT / ship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchored</td>
<td>15</td>
<td>19.1</td>
<td>1.3</td>
<td>945,458</td>
<td>63,030.5</td>
</tr>
<tr>
<td>Docked</td>
<td>22</td>
<td>20.55</td>
<td>0.9</td>
<td>487,496</td>
<td>22,158.9</td>
</tr>
<tr>
<td>All</td>
<td>37</td>
<td>39.65</td>
<td>1.1</td>
<td>1,432,954</td>
<td>38,728.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cruise-ships</th>
<th>Number (2013)</th>
<th>Total passengers</th>
<th>Average passengers /ship</th>
<th>Average revenue /GRT</th>
<th>Average revenue /passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchored</td>
<td>15</td>
<td>27,097</td>
<td>1,806.5</td>
<td>20.20</td>
<td>704.86</td>
</tr>
<tr>
<td>Docked</td>
<td>22</td>
<td>14,117</td>
<td>641.7</td>
<td>42.15</td>
<td>1,455.43</td>
</tr>
<tr>
<td>All</td>
<td>37</td>
<td>41,214</td>
<td>1,113.9</td>
<td>27.67</td>
<td>961.95</td>
</tr>
</tbody>
</table>

Regression model

Total number of observations is N=37. Revenue per ship call (Is) is the dependent variable. Initially, four independent variables were considered: the cruise-ship GRT (SGRT), the number of passengers on the cruise-ship (NPass), number of hours spent by the cruise-ship in Isafjordur (NHr) and whether the ship is docked or anchored (D). SGRT and NHr were numeric continuous variables, NPass was a numeric discrete variable, while D was a dichotomous (ordinal) categorical variable, which was coded as a dummy variable in the model. D had a value of 0 if the ship was anchored and 1 if the ship was docked.

In the final model, the anchored and docked ships are treated as two separate clusters. NHr was not statistically significant for either of the two clusters, and NPass was dropped due to issues of severe partial multicollinearity (for anchored ships) and lack of statistical significance of the coefficient (for docked ships). The full analysis is shown in Appendix 3.
The final regression model was:

For anchored ships:

\[ IS_a = 23,600.89 + 19.827 \times SGRT_a + \epsilon \]

\( Y_a = b_{oa} + b_{1a} X_a \)

\( T = 1.868 \quad T = 112.88 \quad R^2 = 0.999 \)

\( P = 0.085 \quad P < 0.001 \quad SE = 23591 \)

For docked ships:

\[ IS_d = 222,664.77 + 32.098 \times SGRT_d + \epsilon \]

\( Y_d = b_{od} + b_{1d} X_d \)

\( T = 10.512 \quad T = 39.358 \quad R^2 = 0.987 \)

\( P < 0.001 \quad P < 0.001 \quad SE = 51826 \)

\( IS_a \) – revenue per cruise-ship call for anchored ships, \( SGRT_a \) – cruise-ship GRT for anchored ships. \( IS_d \) – revenue per cruise-ship call for docked ships, \( SGRT_d \) – cruise-ship GRT for docked ships. SE – Standard error of the estimate.

The model for anchored ships:

The constant, \( b_{0a} = 23,600.89 \), is not statistically significant at \( p < 0.05 \) level \( (t=1.868, \ p=0.085) \). However, dropping the constant, even when it is not statistically significant would bias the coefficient, increase the standard error and change the mean of the residuals, so it is not recommended. Thus, it is left in the model.

Coefficient \( b_{1a} = 19.827 \), is statistically significant \( (t=112.88, \ p < 0.001) \). The coefficient \( b_{1a} \) indicates that for a change of one unit in \( SGRT_a \) (GRT for anchored ships), the average change in the mean of \( IS_a \) is 19.827 units.

The model for docked ships:

The intercept, \( b_{0d}=222,664.77 \), is statistically significant at \( p < 0.05 \) level \( (t=10.512, \ p < 0.001) \). In this case, \( b_{0d} \) cannot be interpreted, as \( SGRT_d \) cannot be zero.
Coefficient $b_{1d} = 32.098$, is statistically significant ($t=39.358$, $p<0.001$). The coefficient $b_{1d}$ indicates that for a change of one unit in $SGRT_d$ (GRT for docked ships), the average change in the mean of $IS_d$ is 32.098 units.

The $R^2$ for both of the models is very high, indicating a very good fit of the model to the data. This is likely due to the fact that the amounts paid by cruise-ships to the harbour follow a well-defined fees scheme. This also means that a deterministic model for the revenue from cruise-ships is a viable option to describe revenue for the harbour from the cruise-ships.

Figure 13 shows the regression lines for anchored and docked cruise-ships, and their respective confidence intervals.

4.3.3 Estimates for 2013 from the regression model

By using the regression model, it is possible to estimate revenues from cruise-ships under various scenarios. The prediction interval for the estimates is 95%.

If all the cruise-ships that came to Isafjordur in 2013 would have anchored (i.e. the 22 ships that docked would have anchored instead), the harbour would have had revenues of 29,284,408 (+/-258,508) ISK, which is 10,361,526 (+/-258,508) ISK or 26.14% less than the actual revenues of the harbour.

On the other hand, if all the cruise-ships that came to Isafjordur would have docked (i.e. the 15 ships that anchored would have docked instead), the harbour would have had revenues of 54,235,502 (+/-554,976) ISK, that is 14,589,568 (+/-554,976) ISK or 36.8% more than it actually did.

While 9 of the cruise-ships that stayed at anchor were too large to dock, 6 of the ships that stayed at anchor would have been small enough to dock, but, for various reasons, chose not to. If these 6 cruise-ships would have docked instead, then the harbour would have had additional revenues of 2,956,289 (+/-273,874) ISK, or 7.46% more than it did.
Figure 13: The regression lines of revenues for docked and anchored cruise-ships with their respective prediction intervals (confidence intervals for individual values). SPSS output.

If the 9 cruise-ships that were too large to dock would have been able to dock, the harbour would have additional revenues of 11,633,279 (+/-482,692) ISK, or 29.34% more than they did from these 9 cruise-ships.

Results of the model also suggest that the marginal revenue to tonnage for the harbour are on average higher for ships that dock (32.098 +/- 1.701) than for ships that stay at anchor (19.827 +/- 0.379). In percent, this is 61.9 (+/-11.5) % more, with a confidence of 95%.

The estimates from the model also show that the difference in revenues for the harbour (in percentage) between a ship that is anchored and one that is docked increases as the ship GRT decreases, and decreases as ship GRT increases. Examples for several ships are shown in the Table 14 below.
Table 14: Examples of revenues for the harbour from cruise-ships that anchor or dock.\textsuperscript{14}

<table>
<thead>
<tr>
<th>Cruise-Ship</th>
<th>Tonnage (GRT)</th>
<th>Revenue as anchored (ISK)</th>
<th>Revenue as docked (ISK)</th>
<th>Difference (ISK)</th>
<th>% difference (docked to anchored)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Le Boreal</td>
<td>10,700</td>
<td>235,750 (+/-56,258)</td>
<td>543,808</td>
<td>308,058 (+/-56,258)</td>
<td>+130.7% (+86.2%...+203%)</td>
</tr>
<tr>
<td>AIDACara</td>
<td>38,557</td>
<td>806,302</td>
<td>1,473,575</td>
<td>667,273</td>
<td>+82.8%</td>
</tr>
<tr>
<td>Caribbean Princess</td>
<td>112,894</td>
<td>2,262,391 (+/-189,885)</td>
<td>3,846,562</td>
<td>1,584,171</td>
<td>+70% (+/-8.4%)</td>
</tr>
</tbody>
</table>

Data also shows that the revenue per passenger for the harbour increases as the ship GRT decreases. Anchored ships bring less revenue per passenger than docked ships. For docked ships, the highest revenue/passenger was 6,922 ISK (Polar Pioneer, 2,140 GRT, 56 passengers) and the lowest was 1,010 ISK (Thompson Spirit, 33,930 GRT, 1,350 passengers). For anchored ships, the highest was 835 ISK (Queen Elisabeth, 92,000 GRT, 2,172 passengers), while the lowest was 572 ISK (Marco Polo, 22,080 GRT, 850 passengers). However, Marco Polo was large enough to dock, and chose not to. Of the ships that were too large to dock, the lowest revenue per passenger was 625 ISK for Caribbean Princess (112,894 GRT), which also had the highest number of passengers aboard – 3,622.

Figure 14 shows how the revenue per passenger for the anchored and docked cruise-ships changes with increasing GRT, revenue per cruise-ship and passengers of the ships.

The graph shows that revenue per passenger to cruise-ship GRT for docked ships increases as the ship becomes smaller, following a non-linear pattern, with a higher average increase as the cruise-ship tonnage decreases (a pattern corresponding to a power regression line with negative exponent – exemplified with the “trendline” function of Excel). The pattern for anchored ships, however, is almost flat linear.

\textsuperscript{14} In parantheses, there are shown the figures for a 95% confidence interval. When figures are shown with confidence intervals, then it’s an estimate from the model, otherwise it's the actual figure. AIDACara has made 3 calls to the port of Isafjodur, 2 times docked, and once anchored. The numbers represent the actual income for the ship, and the figures for the docked AIDACara are an average of the revenues from the 2 dockings.
Similar patterns occur when plotting revenue per passenger to revenue per cruise-ship and to passenger on the cruise-ships.

**Figure 14:** Revenue per passenger to GRT, revenue per cruise call and passengers respectively for the cruise-ships visiting Isafjordur in 2013. Excel output.

### 4.3.4 Revenue prediction for 2014

In 2014, there will be 48 cruise-ship calls to Isafjordur, with a total GRT of 1,553,231 and 47,291 passengers. The harbour revenue for 2014, predicted from the regression model is
45,943,123 (+/- 699,740) ISK. The increase of the harbour revenue from cruise-ships in 2014 over 2013 will be of 15.88%.

It is estimated that the 15 ships that intend to stay at anchor (with a total GRT of 919,884, and 27,569 passengers) will generate for the harbour a total revenue of 18,592,553 (+/- 211,491) ISK. The 33 ships that intend to dock (with a total GRT of 633,347 and 19,722 passengers) will generate for the harbour a total revenue of 27,678,376 (+/- 644,041) ISK. If fees for the cruise-ships will increase by 4%, as intended (interview 9), the predictions for 2014 have to be adjusted accordingly. However, since the increase in fees is supposed to reflect inflation in Iceland, the figures for 2014 calculated above would be accurate in ISK at 2013 value.

4.4 Results of the qualitative research

4.4.1 Image of Isafjordur and the Westfjords as a destination

The Westfjords does not yet have a brand as a destination (Interviews 14, 18), however plans are under way to define Iceland and the Westfjords as destinations. The main strengths of the Westfjords are considered to be its nature and culture, the authentic experience.

4.4.2 Cruise tourists as return tourists to Isafjordur

(Interviews 2 and 14) indicated that there are some repeat tourists to Isafjordur, but most typically, the repeat tourists to the Westfjords/Isafjordur are tourists that have been to Iceland before, but not the Westfjords, and who want to see the Westfjords as well. However, there are also some repeat tourists that come to Isafjordur only.

There is some anecdotal evidence of cruise tourists returning on a cruise to Isafjordur (Interview 1). In 2013, there were at least 3 couples that came to Isafjordur as land-based tourists after previously having come on a cruise (Interview 2).

4.4.3 Economic relevance of tourism and cruise tourism in Isafjordur

The seafood industry is the largest industry in the Westfjords, accounting for approximately 75% of the economy (in direct and indirect impacts). Tourism is growing as an industry, and it is estimated that it currently accounts for approximately 10-15% of the economy of the Westfjords. Data at the level of Isafjordur is not available, but the structure
of the economy of Isafjordur is believed to be similar to the structure of the economy of the Westfjords. It is estimated that tourism creates 150 jobs in the Westfjords (full-time equivalents). Economic data suggests that businesses in tourism in the Westfjords are generally not profitable, with many of them suffering losses. However, there are also reasons to assume that businesses in tourism underreport their profits in order to avoid taxes. (Interview 26)

Revenues from cruise-ships accounts for 1/3 of the revenues of the harbour (Interview 9) and around 1% of the town budget of Isafjarðarbaer (which is around 3.2 billion ISK). The harbour is also the main source of direct income from cruise-tourism for the town. Information on the economic impact of tourism and cruise tourism on the local economy is otherwise lacking. The biggest industry in Isafjordur municipality is the seafood industry (Interview 28).

The harbour fees of Isafjordur are at the same level as in the rest of Iceland, and they are increased annually by the rate of inflation, which was around 4% for the past 2 years. (Interview 9)

From the qualitative research and business survey data\(^{15}\), it is possible to estimate that the direct economic impact of cruise tourism in Isafjordur is in the region of 200 million ISK, although this figure could be somewhat higher, depending on the sales of the tour operators. Since this is an estimate based on incomplete and sometimes confidential data that will not be available on request, the figure is stated as a personal opinion. The estimate was done indirectly, and it was assumed that expenditure by cruise tourists translates into increased sales for the businesses and tour operators in town. The estimate includes:

- Revenues of the harbour from cruise ships – 40 million ISK
- Sales of the businesses in town (excluding tour operators) to cruise tourists, estimated considering the business survey, qualitative interviews, and data on daily sales during the tourist season from some of the main stakeholders, taking into account the sample and main stakeholders and extrapolating from available data).

