

FREIIA

How demography in an island community can be a force for development and innovation - the outcome from a training module for student entrepreneurship

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Introduction

Can an elderly population become a basis for innovation and rethinking?

Grand societal challenges («SCG») require innovative approaches (Voegtlin et al., 2022). Demography and a growing elderly population is a major SCG concerning especially Western-Europe. To handle this, changes within both private and public sector are required. The importance of this topic has been underlined as “Good Health and well-being” and is defined as Sustainable Development Goal (“SDG”) Nr 3. of the UN.

Islands characterized by their isolation can be useful as experimental spaces, where the gained knowledge can be transferred and used in larger societies on the mainland.

Demography challenges in rural areas are a common trend (Anderson & Irava, 2017). The impact an ageing population has on the communities on islands has been examined in various studies. The geographical spread from Waiheke Island (Bates et al., 2019), via the Maldives (Moosa, 2020) and Portuguese islands (Sousa Gomes et al., 2024) to the Swedish islands Koster (Heyden, 1998) indicates that this is a global common feature. On the islands the demography covers a broad range of themes from concern how to attract younger generations to stay or move back as well as various views on development and environmental protection to health care. Thus, demography often described as a challenge, it can enable rethinking the organization of society, leading to market opportunities and opening for innovations within both governance and business. In a resilience context (Cecchini et al., 2019) demography contributes to stabilize the society in rapid changes. A further aspect related hereto is the connection between demography and cultural heritage (Tapia-Gómez & Lois González, 2025) .

As demography was highlighted as an important topic in a study on Hvaler, where staff and on students from Østfold University College (“Hiof”) were involved, it triggered a further search to gain insight into how the society organize and handle elderly people and their needs.

A case study at a local health care centre on Hvaler provided further information whereas demography can change the conduct of work and be seen as source for innovation opening interesting market possibilities attracting young entrepreneurs.

This study examines the process to identify challenges in an island society (Douglas, 2006) and ways to solve it, especially related to a growing elderly population. Further innovative initiatives to handle this challenge will be discussed.

Background

The study was an outcome from a training module for student entrepreneurship related to the Interreg North Sea project Facilitating Resilience Enhancing Islands Innovation Approaches (“FREIIA”) involving 11 partners from academia and the public sector in France, The Netherlands, Germany, Denmark, Sweden and Norway. The project’s objective is “to create skills, resources, competences, capabilities & structures that support the public sector in becoming effective and successful in transformative policies in building resilience, with a focus on the GSCs/ SDGs” (Interreg, u.å.) .

Hiof is one of the partners in the FREIIA project. Hiof’s contribution is to elaborate on how to stimulate young entrepreneur’s network to support the public sector to meet the challenges related to the SDGs. This is related to working package nr. 3 in the TIPPING mechanism and the Rudder method which are the theoretical framework for the FREIIA project (OECD-opsi, u.å.)

A study done by the staff, involving students, from the Innovation and Project Leadership bachelor program (“IPL”) at Hiof, as part of the FREIIA project, was undertaken on the Norwegian island archipelago Hvaler (“Hvaler”) in the period May – October 2023. An important finding in the study was the challenges related to demography and especially the increase of an elderly population. This led to a case study on this subject.

Hvaler is consisting of 833 islands, of which only a few are inhabited, covering an area of approx. 90 km², is located south-east in Norway in the Oslofjord close to the Swedish border (Dahl, 2018).

In the process of identifying the challenges at Hvaler, leading to this survey of demography, the involvement of students has been a chosen approach. The underlying basis for this practice and the students` contribution will be described below.

IPL has a project-based approach in its teaching (Evensdy et al., 2023). This pedagogic methodology motivates the students as they are involved in the learning process through real-life topics and real business cases provided by regional enterprises and public institutions (Evensdy et al., 2023). In this context it is essential to encourage both students and educational staff to experiment and explore. The use of entrepreneurship and system thinking has been useful frameworks to obtain this (Lynch et al., 2021). With this background it is an essential pedagogical objective at IPL to involve students in research work.

Because of this, students have been involved in the FREIIA project by collecting data and in the analysing of such.

Methods

The study on Hvaler was based on two modules. In the first module the students interviewed 20 stakeholders (Mahajan et al., 2023) with various roles and positions on Hvaler, as employees from the municipality and local businesses, entrepreneurs, inhabitants, politicians and representatives from various NGOs in May 2023.

The study was approved in respect of data protection and ethical standard by SIKT – the Norwegian Agency for Shared Services in Education and Research with the file number 789531.

The stakeholders approved that their answers to be recorded, provided the required anonymization related to names, by signing the consent form approved by the Norwegian Centre for Research Data (NSD).

The stakeholders answered eight questions related to their position on Hvaler, challenges and co-operation. The material was thereafter automatically transcribed, by using the “Nettskjema-diktafon” – a digital app for recording, storing, and transcribing