\(^{15}\) This also includes data on daily sales during the tourist season that was collected from some of the main beneficiaries in town, but not used due to confidentiality reasons and thus, not sourced.
- Sales of the tour operators to cruise tourists (with high uncertainty because no direct data was available). Estimated from the total number of cruise tourists, percentage of cruise tourists taking tours, number of tourists taking certain tours, and cost of tours.

Considering the available data, in my opinion, it is unlikely that the sales of the businesses in town to cruise tourists are significantly underestimated. And, while it is possible that the sales of the tour operators to cruise tourists are underestimated by some margin, even assuming that all the cruise tourists take a tour in Isafjordur (which is an unreasonably optimistic assumption), it is highly unlikely that the sales of tour operators are so high that the total direct economic impact of cruise tourism reaches even 25% of the direct economic impact from land-based tourism, as estimated from the survey to land-based tourists.

### 4.4.4 Cruise tourism operations in Isafjordur overview

The main driver of cruise tourism in Isafjordur is the harbour. Two times a year, the harbour master of Isafjordur takes part in the largest cruise shipping conventions in the world, Seatrade Cruise Shipping Conventions in the USA (Miami) and Europe (Hamburg), where he promotes Isafjordur as a cruise-ship destination. The harbour also commissions promotional materials about Isafjordur and its potential as a cruise destination. The latest such material is a 10-minute video on the topic. (Interview 9)

Isafjordur is described as the largest harbour in the Westfjords, and a town that can be reached after a dramatic journey through the fjords. The main attractions presented are the Westfjords Maritime Museum in Isafjordur and the old town architecture, the maritime museum of Osvor, the white nights of summer, as well as the proximity of Isafjordur to the Hornstrandir Nature Reserve and the island of Vigur (Cruise Iceland, n.d.)

Cruise-ships book their visits to Isafjordur up to two years in advance. The bookings depend more on service availability from Westtours than the capacity of the harbour. The cruise-ships first contact Westtours and ask about the available tours for the day, and then make the booking with the harbour. (Interview 9)

Westtours keep in contact with the cruise ship through the cruise operators – Atlantik, Iceland Travel, and a smaller one - Gray Line Iceland (Interview 7)
There are 4 companies that operate busses in Isafjordur (but one is based in Bolungarvik, and one in Thingeyri), and 3 individuals who own busses (some of them more than one). “West Adventures” are the main bus operators for cruise-ship tours, and when needed they involve the other companies as well. The individuals that own busses may charter them if required.

There are 3 boats to Vigur, that can carry between 30 and 48 passengers, and they are operated by one company – Sjoferdir (Interview 24), which also operates the boats to Hornstrandir.

The tours for cruise tourists go furthest to Thingeyri, 50 km from Isafjordur (Interview 2), although by taking a taxi with a guide, tourists can go as far as Dynjandi waterfall, 80 km from Isafjordur (Interview 20).

The local tour operator for cruise tourists usually pays a compensation to the owners of the various locations on the tour, when their services, such as toilets, are used by the cruise tourists.

The main bottlenecks for tours in Isafjordur, particularly on cruise days are:

- The number of boats for the boat tours to Hornstrandir and Vigur (Interviews 2, 7)
- Number of taxis available on cruise days (Interview 7)
- Number of kayaks available for kayaking tours on cruise days (Interview 5)
- The number of busses available, although it only affects the management and service of cruise tourists, as the land-based tourists generally don’t take bus tours. (Interview 7).

In terms of services, the number of public toilets was considered insufficient in Isafjordur, but even more problematic in some the areas that the bus tours were visiting. In some of these places, new toilets are being built.

In 2013, the following tours were offered to cruise tourists: six bus tours, three boat tours (to Vigur, Hesteyri and a sea-angling tour), one walking tour, one hiking tour and one kayaking tour. The tours are not necessarily offered on all the cruise-ships, and each ship picks which tours they want to offer to their passengers.
On shore, after disembarking, there are also a number of other available tours, such as private taxi tours, a tour on a sightseeing bus, a horse-riding tour, a RIB-boat tour (nature safari/whale watching), history walk, hike and others.

4.4.5 Perceived positive and negative impacts of cruise tourism in Isafjordur

The main perceived positive impacts of cruise tourism in Isafjordur on the experience of the other tourists are that it:

- Supports some of the local businesses, particularly those closely connected to tourism, by providing extra income, so that these businesses continue to operate and can provide similar services to the other tourists in Isafjordur (interview 2; also see results of the survey for businesses);

- Facilitates the access of the land-based tourists to Isafjordur to some of the tours. (Interview 2) gave the example that on cruise days, it is easier for land-based tourists to get a horseback riding tour. These tours are in Thingeyri, 48 km from Isafjordur, but on cruise days, the rental in Thingeyri offers tours from Isafjordur to Thingeyri, the tourists do the tour and are then are brought back to Isafjordur. This service is available only on cruise days, but the other tourists can join as well.

- Motivates the development of tourism products and services that can be used by other tourists as well. Examples include:
  
  o The artful map of Isafjordur, printed in 2012, which is very popular with the other tourists as well, and the upcoming map of Sudureyri, Flateyri and Thingeyri (Interview 1);

  o Some stores or tourist services being open on cruise days, when they would not be open otherwise (because of it being the weekend). This also includes some stores and tourist attractions that are open beyond the regular tourism season. For example, the Westfjords Maritime Museum of Isafjordur planned to end its regular program to visitors on 15th September, but because 16th September was a cruise day, it was open on that day and land-based tourists could also visit the museum. A number of shops that are focused on tourists are also open on week-ends if there is a cruise-ship in town.
More diverse and abundant local art and craft in the shops of Isafjordur (Interviews 1, 4, 13), due to increased demand for such products.

Creates incentives for new tour products and an increased capacity for others. An example of new services is the whale watching tours. Additional tourist services may include an increased availability of taxis for tours, although the number of taxis is still insufficient (Interview 7).

Free WiFi in the harbour area. Although it was not operational in 2013, the investment has been made and it is ready to be implemented as of 2014. Such a development would not have taken place in the absence of cruise tourism.

Provide more opportunities of interaction for land-based tourists (Interview 21)

Some of the cruise tourists may return later as land-based tourists. However, during interviews, only few such cases have been mentioned by the interviewees. (Interviews 1, 2) The number of cruise tourists returning as land-based tourists to Isafjordur is likely very low.

The main perceived negative impacts of cruise tourism in Isafjordur on the experience of the other tourists are that:

- It causes crowding, and
  - Affects the general experience of those tourists that seek solitude, which would then consider that Isafjordur “is not what they were looking for” (Interview 10).
  - Cause congestion in some of the shops and restaurants of Isafjordur, making it more difficult to get the product or service needed. However, this may not be a major issue, as the other tourists may return at a later time or on another day, if staying longer. Also, as mentioned above, shops and tourist attraction being open on cruise days is of benefit to the other tourists.
  - Some interviewees considered that the cruise tourists tended to behave rudely, “as if they were entitled to special treatment” (Interview 12)

Due to cruise tourism getting priority ahead of the other tourists to Isafjordur, the other tourists may have difficulty getting a tour, or would have their tour delayed until after the cruise-ship tours are over. Interview 7 gives the example of the tours to Hornstrandir, for which there is a boat schedule, and when a cruise-ship arrives,
the boats are always used for cruise-ships, so it is often necessary to change the
time of departure for the other tours. Often, until 48hrs before the arrival, it is not
known for sure exactly how many passengers will take the boat tours and how
many boats will be needed, how often and at what time. In order to prevent
situations when the regular tourists come to Isafjordur, and their tour has to be
delayed because of a cruise-ship, the tour operator asks the tourists to call and
check the tour time prior to their arrival. However, the tourist sometimes fails to do
that, and may finds out that his/her tour is delayed. There have been some
complaints and a few cancellations, but interviewee 7 considered that generally the
complaints could be handled quite well, and that it was not a major problem for
them.

Other tours requiring a boat may also be unavailable to regular tourists on cruise
days, particularly the popular tours to Vigur Island, which is the only “puffin island” in the region (Interview 2). If a tour that a land-based tourist wants is
unavailable, then another solution would be sought, typically delaying the tour by
several hours or providing another option for the day. This was usually possible,
but not always (for example, in the case of Vigur, there is not an adequate
replacement nearby). An additional point to take into account is that during summer
in Isafjordur, it is possible to delay a tour until quite late in the second part of the
day, because of almost continuous daylight. (Interview 2)

- Due to their number, the cruise tourists can put a strain on infrastructure of the
town, particularly the WiFi, affecting its quality. Slow Internet connection in town
has been reported on cruise days (Interview 10). Also, at least one of the
respondents reported that he had not installed WiFi at his place because he feared
the cruise tourists would damage the hardware due to excessive use (Interview 12).

- Obvious pollution from cruise-ships.
  o Air pollution. Exhaust emissions from larger cruise-ships can be so strong
    enough that in days without wind it sometimes generates a haze that can be
    seen throughout Skutulsfjordur (Interview 25) Emission from tenders are
    also strong and obvious (personal observation). Isafjordur is quite a windy
    region, and this sort of discomfort occurs rarely (Interview 25).
    Nevertheless, even if it does not create an obvious discomfort, air pollution
    is one of the negative aspects of cruise-ship tourism.
While water pollution was acknowledged as an issue in general, it was not seen as problematic for Isafjordur, due to good water circulation in the fjord. (Interview 25) According to personal observation, oily patches on water can be seen in the harbour, particularly close to the tenders. However, this was the case not only for cruise-ships, but for other ships as well.

- Increased risks associated with cruise tourism and the possibility of an accident for which the town does not have the capacity to intervene. The town has some oil containment equipment, but not sufficient means to handle an accident situation that would need rescue of thousands of passengers (Interviews 10, 28)

### 4.4.6 Behaviour and spending by cruise tourists

The number of cruise tourists coming ashore depends mostly on two factors (Interview 7, 11):

- Whether the ship is anchored or docked. If it’s docked, then it is easier for the cruise tourists to come ashore. If it’s anchored, the cruise passengers have to come ashore by tenders (which usually carry between 80-150 people, depending on the cruise-ship) (Interview 9).

- Weather. In bad weather, fewer people tend to come ashore, particularly if they don’t have a tour booked already.

The number of tourists that buy a tour varies from ship to ship, depending on various factors. Interviewee 11 believes that around 1/3 of the tourists book a tour on the cruise-ship, 1/3 look for a tour on shore, while 1/3 stay on the ship, but there are significant differences between ships. The tour operators in Isafjordur typically charge less for a tour booked on a cruise-ship than for the same tour booked on land (Interview 5). However, the cost of booking a tour on the cruise-ship is believed to be more than double the amount that the cruise operator pays to the tour operators on land, yielding very high profit margins for the cruise operator (Interview 5). Occasionally, tourists on the cruise-ship would contact the tour operators directly to book a tour for the day of their arrival, although it does not happen often.

If the tourists that come ashore have a tour, they are directed to the place where their tour starts. A person from the Tourist Information Center also assists the tourists, by giving them directions and information. This way, the cruise tourists are dispersed better through
town, and reduce the congestion at the Tourist Information Center (Interview 2). The cruise tourists that don’t have a tour can then look for activities when they are ashore. They may rent bikes or scooters, or take a taxi (although these are in limited supply), or book some of the tours that are available, visit the Westfjords Maritime Museum, go for a walk through town, or do a short hike on the mountains around the town (Interviews 2,7).

One of the business owners mentioned that the daily program of the cruise passengers visiting Isafjordur was unlike Reykjavik or Akureyri, where quite many of the cruise tourists go aboard a bus and on a ride on the Golden Circle (Reykjavik) or Myvatn (Akureyri), and come back in the evening, and don’t really have time for shopping. In Isafjordur, the infrastructure for bus tours only allows for 3-hours-long tours, and thus the passengers still have half a day to walk around and visit the local shops. (Interview 15)

The beneficiaries of cruise tourism in Isafjordur
Data from the interviews reveals that the biggest beneficiaries of cruise tourism in Isafjordur are perceived to be: the main tour companies, the bus owners, the boat owners, and the shops specialized in tourist merchandise. It seems unlikely that there is significant leakage from cruise-tourism in Isafjordur, as all the businesses for which there was information were Icelandic-owned, and most were owned by residents of the Westfjords. Virtually all the products (other than the imports that are used by locals as well) sold to tourists are made in Iceland, and a lot of the merchandise, especially souvenirs, are made in the Westfjords.

Food and beverage units
The cruise tourists usually get their meals aboard of the ship, or as day packages (Interview 7). The five food and beverage units that have been interviewed expressed a common opinion that cruise tourists usually buy a coffee in the morning, and rarely buy any meals. One of the restaurant owners suggested that the crew of the cruise-ships buy meals more often, as they seek to experience new food (Interview 23). Another owner indicated that the passengers of one of the cruise-ships (which was also the biggest of the season in terms of passenger capacity) bought a lot of cake and similar products, because that the food on board was not good enough. (Interview 3).

The attitude of the owners of the food and beverage units towards the buying habits of cruise tourists is not uniform. One of the owners expressed a negative attitude (e.g. “We
get some sales from the cruise tourists, but I don’t like them”), two were positive (e.g. “We don’t get that much income from cruise tourists, but what we get is good, it is welcome, it helps the business”), while the other two were neutral (e.g. “Cruise tourists come here for a coffee if they want, but we don’t really focus on them”).

Three of the owners of the food and beverage units don’t consider cruise tourists to have a negative impact on their business with the other tourists in Isafjordur. Two of them argued that the hours when cruise tourists have their coffees are in the morning, while the other tourists usually come for a meal later in the day, and that while the income is not high, it is welcome. One of the owners stated that her unit has the capacity to handle the all the clients (Interview 3). Another owner expressed a neutral attitude towards the cruise tourists (Interview 23). Finally, another of the owners expressed concern that cruise tourists that occupy all their tables with their coffees might deter the other tourists from coming inside to have a meal, indicating that a meal is worth 10 times more than a coffee, and thus, the cruise business is not necessarily good business for the unit. (Interview 12)

In terms of income generated by cruise tourists, the highest figure estimated by food and beverage units was of 20% of the daily sales (twice). Generally, food and beverage units have reported income from sales to cruise tourists at around or below 5% of the sales for the summer.

Land-based tourists are seen as bringing much more business than the cruise tourists.

Shops

There are approximately 30 shops and stores in Isafjordur. Of these, 8 were interviewed. The shops that were interviewed were those identified as important beneficiaries of cruise tourism either during preliminary talks or during the first interviews. None of the shops that were suggested as important cruise tourism beneficiaries were omitted.

Shops present more heterogeneous attitudes towards cruise tourists than the food and beverage units, which is not unexpected, given the more heterogeneous nature of their businesses. However, some patterns can be observed:

- Cruise tourists often prefer to buy small, cheap things, such as postcards, stamps and small souvenirs. However, due to the sheer number of the cruise visitors, this is
often regarded as good business by the owners. Nevertheless, not all shop owners have reported this behavior, and there are also some shops in from which cruise tourists tend to buy larger, more expensive things as well.

- In many shops, cruise tourists would just enter and look around, without buying anything.

A store mentioned that cruise-ships sometimes buy large quantities of fish, to make meals for the passengers on board. (Interview 17)

Shop-owners consider that generally, land-based tourists buy more expensive things than cruise tourists, although postcards and stamps are very popular among land-based tourists as well.

**Investments associated with land-based and cruise tourism in Isafjordur**

One of the shop owners mentioned that it was new for the town to get so many cruise tourists and the town wasn’t ready, and the shops were not ready either (Interview 1), and thus, it took some time for the local businesses to find ways to capitalize on the increased number of cruise tourists. Businesses have different strategies with regard to cruise tourists. The answers indicate that there were two main successful business strategies for shops and restaurants:

- Sell small, cheap things, but in large number – particularly souvenirs and postcards;
- Sell traditional things.

There are also some exceptions as well, but they are characteristic to singular businesses, and are not mentioned. Also, several businesses, both shops and food and beverage units had attempts of services and products directed at cruise tourists that did not succeed.

In general, the investments by shops and restaurants associated to cruise tourists are relatively small, such as offering new types of products that would be more desirable to cruise tourists, or dedicating a larger section of the shop to products for cruise tourists. One new store, Kaupmadurinn, that opened in June 2013, has cruise tourists as one of the main target customers. On cruise days, a stand selling traditional Icelandic products operates in front of the Tourist Information Center. (Interview 2)
The harbour has made 2 important investments addressed to cruise tourism: a new, better pier for the tenders from cruise ships, operational since 2013, and a harbour-wide WiFi system, that will be operational in the summer of 2014 (Interview 9). Cruise tourism has also motivated upgrades of the busses used for bus tours by the cruise passengers (Interview 2).

Public toilets and new signage were also made in order to address the demand from cruise tourists.

Land-based tourism has also motivated a number of investments. The main one being Hotel Horn, which is in a class below Hotel Isafjordur, but above Hotel Edda, so it fills a niche in demand. There has also been an upgrade in the quality of the services of the guesthouses, as well as an increase in the number of rooms and beds at offer in the past several years (Interview 2).

A number of investments are motivated both by cruise and land-based tourism, such as the upgrade of the boats to Vigur, increased number of kayaks available. The new whale-watching tours, or tours with the Zodiac, that were used for whale-watching tours as well (Interview 7).

The big spenders
Most of the participants, both businesses and experts considered that the Americans are the biggest spenders of all the cruise passengers, but also of the land-based tourists as well. On the other end of the spectrum, a number of participants mentioned the elderly British as being the cruise passengers that spend the least.

Interview 11 suggested that the passengers of smaller cruise-ships tend to spend more in Isafjordur. This is because the smaller cruise-ships tend to be adventure cruises, the passengers of which are usually wealthier than those on larger cruise-ships. Smaller cruise-ships also tend to be more luxury than the bigger cruise-ships.

Similarly, one of the shop owners mentioned that the tourists from smaller cruise-ships tend to buy more expensive things than the ones from larger cruise-ships. “When the ship has fewer passengers, it’s more likely that it’s a higher class ship, and then they are buying more expensive things. Most of the cruise-ships with few passengers – most of them are better cruise-ships – high-class ships.” (Interview 15)
5 Discussion

5.1 Main findings

The results show that, currently, cruise tourism has an ambivalent relationship with land-based tourism. There is also evidence that cruise tourism supports land-based tourism, and that there are sufficient common points between the two kinds of tourism – new goods and services that are available for both groups. The biggest point of contention at the moment seems to be the competition for similar services between the land-based and cruise tourists, in particular with regard to tours that are available.

Data from the questionnaire (albeit with significant limitations) suggest that while crowding from cruise tourists may be an issue, it is not a severe one, with the highest median crowding perception during cruise-ship visits of 5 out of 9. Moreover, the survey suggests that neither high levels of crowding, nor the lack of crowding are inherently viewed as positive. This is consistent with the results of Neuts & Nijkamp (2012) or Bryon & Neuts (2008), who studied the feeling towards crowding in an urban setting. It is likely that the feeling towards a certain level of crowding depends on several factors, such as the expectations regarding Isafjordur or type of personality of the respondent, but in the end, these were outside the scope of this paper.

Also, the level of crowding by itself does not affect the desire or likelihood of return, or the willingness to recommend Isafjordur to friends. The feeling towards the perceived level of crowding does correlate negatively, though, with the desire and likelihood of return, as does the lack of availability of services.

Following the survey results, it is likely that the issue of crowding and congestion by cruise tourists is quite complex, with several factors involved in possibly alleviating its effects. A number of land-based tourists only arrive in town after the bulk of the cruise passengers have finished their tours and have already returned to their ship, or the cruise-ship has left already. A significant number of land-based tourists spend their days outside Isafjordur, exploring the area, or hiking on the mountains around. Even if land-based and cruise tourists are in the town at the same time, there is variability in how the cruise tourists are spread in town, or in their visits ashore, how many of them are taking a tour and when, and of course, the same goes for the land-based tourists. Nevertheless, since there have been
reported some cases in which land-based tourists left the town when a cruise-ship was around, tourism management is not always effective, and may not be sufficient in the case of the very large ships. However, considering the results from the survey, and the fact that accommodation places have not reported any pattern of fewer bookings, or more cancellations on cruise days, it can be said that the current level of cruise tourism does not have a major effect on land-based tourism.

But, it is likely that some effect exists and results from the qualitative survey suggest that land-based tourists tend to spend time outside the town when a cruise-ship is visiting. Leaving town for a trip in the area could be a relatively easy choice for somebody travelling by car, but it would be more difficult for somebody travelling by plane, for instance. Unfortunately, the questionnaire did not check for this aspect.

The results of the questionnaires to businesses show that, for most of the businesses interviewed, cruise tourism generates less revenue than land-based tourism, and in fact, for almost 43% of the businesses, cruise tourism brings less than 5% of the sales of the tourist season. This is contrasted by the fact that land-based tourism brings at least 5-15% of the sales during tourist season for every single business. Moreover, since the median share of income of land-based tourists is 26-50%, compared to 5-15% for the cruise tourists, it can be argued that land-based tourism provides a much more sizeable source of income for the local business than cruise tourism does. However, for a lot of the businesses, a large part of the sales to land-based tourists were to domestic tourists. This makes the interpretation of the figures in terms of income from foreign and domestic land-based tourism quite difficult. Future research is needed in order to separate the contribution of domestic tourists and foreign tourists.

Nevertheless, the estimate of direct economic impact of land-based tourism in Isafjordur is vastly superior to any figure that could be traced to cruise tourism. The harbour, one of the main beneficiaries of cruise tourism, only had revenues from cruise-ships of around 40 million ISK, which is almost 40 times less than the estimate for the income from land-based tourists. Taking into account the estimated figure of 200 million ISK for the direct economic impact of cruise tourism (subchapter 4.4.3), and even making unrealistically optimistic assumptions about the sales of the tour operators to cruise tourists, this still leaves cruise tourism quite some way short of the figures for the direct economic impact of
land-based tourism. Since the number of cruise tourists to Isafjordur was at least comparable, if not higher than that of the foreign land-based tourists to Isafjordur, this also suggests that the spending per cruise tourist in Isafjordur was lower than spending for land-based tourists. Further research is needed to confirm this, and to determine the gap, if there is any. However, if this line of reasoning and the conclusion that cruise tourists to Isafjordur probably spend less per person than land-based tourists do can be accepted, then it would be a finding similar to those from other studies, such as (Larsen, Wolff, Marnburg, & Ogaard, 2013) or (Center on Ecotourism and Sustainable Development, 2006).

Considering other results, namely that sales to cruise tourists positively correlate with higher share of sales during the tourist season as part of yearly sales, as well as with a high weight of sales to foreign tourists in sales to land-based tourists, and correlates negatively with the share of sales to locals, it is likely that businesses that are focused on tourists in general are also those who benefit most from cruise tourism.

There is little evidence to suggest that cruise tourists arriving to Isafjordur will return later as land-based tourists, and that cruise tourists can be a significant source of future land-based tourists. This is also consistent with results from other studies presented previously (Center on Ecotourism and Sustainable Development, 2006).

Another matter of concern would be the creation of overcapacity in the number of busses and boats available, and harbour facilities dedicated to cruise-ships. If this happens, then some of the investments aimed at cruise-ships remain unused during or after the cruise season ends, making them rather inefficient and a possible drag on the local economy. This did not seem to be an issue so far, but may become a more stringent one in the following years, if cruise tourism continues to grow.

Considering primarily the qualitative data, Isafjordur seems to be at the end of the involvement phase or beginning of the development stage of Butler’s Tourist Area Life Cycle.

### 5.2 Possible tourism policies

A number of strategies may be employed to make cruise tourism more beneficial for the town. One that is used frequently is an increase in harbour fees. These are discussed further
in the part related to harbour policy, but it is important to note that the criteria for increasing the fees discussed under harbour policies are strictly quantitative, and limited to uni-dimensional figures. Tourism is a complex activity, and more complex approaches may be more suitable to achieve a goal. But before any discussion on policy, a goal must be set, and formulated in a way that leads to a rich vision of development, rather than just numbers. What does Isafjordur want?

If what is desired is an increase in revenues from the cruise-ships, then it should favor developments in this direction, but be weary of the hidden costs associated with cruise tourism, as described earlier by (Brida & Aguirre, 2008) and with the uncertainty regarding the use of infrastructure developed for cruise ships outside the cruise season. Among the hidden costs, the town would have to add the cost of potentially losing potential land-based tourists due to increased congestion and loss of authentic experience, unfavorable word-of-mouth, as well as the costs to the local community.

Then, it may also be desirable to strike a balance between cruise and land-based tourism. After all, there is little data to suggest that the current level of cruise tourism to Isafjordur is having major negative impacts on the land-based tourists, and there is data to support some positive impacts. So, maybe cruise tourism should be set at a level similar to the level of 2013.

Finally, the local policymakers may desire to create a brand for the region and/or the town, a common vision. In this case, considering the assets and strong points of Isafjordur, the policymakers may want to promote Isafjordur as a sustainable destination, or as a “capital of sustainable development”. In this case, there is the question of whether cruise tourism at all is compatible with sustainable development.

Buckley (2003) examines the possibility of large-scale ecotourism, and suggests that, while large scale ecotourism seems rare, large scale is not necessarily incompatible with ecotourism. Studying the possibility of increasing the economic scale of ecotourism without sacrificing its fundamental principles, Buckley finds that expedition cruises could be a good example of large-scale ecotourism. These cruises take measures to minimize impacts, have expert and intensive environmental education programs, are driven by the appreciation of nature and wildlife, and may help generate support for conservation. Since
ecotourism is a form, a subset, of sustainable tourism (UNEP UNWTO, 2005), it can be argued that Buckley’s conclusions would apply to sustainable tourism as well.

In this case, focusing mainly on expedition cruise-ships would still allow the town to achieve its goal. Additionally, since the expedition cruises, as part of Destination cruisers, are the highest spenders of all the cruise groups, the town would gain a high value for the cruise tourists visiting.

There are multiple options for development, and they cannot all be covered in a single paper, but recommendations are made in 3 directions.

If the town wants to focus on high-value tourism, then some options would be to:

1. Focus on Luxury and Destination type of cruise ships, who spend most per person, but are not too large.
2. Impose higher passenger taxes for cruise ships
   a. above a certain capacity, or
   b. for ships that stay at anchor, or
   c. for ships that are not Destination and Luxury types.
3. Motivate Destination and Luxury cruises to stay more time in town.

If a goal is to avoid crowding and congestion (although the results do not suggest an immediate action is needed in this regard), then the town should try to avoid:

4. accepting large cruise-ships in July, or several cruise-ships on a single day, with a total capacity of a large cruise-ship
5. accepting consecutive days with large cruise-ships

If the town wants to preserve its environmental qualities, then:

6. Environmental standards should be set and imposed, as there are no environmental standards implemented so far.

5.3 Policy discussion for the harbour

Depending on the goal of the harbour regarding revenues from cruise tourism, several strategies can be taken into account.
1. If the goal of the harbour is to maximize revenues from cruise-ships, then it should focus on
   a. Increasing the number and tonnage of the cruise-ships visiting Isafjordur
   b. Increasing the likelihood that a cruise-ship docks rather than anchors.
      i. Create incentives for cruise-ships to dock rather than stay at anchor, if they are able to dock, and/or
      ii. Expand harbour capacity in order for the larger cruise-ships to be able to dock. Further research and a Cost-Benefit Analysis would be required in order to assess this option.
   c. Increase fees for cruise-ships, although such an increase should be carefully assessed, as, if it is too high, it might deter cruise-ships from coming to Isafjordur.

2. If the goal of the harbour is to maximize the marginal revenue to cruise-ship GRT, then it should focus on increasing the likelihood that a ship docks rather than anchors, which could be achieved by:
   a. Bringing ships that are small enough to dock.
   b. Creating incentives for small ships to dock rather than anchor.
   c. Expanding harbour capacity, so that larger cruise-ships can dock, rather than anchor.

3. If the goal of the harbour is to maximize the revenue per passenger, then it should focus on:
   a. Smaller cruise-ships. How small, it is a matter of choice, depending on the minimum threshold for revenue/passenger.
   b. Increase passenger fees.

**Schemes for increasing passenger fees**

Of the options above, the goal consistent with a high-value tourism strategy is that of maximizing revenue per passenger. If the goal is to maximize revenue per passenger, by increasing passenger fees, then there are several options regarding how a passenger fee could be implemented. Two of them are discussed below:

   a. Increase passenger fees for all the cruise-ships visiting. This would increase revenue per passenger, but would not differentiate between ships staying at anchor
and ships docking. Cruise-ships staying at anchor will continue to have significantly lower revenue per passenger than cruise-ships docking.

b. Increase passenger fees only for the cruise-ships staying at anchor. This option has two advantages:

- Targets the ships with the lowest revenue per passenger.
- By diminishing the difference in costs between the two options – staying at anchor or docking, the harbour provides an indirect incentive for the cruise-ships to dock rather than stay at anchor, for the cruise-ships that are able to dock.

Both options (a) and (b) bear the risk that, if an increase in fees is too high, it may deter some cruise-ships from coming to Isafjordur. However, depending on the goal of the harbour and the municipality of Isafjordur, this may or may not be a drawback. If the goal is maximizing the overall revenue per passenger, then if the cruise-ships with the lowest revenue/passenger start avoiding Isafjordur, it would actually help achieve that goal, as the overall average revenue per passenger would increase.

There are several possible approaches for establishing an additional passenger fee in case (b) described above:

**Individual fee for each cruise ship**

An individual fee for the cruise-ships staying at anchor may be calculated the following way:

- Determine a minimum desired revenue per cruise-ship passenger.

- Using the model, estimate the revenue from the cruise-ship and divide by the number of passengers of the cruise-ship. If the result is less than the minimum desired revenue per passenger, then:

- Calculate for every ship the extra fee per passenger, using the formula:
\[ P_a = \frac{N_{pass} \times MinIP - IS_e}{N_{pass}} \]

, where \( P_a \) – additional fee per passenger, \( N_{pass} \) is the number of passengers on the cruise-ship, \( MinIP \) is the minimum desired revenue per passenger of the cruise-ship, and \( IS_e \) – estimated harbour revenue from the cruise-ship.

Instead of a numeric threshold, other criteria may be used (for example, that revenue per passenger for an anchored cruise ship should not be lower than 75% of the revenue per passenger for the same ship when docked). In this case, the appropriate formula should be used to determine the desired revenue per passenger.

Establishing an individual fee for each cruise-ship may be unpractical and difficult to implement, so instead, a single fee may be calculated for all the cruise-ships that arrive in Isafjordur, following an efficiency criterion.

**Common fee increase for anchored cruise-ships**

Two efficiency criteria for establishing an extra passenger fee for all anchored cruise-ships are discussed below:

a. Introduce an additional passenger fee for all the cruise-ships, based on a minimum desired revenue per passenger for the cruise-ship with the lowest revenue per passenger. In this case, all the cruise-ships staying at anchor would generate an amount of money at the same level or higher than the minimum desired revenue per passenger. The additional amount in this case could be calculated as follows:

   o Determine a minimum desired revenue per cruise-ship passenger;

   o By using the model, determine the ship with the lowest predicted revenue per passenger.

   o The additional fee per passenger for all the cruise-ships staying at anchor will be the difference between the desired revenue per cruise-ship passenger and the lowest estimated revenue per passenger. For example, under this scenario, for a minimum revenue per passenger of 1,000 ISK, the increase in fee per passenger should be 457.2 (+/-64.6) ISK.
b. Introduce an additional passenger fee for all the cruise-ships, based on a desired average revenue per passenger for the cruise-ships staying at anchor. In this scenario, there will be some anchored cruise-ships for which the revenue per passenger will be below the minimum threshold, but the average revenue for all the cruise-ships staying at anchor will be at the level of the minimum desired revenue per passenger. In this case, in order to determine the increase in passenger fees, the following steps may be followed:

a. Determine a minimum desired average revenue per cruise-ship passenger for anchored ships;

b. By using the model, estimate the total revenue from the cruise-ships staying at anchor;

c. Calculate the average revenue per cruise-ship passenger, by dividing total estimated revenue from the cruise-ships staying at anchor and total passenger capacity of these cruise-ships;

d. The additional fee per passenger for all the cruise-ships staying at anchor will be the difference between the desired average revenue per cruise-ship passenger and the average estimated revenue per passenger for the anchored ships. For example, under this scenario, for a minimum desired revenue per passenger of 1,000 ISK, the increase in fee per passenger for the cruise-ships staying at anchor should be 323.9 (+/-28.2) ISK.

If a fee would be applied for all the cruise-ships visiting, then a similar approach for a common fee increase as described above can be extended, including all the cruise-ships visiting Isafjordur.

Also, instead of a numeric threshold, other criteria may be used (for example, that average revenue per passenger for the anchored cruise ships should not be lower than 75% of the average revenue per passenger for the same ships when docked). In this case, the appropriate formula should be used to determine the desired revenue per passenger.
Discussion on increasing the harbour capacity

Considering that if a ship is docked, it brings in significantly more revenue than if it is on anchor, an option would be to increase the likelihood that a ship docks rather than anchors in Isafjordur. This means either:

- **Create incentives for the cruise-ships to dock rather than anchor, for the cruise-ships that are able to dock.** This strategy has the following advantages:

  o The increase (in percentage) in revenue from the smaller cruise-ships, when they are docked, rather than anchored, is higher than the increase for larger cruise-ships when they are docked rather than anchored.

  o There is no need to expand the harbour, which would be a large investment, although some minor investments may be necessary.

The main drawbacks of such a strategy are that:

  o The harbour has limited control over the decision of the ship to dock or anchor, and the reasons for a ship choosing to anchor rather than dock can be quite complex, as suggested by interviewee 9 – they can be linked to bad weather, some exceptional situation on the ship (like a defect), increased risk due to the ship being at the limit of the draft, berths being occupied by other ships, financial considerations, or other reasons. Further research would be needed to determine the main reasons for a ship to dock or stay at anchor in Isafjordur, and determine what are the main incentives for a cruise-ship may be to dock rather than stay at anchor, or whether a strategy aiming to increase the likelihood of docking rather than anchoring is feasible at all.

  o The increase in revenue would come only from the smaller ships. This increase, while percentually higher is nominally lower than the increase from the larger cruise-ships.
- Expand the harbour capacity, in order to accommodate the cruise-ships that are too large to dock. This expansion would mean either:

  o *Deepen the shipping channel in the fjord*, so that cruise-ships are able to reach the longer quay at Asgeirsbakki. This investment would not be tied specifically to the cruise-ships, and would be necessary for other ships as well, but other ships do not need it urgently (interview 9).

  o *Increasing quay length and water depth*. This expansion would be tied specifically to the cruise-ships, as the other ships do not need increased quay length and water depth.

Expanding harbour capacity has the following advantages:

  o Allows an increased revenue per cruise-ship for the larger ships. If the harbour capacity increases, the ships that are currently too large to dock and stay at anchor, would have the possibility to dock. Since a cruise-ship brings more revenue to the harbour when it is docked, then when it is at anchor, an increase in harbour capacity may bring more revenue from the larger ships. While the difference between the revenue for a cruise-ship that is anchored or docked decreases percentually as the cruise-ship GRT increases, it increases nominally.

However, there are also a number of drawbacks for this option:

  o A significant investment is needed in order to expand the capacity of the harbour, in either of the two scenarios. This investment is estimated at hundreds of millions of ISK (Interview 9). Additionally, such development may cause environmental costs and hazards.

  o Even if the harbour would have the capacity to receive bigger ships docking, this does not guarantee that a ship will choose to dock rather than anchor. The harbour has rather limited control over that decision.

  o There is always a risk that a cruise operator would withdraw its cruise-ships from a destination. Considering the high investment cost of expansion, if
this happens, the town would be left with an unprofitable investment, or, at best – an investment with a very long payback period. There are a number of such examples, with the virtually unused 100-million-dollar-investment Bayport Cruise terminal in Boston, probably the most dramatic of them. Others include terminals in Mobile, Alabama; Norfolk, Virginia and Tortolla (Walker, 2013).

- Currently, there are only a few cruise-ships every year that are too large to dock in the harbour. The vast majority of cruise-ships come to Isafjordur during June-August and the beginning of September. It is unlikely that the extra harbour capacity would be used otherwise (Interview 9).

### 5.4 Limitations and constraints

#### 5.4.1 Survey to tourists

The sample size is too small, with margins of error above the 5% (for confidence level of 95%). A larger sample would be required for a more accurate assessment of tourist experience in Isafjordur.

The questionnaire was conducted only for an approximately 1-month period, towards the end of the tourist season, and does not cover the entire cruise season, or the peak month (which is July). There are important differences between the research period and the peak month. As it can be seen in Table 15, both the number of arrivals, and the number of overnight stays in the Westfjords in 2013 is lower in August and even lower in September compared to July. This suggests that the average number of land-based tourists in the Westfjords on a typical day in August and September was lower than the average number in July. The same reasoning can be applied for Isafjordur as the main center of the region. Thus, the average number of land-based tourists that were in Isafjordur on a typical day in the research period was lower than in July, and this would lead to a lower reported feeling of crowding in the research period than in the peak period. This applies both for cruise- and non-cruise days. So, the results would likely tend to underestimate the feeling of crowding associated with the stay in Isafjordur.
Table 15: Number of tourist arrivals and overnight stays in the Westfjords in May-September 2013 (Statistics Iceland, 2013)

<table>
<thead>
<tr>
<th>2013</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrivals (Foreign)</td>
<td>2,644</td>
<td>11,025</td>
<td>17,679</td>
<td>15,765</td>
<td>4,336</td>
</tr>
<tr>
<td>Arrivals (Icelandic)</td>
<td>1,525</td>
<td>5,377</td>
<td>13,438</td>
<td>8,457</td>
<td>1,644</td>
</tr>
<tr>
<td>Arrivals (Total)</td>
<td>4,169</td>
<td>16,402</td>
<td>31,117</td>
<td>24,222</td>
<td>5,980</td>
</tr>
<tr>
<td>Total arrivals compared to July (%)</td>
<td>13.4</td>
<td>52.7</td>
<td>100.0</td>
<td>77.8</td>
<td>19.2</td>
</tr>
<tr>
<td>Overnight stays (Foreign)</td>
<td>4,628</td>
<td>16,131</td>
<td>24,184</td>
<td>20,416</td>
<td>8,734</td>
</tr>
<tr>
<td>Overnight stays (Icelandic)</td>
<td>2,741</td>
<td>8,419</td>
<td>20,116</td>
<td>10,676</td>
<td>3,234</td>
</tr>
<tr>
<td>Overnights (Total)</td>
<td>7,369</td>
<td>24,550</td>
<td>44,300</td>
<td>31,092</td>
<td>11,968</td>
</tr>
<tr>
<td>Total overnights compared to July (%)</td>
<td>16.6</td>
<td>55.4</td>
<td>100.0</td>
<td>70.2</td>
<td>27.0</td>
</tr>
</tbody>
</table>

Because of the research design, tourists that stayed longer had a higher chance of being surveyed. This also means that if a tourist was very unhappy about the level of crowding perceived or lack of availability of tourist services, and decided to leave very fast, then it is unlikely that (s)he was surveyed, and thus extremely negative attitudes towards crowding or lack of tourism services would be expected very rarely. In total, there was only one respondent that had a “very negative” feeling towards the perceived level of crowding, but that was not linked to high, but rather to low levels of perceived crowding. The reason why there were no “very negative” feelings towards high levels of crowding is difficult to assess – it could be that a level of crowding that caused “very negative” feelings was never attained, or there were too few such people. But it could also be that the tourists that had “very negative” feelings left too fast to be surveyed. However, it should be noted that the representatives of accommodation places that were interviewed noticed neither a reduced number of tourists on cruise days, nor increased cancellation rates, or significant complaints about the level of cruise tourism. These would have been expected if significant numbers of land-based tourists would have avoided staying in Isafjordur, or decided to leave early, because of a negative feeling towards cruise tourism and associated characteristics.
Additionally, the feeling towards the level of crowding in Isafjordur may be influenced by the level of tourism elsewhere in Iceland, particularly the Reykjavik area and the Golden Circle (these were considered as being very crowded during summer by several of the expert interviewees, and by some of the respondents to the survey). Since there are more tourists in Iceland during July, and possibly more crowding at tourist attractions, then the appeal of Isafjordur as a remote, uncrowded destination may be higher in that period, and an uncrowded Isafjordur may be seen more positively, because of the contrast with other regions, a contrast that may not be as high in the second half of August and first half of September. On a similar line of thought, if, in July, the tourists would have higher expectations of Isafjordur being a remote, uncrowded area, then they may feel more negative towards a high number of cruise-tourists and lack of availability of services then they did in the research period.

Another limitation is that the survey does not control for the daily number of tourists in Isafjordur. Initially, the data on daily arrivals and overnight stays was supposed to be available after the summer season, and would have figured as a variable in the analysis. However, in the end, due to confidentiality issues and incomplete data, this was not possible, so the number of tourists in Isafjordur is assumed constant, although this was not really the case.

Another characteristic of the survey period is that starting with 1st September, a number of tours were not available anymore and this may also have an impact on the experience of the tourists, and the way they rate the level of crowding and the feeling towards it. It is possible that because of the fewer options for activities, the tourists have a more negative feeling towards lower levels of crowding, which they associate with a lack of available services and activities.

Another characteristic of the survey period was that there was a minimum 2 day difference between the visits of two cruise-ships, and that there were no days with several cruise-ships in town. In July, there have been several visits from cruise-ships on consecutive days, on one occasion – 4 days in a row, with 3 of them having a capacity of over 1000 passengers. The experience of the land-based tourists may be influenced more negatively if they have to suffer prolonged exposure to crowding from cruise-ships or lack of availability of tours for several days. There was also one day with 3 cruise-ships visiting
(although the total passenger number was below that of the largest ship), and there was no such day during the research period.

Only 6 of the cruise-ship days were assessed, of the total 32 days with cruise-ships throughout the tourist season (Hafnir Isafjardarbaer, 2013). These 6 cruise-ships include ships in all the ship size classes, as well as both the smallest, and the largest cruise-ships of the season. Nevertheless, due to the low sample, and other variables involved, further research is needed to establish if the impact from these cruise-ships is characteristic to the cruise-ships of their respective size class (as defined in the methodology), or if there is a “characteristic” impact from a cruise-ship in a size class at all. It may happen that passengers from ships of similar sizes behave very differently, and cause different impacts on the experience of the land-based tourists, based not mainly on number, but on other characteristics as well.

The questionnaires were distributed only in English and French. It is possible that the respondents that did not have a good command of English and French would not fully understand the questions, which in turn may bias the results.

There are also a number of variables that were not taken into account, but may have influenced the answers:

- **Weather.** It may be especially important, since a lot of the activities in the area are outdoors. The availability of certain tours is dependent on the weather. Also, the number of cruise tourists coming ashore on bad weather may be lower than in good weather, leading to lower levels of crowding than if the same ship arrived in good weather. According to the interviews, the behavior of cruise tourists is also different, as they may not take as many tours, or they would spend more time inside when it is bad weather, possibly causing more congestion in shops, cafés, or attractions such as the museum. Finally, weather may influence the mood of the tourist, which in turn influences his/her experience of the place.

- **Transportation mode (car, airplane).** A person that arrived in Isafjordur by car has more freedom to move around, while somebody who came by airplane, or by bus, would be more “trapped”, and may not have as many options for activities on cruise days.
- Travel party. People travelling alone may have a different attitude towards crowding than people traveling in larger groups.

- Further research could determine the factors that influence the experience of land-based tourists to Isafjordur.

5.4.2 Business survey

The sample for the business survey included most of the major stakeholders in tourism in Isafjordur, particularly those that have direct contact with the tourists (Westtours, the main cruise operator, was approached several times, but did not answer the survey), but not all of the businesses in downtown Isafjordur were included, and this could lead to biased results.

The business survey also relies on the capacity of the respondent to estimate the sales to tourists, cruise-tourists, and land-based tourists, and generally, to make estimations about sales over a certain period of time. This may lead to inaccuracies due to human error in estimating figures. Moreover, it also relies on an accurate perception of the respondent about which of the tourists are cruise tourists and which are land-based tourists. Since all the respondents knew of the dates of cruise-ship visits to Isafjordur, and cruise tourists have characteristics that distinguish them from land-based tourists (such as travelling in large groups and often, older age), it is safe to assume that the businesses representatives that answered the survey could make a reasonably good distinction between cruise- and land-based tourists and sales associated to them. Interviews and informal talks also showed that the businesses could provide quite detailed information on the types of customers they had and their behavior. Still, the distinction between cruise- and land-based tourists is not straightforward, and can be a source of error.

The survey for the tourists did not focus on Icelandic tourists, but the survey for the businesses showed that domestic tourists bring significant income to the local businesses. Further research should focus on the spending of Icelandic tourists as well.

The survey for businesses was in English, not Icelandic, so some mistakes or bias may occur because of language barrier.
5.4.3 Interviews

- The interviews were done after the tourist season, and thus, the attitudes and perceptions towards tourism and cruise tourism might have changed compared to attitudes during the tourist season. For example, a more negative attitude towards cruise tourists on cruise days may have subsided in the months afterwards, leading to more positive or neutral answers.

- The interviews were conducted in English. Since for most of the interviewees, and the interviewer himself, English was not the first language, it is possible that some misunderstandings appear due to the language barrier.

- The various people interviewed are also major or minor stakeholders in tourism or cruise tourism. This could lead to biased assessments due to their position as a stakeholder in tourism or cruise tourism.

5.4.4 Harbour

- Model accuracy depends on data accuracy. The main data related to ship GRT and whether the ship docked or anchored was checked and corrected with the harbour master. Data for passengers may not be as accurate, though. Data on the number of passengers from Westtours differs from data obtained from the harbour (differences, when present, are relatively small, generally within 10%). While some of the interviewees suggested that data on passengers from Westtours may be more reliable, data from the harbour was used, for consistency.

- The sample size is small, and this may lead to some inaccuracies in the model design, particularly in testing the model assumptions.

- The strategies suggested only take into account figures related to revenues for the harbour. There may be other strategies as well, based on some qualitative criteria for the cruise tourists or the cruise-ships, but these were not discussed, as it is beyond the scope of the paper.

- The methods for deciding on an increase in passenger fees are only some of the options possible.

- This analysis limited only to the harbour does not take into account the other possible benefits that larger cruise-ships may bring to Isafjordur, particularly to the businesses in town.
- The part of the research and recommendations related to the harbour does not take into account other important criteria, like the opinion of the locals or of the other tourists about cruise tourism. Increasing the size of the cruise-ships arriving in Isafjordur would be profitable for the harbour, but may be frowned upon by the locals, and may impact the experience of the other tourists to Isafjordur. A tourism strategy would have to take those other interests into account as well.

- There is an additional uncertainty when making predictions of the dependent variable (in this case, IS) based on values of independent variables (in this case, SGRT) that are outside the range of the values used when creating the model, on either end of the spectrum.

- Not all the passengers on the cruise-ships come ashore. Additionally, the crew size or number of crew coming ashore is not included in the figures, although their numbers can be significant. Harbour revenues per passenger and crew coming ashore would be a more significant figure, but data is lacking.

- Since data on costs associated with the cruise-ships is missing, the costs are not taken into account in the analysis. An analysis including costs would allow assessments and inferences on the profit from cruise-ships.
6 Conclusion

There have been identified both positive and negative impacts of cruise tourism on land-based tourism. Surprisingly, crowding was not a major issue, but a lack of services on cruise days can affect the experience of the land-based tourists.

An estimate of the direct effect of tourist spending was calculated. Economically, land-based tourism is likely more significant than cruise tourism, with businesses commonly reporting higher income from land-based tourism, despite a similar number of cruise- and land-based tourists. However, a necessary distinction must be made in income from international tourists and from domestic tourists.

Cruise-tourism and land-based tourism can develop together, and this sort of development may even be desirable, considering some of the benefits that cruise tourism has brought to land-based tourism. Although there are a number of negative impacts of cruise tourism on land-based tourism, none were found to have a particularly strong effect on the tourist experience.

Of the cruise types, expedition cruises would likely be a good focus for Isafjordur, because of their smaller size, bringing a higher income per passenger to the harbour, and richer cruisers that tend to spend more per person in town. A focus on smaller, but richer and more education-oriented cruises would also be compatible with sustainable tourism in the area.
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Appendixes

Appendix 1 – Dates on which the questionnaires to tourists were collected

*Table 16: Dates on which the questionnaires were collected*

<table>
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<tr>
<th>Date</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
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<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>17.8.13</td>
<td>3</td>
<td>1.7</td>
<td>2.9</td>
</tr>
<tr>
<td>18.8.13</td>
<td>3</td>
<td>1.7</td>
<td>4.6</td>
</tr>
<tr>
<td>19.8.13</td>
<td>3</td>
<td>1.7</td>
<td>6.3</td>
</tr>
<tr>
<td>20.8.13</td>
<td>7</td>
<td>4</td>
<td>10.3</td>
</tr>
<tr>
<td>21.8.13</td>
<td>21</td>
<td>12</td>
<td>22.3</td>
</tr>
<tr>
<td>22.8.13</td>
<td>13</td>
<td>7.4</td>
<td>29.7</td>
</tr>
<tr>
<td>23.8.13</td>
<td>17</td>
<td>9.7</td>
<td>39.4</td>
</tr>
<tr>
<td>24.8.13</td>
<td>6</td>
<td>3.4</td>
<td>42.9</td>
</tr>
<tr>
<td>25.8.13</td>
<td>15</td>
<td>8.6</td>
<td>51.4</td>
</tr>
<tr>
<td>26.8.13</td>
<td>16</td>
<td>9.1</td>
<td>60.6</td>
</tr>
<tr>
<td>27.8.13</td>
<td>2</td>
<td>1.1</td>
<td>61.7</td>
</tr>
<tr>
<td>28.8.13</td>
<td>7</td>
<td>4</td>
<td>65.7</td>
</tr>
<tr>
<td>29.8.13</td>
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<td>4.6</td>
<td>70.3</td>
</tr>
<tr>
<td>30.8.13</td>
<td>1</td>
<td>0.6</td>
<td>70.9</td>
</tr>
<tr>
<td>31.8.13</td>
<td>2</td>
<td>1.1</td>
<td>72</td>
</tr>
<tr>
<td>01.9.13</td>
<td>3</td>
<td>1.7</td>
<td>73.7</td>
</tr>
<tr>
<td>02.9.13</td>
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<td>75.4</td>
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<td>03.9.13</td>
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<td>3.4</td>
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<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>04.9.13</td>
<td>13</td>
<td>7.4</td>
<td>86.3</td>
</tr>
<tr>
<td>05.9.13</td>
<td>10</td>
<td>5.7</td>
<td>92</td>
</tr>
<tr>
<td>06.9.13</td>
<td>1</td>
<td>0.6</td>
<td>92.6</td>
</tr>
<tr>
<td>07.9.13</td>
<td>2</td>
<td>1.1</td>
<td>93.7</td>
</tr>
<tr>
<td>09.9.13</td>
<td>2</td>
<td>1.1</td>
<td>94.9</td>
</tr>
<tr>
<td>16.9.13</td>
<td>3</td>
<td>1.7</td>
<td>96.6</td>
</tr>
<tr>
<td>18.9.13</td>
<td>6</td>
<td>3.4</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2 – Exchange rates used to calculate tourist expenditure

Table 17: Exchange rates used in to calculate land-based tourist expenditure. *Data source: (X-RATES, 2014)*

<table>
<thead>
<tr>
<th>Currency</th>
<th>August mean (ISK)</th>
<th>September mean (ISK)</th>
<th>Mean August-September (ISK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR</td>
<td>159.16</td>
<td>161.19</td>
<td>160.17</td>
</tr>
<tr>
<td>USD</td>
<td>119.54</td>
<td>120.69</td>
<td>120.11</td>
</tr>
<tr>
<td>AUD</td>
<td>108.07</td>
<td>111.92</td>
<td>109.99</td>
</tr>
<tr>
<td>GBP</td>
<td>185.31</td>
<td>191.47</td>
<td>188.39</td>
</tr>
<tr>
<td>CAD</td>
<td>114.89</td>
<td>116.54</td>
<td>115.71</td>
</tr>
</tbody>
</table>
Appendix 3 – Harbour regression full

Figure 15: A Scatterplot Matrix (SPLOM) for the regression variables. Data for anchored and docked ships is represented in 2 colours. SPSS output. Data source: Hafnir Isaffjardarbaer(2013).

The four variables considered are:

- The dependent variable – revenue per cruise-ship (IS, written as “Income” in the SPLOM).
The independent variables: SGRT (cruise-ship Gross Registered Tonnage), NPass (Passenger capacity of the cruise-ship), Nhr (number of hours that a cruise-ships spends in harbour)

The Scatterplot Matrix for the four variables (Figure 16, above), shows that, in this model:

- SGRT and NPass are highly correlated.
- SGRT and NPass exhibit a linear correlation with revenue, both for anchored, and for docked cruise-ships. Nhr is not strongly correlated with the revenue, but seems to display a weak linear correlation as well.
- Revenue and GRT for anchored and docked ships respectively are highly correlated, but follow different lines. A similar relationship, but to a lesser degree, can be observed for passengers and revenue. Thus, rather than considering D as a variable of the regression, the data for the ships that are anchored and the ships that are docked should be treated as two separate clusters.

The number of observations for the two cases are: N=22 for the docked ships and N=15 for the anchored ships.

**Multivariate regression model for anchored and docked ships**

The general multivariate linear regression model for k terms is:

\[ Y = b_0 + \sum_{i=1}^{k} b_i X_i + \varepsilon \]

In this case, for 3 independent variables, it is:

\[ Y_a = b_{0a} + b_{1a} X_{1a} + b_{2a} X_{2a} + b_{3a} X_{3a} + \varepsilon \]

\[ Y_a = IS_a \] – revenue per ship for anchored ships, \( X_{1a} = SGRT_a \) – cruise-ship GRT for anchored ships, \( X_{2a} = NPass_a \) – cruise-ship passenger capacity for anchored ships, \( X_{3a} = NHR_a \) - hours spent by an anchored cruise-ship in Isafjordur, \( b_{0a}, b_{1a}, b_{2a}, b_{3a} \) – regression coefficients (\( b_0 \)-constant/intercept) for the model corresponding to the anchored ships, \( \varepsilon \) – noise term. “SE” refers to the Standard error of the estimate.
The regression equation for anchored cruise-ships is:

\[ IS_a = -39,599 + 18.32 \times SGRT_a + 54.335 \times NPass_a + 386 \times NHr_a + \varepsilon \]

\[ Y_a = b_{0a} + b_{1a}X_{1a} + b_{2a}X_{2a} + b_{3a}X_{3a} + \varepsilon \]

\[ T=0.812 \quad T=32.625 \quad T=2.674 \quad T=1.172 \quad SE= \]

\[ P=0.434 \quad P<0.001 \quad P=0.022 \quad P=0.266 \quad 19324.21 \]

The model for docked cruise-ships is:

\[ Y_d = b_{0d} + b_{1d}X_{1d} + b_{2d}X_{2d} + b_{3d}X_{3d} + \varepsilon \]

\[ Y_d=IS_d− revenue per ship for docked cruise-ships, X_{1d} = SGRT_d – cruise-ship GRT for docked ships, X_{2d} = NPass_d – number of passengers on the cruise-ship for docked ships, X_{3d} = NHr_d – hours spent by an anchored cruise-ship in Isafjordur, b_{0d}…b_{3d} – regression coefficients (b_0-constant/intercept) for the model corresponding to the docked ships, \varepsilon – noise term. “SE” refers to the Standard error of the estimate. \]

The regression equation for docked cruise-ships is:

\[ IS_d = 183,517 + 30.99 \times SGRT_d + 50.424 \times NPass_d + 409 \times NHr_d + \varepsilon \]

\[ Y_d = b_{0d} + b_{1d}X_{1d} + b_{2d}X_{2d} + b_{3d}X_{3d} + \varepsilon \]

\[ T=2.407 \quad T=17.799 \quad T=0.843 \quad T=0.492 \quad SE= \]

\[ P=0.027 \quad P<0.001 \quad P=0.411 \quad P=0.629 \quad 53,399.5 \]

In both models, NHr was the least significant variable, by a large margin, so NHr was dropped, and regression rerun with only SGRT and NPass as the independent variables.

For anchored cruise-ships, the regression equation with SGRT and NPass as the two independent variables is:

\[ IS_a = 16,128.76 + 18.405 \times SGRT_a + 54.335 \times NPass_a + \varepsilon \]

\[ Y_a = b_{0a} + b_{1a}X_{1a} + b_{2a}X_{2a} + \varepsilon \]

\[ T=1.480 \quad T=32.580 \quad T=2.606 \quad SE= \]

\[ P=0.165 \quad P<0.001 \quad P=0.023 \quad 19622.5 \]

The constant, b_{0a}=16128.76, is not statistically significant at p<0.05 level (t=1.48, p=0.165). Results also show that, the 95% confidence interval for the constant contains zero. Thus, we cannot reject the hypothesis that the constant equals 0.
Coefficient $b_{1a} = 18.41$ is statistically significant ($t=32.58$, $p<0.001$) and $b_{2a}=53.75$ is statistically significant as well, but to a lower degree ($t=2.61$, $p=0.023$). Thus, we can reject the hypotheses that either of these two coefficients is zero.

The results also show a high Variance Inflation Factor for the two independent variables (VIF=14.95 for both of them), which can be interpreted as a sign of a strong partial multicollinearity between the two variables. The implications of this situation are discussed further.

The $R^2$ for the model is higher than 0.999, which indicates a nearly perfect fit of the model to the data. The standard error of estimate is 19622.5. Adjusted $R^2$ is also higher than 0.999. More detailed results are shown in Table 18 below.

*Table 18: Regression coefficients and other relevant data for the multivariate regression for anchored cruise-ships. Selection from SPSS output.*

<table>
<thead>
<tr>
<th>Anchored</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>p</th>
<th>95.0% Confidence Interval for B</th>
<th>Collinearity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>16,128.7</td>
<td>1.48</td>
<td>0.165</td>
<td>Lower Bound</td>
<td>VIF</td>
</tr>
<tr>
<td>- $b_0a$</td>
<td>6</td>
<td>7</td>
<td></td>
<td>Upper Bound</td>
<td></td>
</tr>
<tr>
<td>SGRT</td>
<td>18.41</td>
<td>32.58</td>
<td>0.000</td>
<td>17.17</td>
<td>14.95</td>
</tr>
<tr>
<td>$b_{1a}$</td>
<td>53.75</td>
<td>2.61</td>
<td>0.023</td>
<td>8.81</td>
<td></td>
</tr>
</tbody>
</table>

For docked cruise-ships, the regression equation with SGRT and NPass as the two independent variables is:

\[
IS_d = 219,407.21 + 30.925 \times SGRT_d + 45.597 \times NPass_d + \epsilon
\]

\[
Y_d = b_{od} + b_{1d} \times X_{1d} + b_{2d} \times X_{2d} + \epsilon
\]

<table>
<thead>
<tr>
<th>$T$ = 10.073</th>
<th>$T$ = 18.178</th>
<th>$T$ = 0.788</th>
<th>$P$ = 0.44</th>
<th>$SE$ = 52,323.6</th>
</tr>
</thead>
</table>
The constant, $b_{0d}=219407.2$, is statistically significant ($t=10.07$, $p<0.001$), thus we can reject the hypothesis that the constant equals zero. The coefficient $b_{1d}=30.92$ ($t=18.18$, $p<0.001$) is also statistically significant and we can reject the hypothesis that this coefficient equals zero.

Coefficient $b_{2d}=45.60$, however, is not statistically significant ($t=0.79$, $p=0.44$). Results also show that, the 95% confidence interval for $b_{2d}$ contains zero. Thus, we cannot reject the hypothesis that $b_{2d}$ equals zero.

The results also show a relatively high Variance Inflation Factor for the two independent variables (VIF=4.27 for both of them), which is lower than for anchored ships, but still suggests some degree of multicollinearity between the two variables, and an increase in standard error of the coefficient due to multicollinearity. The implications of this situation are discussed further.

The $R^2$ for the model is 0.988, which indicates a nearly perfect fit of the model to the data, although slightly lower than the fit of the model for the anchored ships. The standard error of estimate is 52323.613. Adjusted $R^2=0.986$.

More detailed results are shown in Table 19 below.

*Table 19: Regression coefficients and other relevant data for the multivariate regression for docked cruise-ships. Selection from SPSS output.*

<table>
<thead>
<tr>
<th>Docked</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Interval for B</th>
<th>Confidence Interval for B</th>
<th>Collinearity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
<td>Lower Bound</td>
<td>Upper Bound</td>
<td>VIF</td>
</tr>
<tr>
<td>Intercept</td>
<td>-219407.2</td>
<td>21781.0</td>
<td>10.07</td>
<td>&lt;0.001</td>
<td>173818.9</td>
<td>264995.4</td>
</tr>
<tr>
<td>$b_{0d}$</td>
<td>2</td>
<td>4</td>
<td></td>
<td>6</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>SGRT - $b_{1d}$</td>
<td>30.92</td>
<td>1.70</td>
<td>18.18</td>
<td>&lt;0.001</td>
<td>27.36</td>
<td>34.49</td>
</tr>
<tr>
<td>NPass - $b_{2d}$</td>
<td>45.60</td>
<td>57.85</td>
<td>0.79</td>
<td>0.440</td>
<td>-75.48</td>
<td>166.68</td>
</tr>
</tbody>
</table>
**Multicollinearity in the 2 models**

VIF values of 14.95 (for anchored) and 4.27 (for docked) suggest a high degree of multicollinearity between cruise-ship GRT and passenger capacity. As table 3 shows, the two variables are indeed strongly correlated (measured by Pearson’s r), although with different strengths for the two cases. The correlation for the docked ships is lower than for anchored ships, although still very strong. The strong correlation between GRT and the number of passengers on a cruise-ship is not surprising, as one would expect that higher passenger capacities require bigger ships (and thus bigger tonnage), and vice-versa – cruise-ships with higher tonnage are able to carry more passengers. Thus, the two variables are not independent.

GRT and NPass have both been found to correlate (Pearson’s r) very strongly with the revenue from a cruise ship, both for anchored and docked ships. Of the two variables, GRT is stronger correlated with revenue than passenger capacity is, for both cases (anchored and docked). In fact, GRT has near perfect correlation with the revenue per cruise-ship.

Partial multicollinearity does not violate any of the regression assumptions (only full multicollinearity does). However, it increases the standard error of the coefficients decreasing their reliability. A summary correlation matrix can be seen in Table 20.

*Table 20: Correlation matrix (Pearson’s r) between the variables of the model. Summarized from SPSS output*\(^\text{16}\)

<table>
<thead>
<tr>
<th></th>
<th>Variables</th>
<th>Revenue</th>
<th>GRT</th>
<th>Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchored</td>
<td>Income</td>
<td>1.000</td>
<td>.999*</td>
<td>.970</td>
</tr>
<tr>
<td>(N=15)</td>
<td>GRT</td>
<td>.999</td>
<td>1.000</td>
<td>.966</td>
</tr>
<tr>
<td></td>
<td>Passengers</td>
<td>.970</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Docked</td>
<td>Income</td>
<td>1.000</td>
<td>.994</td>
<td>.879</td>
</tr>
<tr>
<td>(N=22)</td>
<td>GRT</td>
<td>.994</td>
<td>1.000</td>
<td>.875</td>
</tr>
<tr>
<td></td>
<td>Passengers</td>
<td>.879</td>
<td>.875</td>
<td>1.000</td>
</tr>
</tbody>
</table>

\(^{16}\) Significance (p-value) for all correlation coefficients is less than 0.001
Considering that:

- The number of observations is low;
- The model will be used for forecasting, and multicollinearity will lower the standard error of the coefficients;
- Passenger capacity is not significant for docked ships (although this could be due to increasing standard error caused by multicollinearity);
- GRT is already very highly correlated with the income (and higher than the passenger capacity is), and thus, an excellent predictor for income,

the variable reflecting cruise-ship passenger capacity was taken out of the regression model, which means that a new regression is done with the cruise-ship GRT as the independent variable and harbour income per cruise-ship call as the dependent variable. Data is still treated in two clusters, as previously.

**Simple linear regression model for anchored ships**

The simple linear regression model for anchored ships is:

\[ Y_a = b_{0a} + b_{1a}X_{1a} + \epsilon \]

\( Y_a \) – revenue per cruise-ship for anchored ships, \( X_{1a} \) – cruise-ship GRT for anchored ships, 
\( b_{0a} \) – intercept (constant), \( b_{1a} \) – regression coefficient of the cruise-ship GRT for the model corresponding to the anchored ships, \( \epsilon \) – noise term.

For anchored ships:

\[
\begin{align*}
IS_a & = 23600.89 + 19.827 \times SGRT_a + \epsilon \\
Y_a & = b_{0a} + b_{1a}X_{1a} \\
T & = 1.868, \quad \text{t}=112.88, \quad R^2=0.999 \\
P & = 0.085, \quad \text{p}<0.001, \quad \text{Std. err}=23591
\end{align*}
\]

The constant, \( b_{0a}= 23600.89 \), is not statistically significant at p<0.05 level (t=1.868, p=0.085). Results also show that, the 95% confidence interval for the constant contains the null value. Thus, we cannot reject the null hypothesis for the coefficient.

Coefficient \( b_{1a} = 19.827 \), is statistically significant (t=112.88, p<0.001). Thus, we can reject the null hypothesis for this coefficient. The coefficient \( b_{1a} \) indicates that for each change of one unit in \( X_{1a} \) (GRT for anchored ships), the average change in the mean of \( Y \) is 19.827 units.
The $R^2$ for the model is higher than 0.999, which indicates a nearly perfect fit of the model to the data. The standard error of the model is 23590.851. Adjusted $R^2$ is also higher than 0.999. To an approximation of 3 digits, no difference can be observed between the fit of the regression model ($R^2$) with one variable, and with 2 variables. The standard error of the model with one variable is slightly higher than that with 2 variables. The statistical significance of the coefficient for GRT has improved, while the standard error has decreased, as expected. More detailed results are shown in Table 21.

Table 21: Regression coefficients and other relevant data for the simple linear regression for anchored cruise-ships. Selection from SPSS output.

<table>
<thead>
<tr>
<th>Anchored Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
<th>Confidence Interval Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant $b_{0a}$</td>
<td>-23600.8</td>
<td>12636.2</td>
<td>1.868</td>
<td>.085</td>
<td>-3698.002</td>
</tr>
<tr>
<td>SGRT - $b_{1a}$</td>
<td>19.827</td>
<td>.176</td>
<td>112.8</td>
<td>.000</td>
<td>19.448</td>
</tr>
</tbody>
</table>

**Simple linear regression model for docked ships**

The regression equation for docked ships is:

\[ Y_d = b_{0d} + b_{1d}X_{1d} + \varepsilon \]

$Y_d$ – revenue per ship for docked ships, $X_{1d}$ – cruise-ship GRT for docked ships, $b_{0d}$ – intercept (constant) for docked ships, $b_{1d}$ – regression coefficient of the cruise-ship GRT for the model corresponding to the docked ships.

For docked ships:

\[ IS_d = 222664.77 + 32.098 \times SGRT_d + \varepsilon \]

$T=10.512$ \quad $T=39.358$ \quad $R^2=0.987$

$p<0.001$ \quad $p<0.001$ \quad Std. err.=51826

The intercept, $b_{0d}=222664.77$, is statistically significant at $p<0.05$ level ($t=10.512$, $p<0.001$). Thus, we can reject the hypothesis that the intercept equals zero. In this case, $b_{0d}$ cannot be interpreted, as $SGRT_d$ cannot be zero.
Coefficient $b_{1d} = 32.098$, is statistically significant ($t=39.358, p<0.001$). Thus, we can reject the hypothesis that this coefficient equals zero. The coefficient $b_{1d}$ indicates that for each change of one unit in $SGRT_d$, the average change in the mean of $Y$ is 32.098 units.

The $R^2$ for the model is 0.987, which indicates a nearly perfect fit of the model to the data. The standard error of estimate is 51825.835, which is slightly lower than for the regression that includes the number of passengers on the cruise-ship. The regression model with two variables has an $R^2$ that is 0.001 higher than the model with only one variable, which means that the regression with two variables for docked ships fits the data only marginally better than the one with only one variable. The statistical significance of the coefficient for GRT has improved, while the standard error has decreased, as expected. The results suggest that dropping the variable quantifying the number of passengers on the docked cruise-ships has not caused an important loss of information.

More detailed results are shown in Table 21 below.

*Table 22: Regression coefficients and other relevant data for the simple linear regression for docked cruise-ships. Selection from SPSS output.*

<table>
<thead>
<tr>
<th>Docked</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Constant $b_{0d}$</td>
<td>-222664.77</td>
<td>21181.9</td>
<td>10.51</td>
<td>.000</td>
</tr>
<tr>
<td>SGRT - $b_{1d}$</td>
<td>32.098</td>
<td>.816</td>
<td>39.35</td>
<td>.000</td>
</tr>
</tbody>
</table>


## Appendix 4 – Harbour fees for cruise-ships visiting Isafjordur in 2013

*Table 23: Harbour fees for cruise-ships visiting Isafjordur in 2013 (Data source: Hafnir Isafjardarbaer, 2013)*

<table>
<thead>
<tr>
<th>Type of fee</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pier due &lt;20.000 tons</td>
<td>6.56 ISK/pr. unit pr. day</td>
</tr>
<tr>
<td>Pier due &gt;20.000 tons</td>
<td>7.87 ISK/pr. unit pr. day</td>
</tr>
<tr>
<td>Hold due</td>
<td>13.22 ISK pr. unit</td>
</tr>
<tr>
<td>Pilotage</td>
<td>5.25 ISK pr. unit</td>
</tr>
<tr>
<td>Pilot fee</td>
<td>5,427 ISK</td>
</tr>
<tr>
<td>Pilot boat</td>
<td>19,095 ISK pr. hour</td>
</tr>
<tr>
<td>Pilot fund</td>
<td>836 ISK</td>
</tr>
<tr>
<td>Passenger fee (pr. adult)</td>
<td>48.5 ISK</td>
</tr>
<tr>
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<tr>
<td>ISPS security fee</td>
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<tr>
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<td>4,416 ISK</td>
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<tr>
<td>Security fee, pr. hour overtime</td>
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<tr>
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<tr>
<td>Linesman fee, pr. hour overtime</td>
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### Appendix 5 – Original harbour data

**Table 24: Cruise-ships that came to Isafjordur in 2013, and the revenue generated for the harbour**

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Hours</th>
<th>Docked/Anc</th>
<th>Flag</th>
<th>GRT</th>
<th>Passengers</th>
<th>Company</th>
<th>Invoice (ISK)</th>
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<td>2,500</td>
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<td>08:00-17:00</td>
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<td>Bahamas</td>
<td>21,186</td>
<td>717</td>
<td>Gára</td>
<td>806927</td>
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<td>1,975</td>
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<td>Italia</td>
<td>114000</td>
<td>3000</td>
<td>TVG</td>
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<td>38,557</td>
<td>1,339</td>
<td>Zimsen</td>
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<td>Country</td>
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<td>Braemar</td>
<td>0800-1700</td>
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Table 25: Cruise ships coming to Isafjordur in 2014

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<th>Time</th>
<th>Anchored/Docked</th>
<th>Flag</th>
<th>GRT</th>
<th>Passengers</th>
<th>Company</th>
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<td>08:00-16:00</td>
<td>Docked</td>
<td>Bahamas</td>
<td>15,067</td>
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<tr>
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<td>1,339</td>
<td>Samskip</td>
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</tr>
<tr>
<td>20/07/2014</td>
<td>Delphin</td>
<td>08:00-19:00</td>
<td>Docked</td>
<td>Bah</td>
<td>16,248</td>
<td>Samskip</td>
<td></td>
</tr>
<tr>
<td>21/07/2014</td>
<td>Veendam</td>
<td>08:00-17:00</td>
<td>Anchored</td>
<td>Hol.</td>
<td>55,451</td>
<td>Samskip</td>
<td></td>
</tr>
<tr>
<td>21/07/2014</td>
<td>AIDAcara</td>
<td>10:00-18:00</td>
<td>Docked</td>
<td>Italia</td>
<td>38,557</td>
<td>Samskip</td>
<td></td>
</tr>
<tr>
<td>25/07/2014</td>
<td>National Geographic Expl</td>
<td>06:00-18:00</td>
<td>Anchored</td>
<td>Bahamas</td>
<td>6,471</td>
<td>TVG Zimsen</td>
<td></td>
</tr>
<tr>
<td>26/07/2014</td>
<td>Le Austral</td>
<td>07:00 - 16:00</td>
<td>Docked</td>
<td>France</td>
<td>10,700</td>
<td>Gára</td>
<td></td>
</tr>
<tr>
<td>29/07/2014</td>
<td>Mein Schiff 1</td>
<td>07:00-19:00</td>
<td>Anchored</td>
<td>Malta</td>
<td>76522</td>
<td>Gára</td>
<td></td>
</tr>
<tr>
<td>01/08/2014</td>
<td>MV Kristina Katarina</td>
<td>10:00-18:00</td>
<td>Docked</td>
<td>Finland</td>
<td>12,688</td>
<td>Eimskip</td>
<td></td>
</tr>
<tr>
<td>01/08/2014</td>
<td>MV Kristina Katarina</td>
<td>10:00-18:00</td>
<td>Docked</td>
<td>Finland</td>
<td>12,688</td>
<td>Eimskip</td>
<td></td>
</tr>
<tr>
<td>02/08/2014</td>
<td>Prinsendam</td>
<td>08:00-17:00</td>
<td>Docked</td>
<td>Holland</td>
<td>37,983</td>
<td>Samskip</td>
<td></td>
</tr>
<tr>
<td>02/08/2014</td>
<td>Le Austral</td>
<td>07:00 - 16:00</td>
<td>Docked</td>
<td>France</td>
<td>10,700</td>
<td>Gára</td>
<td></td>
</tr>
<tr>
<td>07/08/2014</td>
<td>MSC Magnifica</td>
<td>0800-1800</td>
<td>Anchored</td>
<td>Italy</td>
<td>92409</td>
<td>TVG Zimsen</td>
<td></td>
</tr>
<tr>
<td>14/08/2014</td>
<td>Silver Cloud</td>
<td>08:00-18:00</td>
<td>Docked</td>
<td>Bah</td>
<td>16,927</td>
<td>TVG Zimsen</td>
<td></td>
</tr>
<tr>
<td>15/08/2014</td>
<td>Marco Polo</td>
<td>09:00-18:30</td>
<td>Anchored</td>
<td>Bah.</td>
<td>22,080</td>
<td>Gára</td>
<td></td>
</tr>
<tr>
<td>16/08/2014</td>
<td>Seabourn Quest</td>
<td>08:00-17:00</td>
<td>Docked</td>
<td>Bahamas</td>
<td>32,346</td>
<td>Samskip</td>
<td></td>
</tr>
<tr>
<td>27/08/2014</td>
<td>Ocean Nova</td>
<td>05:00-21:00</td>
<td>Docked</td>
<td>Denmark</td>
<td>2,118</td>
<td>TVG Zimsen</td>
<td></td>
</tr>
<tr>
<td>31/08/2014</td>
<td>Thompson Spirit</td>
<td>09:00-18:00</td>
<td>Docked</td>
<td>Bahamas</td>
<td>33,933</td>
<td>TVG Zimsen</td>
<td></td>
</tr>
<tr>
<td>14/09/2014</td>
<td>Ruby Princess</td>
<td>07:00-18:00</td>
<td>Anchored</td>
<td>Bermuda</td>
<td>113,561</td>
<td>Samskip</td>
<td></td>
</tr>
<tr>
<td>14/08/2014</td>
<td>MV. Voyager</td>
<td>08:00-18:00</td>
<td>Anchored</td>
<td>Bahamas</td>
<td>15343</td>
<td>TVG Zimsen</td>
<td></td>
</tr>
</tbody>
</table>

**Total**     |                       |                 |           |           | 1,553,231| 47,291       |
Appendix 6 – Research site

Figure 16: Map of downtown Isafjordur, 2012.
# Appendix 7 – Respondents - interviews

*Table 26: Qualitative research - respondents*

<table>
<thead>
<tr>
<th>Interview Nb</th>
<th>Name</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1***</td>
<td>Eythor Jovinsson</td>
<td>26.09.2013</td>
<td>Shop owner, The Westfjords Shop; Publisher, producer</td>
</tr>
<tr>
<td>2**</td>
<td>Heimir Hansson</td>
<td>27.09.2013</td>
<td>Director of the Tourism Information Office</td>
</tr>
<tr>
<td>3*</td>
<td>Maria Adalbjamardottir</td>
<td>27.09.2013</td>
<td>Owner of the Gamla Bakery</td>
</tr>
<tr>
<td>4*</td>
<td>Dagny Thrastardottir</td>
<td>30.09.2013</td>
<td>Owner of Midhus, Rammagerd Isafjardar</td>
</tr>
<tr>
<td>5*</td>
<td>Runar Karlsson</td>
<td>30.09.2013</td>
<td>Co-owner of Borea Adventures</td>
</tr>
<tr>
<td>6***</td>
<td>Aslaug Alfredsdottir</td>
<td>1.10.2013</td>
<td>Hotel manager - Hotel Isafjordur, Hotel Horn, Hotel Edda, Gamla Guesthouse</td>
</tr>
<tr>
<td>7***</td>
<td>Katrin Jonsdottir; Nancy Bechtloff</td>
<td>1.10.2013</td>
<td>Tour operators, Westtours</td>
</tr>
<tr>
<td>8*</td>
<td>Miriam Maelekalle</td>
<td>2.10.2013</td>
<td>Salesperson Eymundsson</td>
</tr>
<tr>
<td>9**</td>
<td>Gudmundur Kristjansson</td>
<td>2.10.2013</td>
<td>Harbour master, Isafjordur</td>
</tr>
<tr>
<td>10**</td>
<td>Maik Brotzmann</td>
<td>3.10.2013</td>
<td>Researcher on the Atvest 2013 tourist survey</td>
</tr>
<tr>
<td>11**</td>
<td>Jon Hreinsson</td>
<td>3.10.2013</td>
<td>Project Manager at Atvest; former cruise tour operator</td>
</tr>
<tr>
<td>12*</td>
<td>Sigurdur Arnfjord</td>
<td>4.10.2013</td>
<td>General Manager Edinborg &amp; Owner of Hotel Nupur</td>
</tr>
<tr>
<td>13*</td>
<td>Johanna Asgeirsdottir††</td>
<td>4.10.2013</td>
<td>Assistant; Karitas</td>
</tr>
</tbody>
</table>

†† Interview was dropped because of language barrier
<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Date</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>14**</td>
<td>Sigridur Osk Kristiansdottir</td>
<td>7.10.2013</td>
<td>Project manager, Innovation Center Iceland</td>
</tr>
<tr>
<td>15*</td>
<td>Gisli-Jon Hjaltasson</td>
<td>9.10.2013</td>
<td>Kaupmadur (Shop owner), Kaupmadurinn</td>
</tr>
<tr>
<td>16*</td>
<td>Halldor Eraclides</td>
<td>9.10.2013</td>
<td>Chef and co-owner of Husid</td>
</tr>
<tr>
<td>17*</td>
<td>Kari Thor Johansson</td>
<td>9.10.2013</td>
<td>Manager owner of the Isafjordur fish store</td>
</tr>
<tr>
<td>18**</td>
<td>Diana Johannsdottir</td>
<td>17.10.2013</td>
<td>Manager of the Westfjords Marketing Office</td>
</tr>
<tr>
<td>19*</td>
<td>Groa Bodvarsdottir</td>
<td>22.10.2013</td>
<td>Manager of JOV shop</td>
</tr>
<tr>
<td>20*</td>
<td>Bjorgvin Sveinsson</td>
<td>22.10.2013</td>
<td>Driving guide</td>
</tr>
<tr>
<td>21*</td>
<td>Bjorn Baldursson</td>
<td>23.10.2013</td>
<td>Museum worker</td>
</tr>
<tr>
<td>22*</td>
<td>Ulfur Thor Ulfarsson</td>
<td>24.10.2013</td>
<td>Co-owner of Hamraborg</td>
</tr>
<tr>
<td>23*</td>
<td>Magnus Hauksson</td>
<td>26.10.2013</td>
<td>Chef Tjorhusid</td>
</tr>
<tr>
<td>24*</td>
<td>Hugrun Magnusdottir</td>
<td>28.10.2013</td>
<td>Farmer, Vigur</td>
</tr>
<tr>
<td>25**</td>
<td>Ralf Trylla</td>
<td>4.11.2013</td>
<td>Environmental Engineer for Isafjordur</td>
</tr>
<tr>
<td>26**</td>
<td>Shiran Thorisson</td>
<td>5.11.2013</td>
<td>Managing Director, Westfjords Regional Economic Development Agency (Atvest)</td>
</tr>
<tr>
<td>27*</td>
<td>Gautur Ivar</td>
<td>11.11.2013</td>
<td>Manager of the company that operates the camp site Tungudalur, Isafjordur</td>
</tr>
<tr>
<td>28**</td>
<td>Daniel Jakobsson</td>
<td>10.12.2013</td>
<td>Mayor of Isafjordur</td>
</tr>
</tbody>
</table>

* - interviewed as business; ** - interviewed as expert; *** - interviewed as business and expert
## Appendix 8 – Businesses surveyed

*Table 27: Businesses that answered the business survey questionnaire*

<table>
<thead>
<tr>
<th>Nb</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Westfjords Shop</td>
<td>Tourist shop</td>
</tr>
<tr>
<td>2</td>
<td>Tourism Information Office</td>
<td>Tourist shop</td>
</tr>
<tr>
<td>3</td>
<td>Gamla Bakery</td>
<td>Food/Beverage</td>
</tr>
<tr>
<td>4</td>
<td>Midhus, Rammagerd Isafjardar</td>
<td>Tourist shop</td>
</tr>
<tr>
<td>5</td>
<td>Borea Adventures</td>
<td>Tour operator and Food/Beverage</td>
</tr>
<tr>
<td>6</td>
<td>Eymundsson</td>
<td>Book store (geared towards tourists in Isafjordur)</td>
</tr>
<tr>
<td>7</td>
<td>Edinborg</td>
<td>Food/Beverage and Entertainment / Cultural</td>
</tr>
<tr>
<td>8</td>
<td>Kaupmadurinn</td>
<td>Tourist shop</td>
</tr>
<tr>
<td>9</td>
<td>Husid</td>
<td>Food/Beverage</td>
</tr>
<tr>
<td>10</td>
<td>Fish store</td>
<td>Shop (fish)</td>
</tr>
<tr>
<td>11</td>
<td>JOV</td>
<td>Shop (clothing)</td>
</tr>
<tr>
<td>12</td>
<td>Westfjords Maritime Museum</td>
<td>Entertainment / Cultural</td>
</tr>
<tr>
<td>13</td>
<td>Jon og Sigga</td>
<td>Shop (clothing)</td>
</tr>
<tr>
<td>14</td>
<td>Kraft</td>
<td>Shop (sports and outdoors)</td>
</tr>
</tbody>
</table>

*Westtours, the main cruise tour operator in Isafjordur has been approached several times, unsuccessfully*
Appendix 9 – Business survey

Tourism income in Isafjordur

1. Type of business:
☐ Accommodation ☐ Transportation ☐ Tour operator ☐ Shop ☐ Food/beverage
☐ Entertainment/cultural ☐ Other __________

2. What were your total sales during the tourist season (defined as May 15 – September 18, 2013)?
☐ <5 million ISK ☐ 5-15 million ISK ☐ 15.1-25 million ISK ☐ 25.1-50 million ISK ☐ >50 million ISK

3. Sales during the tourist season represent how much of your sales over the past 12 months?
☐ 0-20% ☐ 21-40% ☐ 41-60% ☐ 61-80% ☐ 81-100%

4. How much of the sales during the tourist season derives directly from tourists in general?
☐ <5% ☐ 5-15% ☐ 16-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

5. How much of the sales during the tourist season derives directly from cruise tourists, land-based tourists, and locals, respectively?
   - cruise tourists: ☐ <5% ☐ 5-15% ☐ 16-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%
   - land-based tourists: ☐ <5% ☐ 5-15% ☐ 16-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%
   - locals: ☐ <5% ☐ 5-15% ☐ 16-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

6. Of the sales to land-based tourists, how much (in percent) was to foreign tourists? ____%
Appendix 10 – Survey for land-based tourists

Questionnaire for land-based tourists in English shown as formatted in the next 4 pages.
The goal of this survey is to assess your experience as a tourist in Isafjordur and your interactions with other tourists in town. The questionnaire takes around 10-15 minutes to complete and it is addressed to all the tourists that visit Isafjordur, except for the cruise-ship tourists. It is part of the research for a Master’s thesis by Lucian Reniță at the University Center of the Westfjords, Isafjordur. For further details, please contact me at: renitsa@yahoo.com. Your involvement in this survey is deeply appreciated. Thank you!

Date of today: ___________ Date of arrival in Isafjordur: ___________
If you have arrived today, please indicate the approximate hour of arrival : ______
Planned date of departure: ________

**Part 1: General tourism information**

1. **Is this your first visit to Isafjordur?** □ Yes □ No
   If not, how many times have you been to Isafjordur before?
   □ 1 □ 2 □ 3 □ 4 □ More than 4

2. **What is the main reason for your visit to Isafjordur?** *(Mark all that apply)*
   □ Travel □ Business □ Study or research □ Visit friends or relatives
   □ Special event < What? ___________________ □ Other:_____________________

3. **What type of accommodation do you use while staying in Isafjordur?** *(Select all that apply)*
   □ Hotel □ B&B/Guesthouse □ Camping area □ Private (Relatives/friends)
   □ Mobile home/camper van □ Other, please specify:_____________________

4. **On a scale from 1 to 5 (1 – no information at all; 5 – thorough information about the place), how much information about Isafjordur and its surroundings did you have before coming here?**
   1 2 3 4 5

5. **How important was each of these factors in your decision to come to Isafjordur?** *(One answer per row)*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very important</th>
<th>Important</th>
<th>Moderately Important</th>
<th>Not important</th>
<th>Totally unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>The cultural heritage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The tranquillity and remoteness of the place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The nature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking and other outdoors opportunities in the area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities to have fun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. To what extent do you agree with the following statements? (One answer per row)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When traveling, I want to interact with locals as much as possible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer isolated and remote places</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourists from other parts of the world enrich the destination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sometimes start a conversation with other tourists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wherever I go, the most important thing is to have fun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. During your current stay in Isafjordur, in how many days have you witnessed visits from cruise-ships?
   8.a. □ I have not seen any cruise-ships
   8.b. □ 1 day □ 2 days □ 3 days □ 4 days □ more than 4 days with cruise-ships

8. If you have chosen option 8.b, when did you witness the last cruise-ship visit to Isafjordur?
   □ Today □ Yesterday □ 2 days ago □ 3 days ago □ More than 3 days ago

Part 2: Experience and interactions in Isafjordur

The following questions (9 to 14) are about your experience and activities as a tourist during one day in Isafjordur and the interactions with the other tourists in town. If you have seen any cruise-ships during your stay, please refer to the day of the most recent cruise-ship visit. If you have not seen any cruise-ships while in Isafjordur, please refer to your experience from the last day that you spent in Isafjordur and the surrounding area.

9. For the next section, you will refer to (Select one):
   □ the day of the last cruise-ship visit, if you have seen a cruise-ship
   □ today (if no cruise-ships seen and it is evening)
   □ yesterday (if no cruise-ships seen and it is morning)

10. On the day selected at question 9, how much time did you spend in the town of Isafjordur?
    □ the whole time □ most of the time □ half of the time □ little time □ no time at all
11. How would you describe your activities during the day you selected in question 9? (Mark all that apply)

- I took a walk through Isafjordur’s city center
- I had a hike on the mountains around Isafjordur
- I went by car/bus/bike/scooter to one or several locations around Isafjordur
- I booked a tour (walking / bus tour) of the city (and/or places surrounding it)
- I had some other leisure activity in Isafjordur or around (golf/kayaking/fishing etc)
- I spent some time in one of the pubs/restaurants in Isafjordur
- I did some research or work-related activities in Isafjordur
- For most of the day, I was outside Isafjordur. Where? ______________________

12. Express your agreement or disagreement with the following statements about the day you selected in question 9. (Select one per row)

<table>
<thead>
<tr>
<th>Strongly</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I had difficulty accessing some of the tourist services (organized tours, renting bikes etc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I had difficulty finding a satisfactory place to eat or drink</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There were more people in town than I expected</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Below you will find a scale that has to indicate the extent of crowding in Isafjordur on the day selected in question 9, ranging from not at all crowded (1) to extremely crowded (9). Please indicate a number that matches your feeling? (Circle one number)

<table>
<thead>
<tr>
<th>Not at all crowded</th>
<th>Not very crowded</th>
<th>About right</th>
<th>Crowded</th>
<th>Very crowded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Have you felt this extent of crowding as positive or negative?
- very positive  □ positive  □ neutral  □ negative  □ very negative

14. Which behaviour(s) of other tourists has(ve) disturbed you in Isafjordur on the day you selected in question 9? Please indicate the extent of the disturbance. (Select one answer per row)

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Not much</th>
<th>Much</th>
<th>Very much</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being noisy and disturbing the tranquillity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing in the way when you were taking pictures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traveling in large groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (if applicable) ______________</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
15. Please express your feelings regarding the following statements, on a scale from 1 (strongly negative) to 10 (strongly positive). (Circle one per row)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<tbody>
<tr>
<td>I would like to return to Isafjordur</td>
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<td>It is likely that I will return to Isafjordur in the next 10 years</td>
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<td>I would recommend my friends to visit Isafjordur</td>
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16. How much do you estimate that you have spent per day during your stay in?  

Amount_________ Currency ___________________ (e.g. US dollar; Euro; Icelandic Krona)  
If possible, please give estimations for daily spending on the following items:

Accommodation ________ Restaurant / Cafe ________ Food_______  
Organized tours in and around Isafjordur ________ Souvenirs ________  
Various leisure activities (e.g. golf, kayaking, fishing) ________ Other_____

Part 3: Personal information  

Age: [ ] 18-25 [ ] 26-35 [ ] 36-45 [ ] 46-55 [ ] 56-65 [ ] 65+  
Sex: Male / Female Country of residence ____________________________  
Occupation  
[ ] Employed [ ] Self-employed [ ] Unemployed [ ] Student  
[ ] Retired [ ] Other ____________________________  

What is the net total income per month in your household?  
Currency: ___________  
[ ] 2100 or less [ ] 5501 - 7100 [ ] other: ____________________________  
[ ] 2101 - 3700 [ ] more than 7100 [ ] I prefer not to answer this question  
[ ] 3701 - 5500 [ ] unknown  

Other comments

Thank you for participating in this survey!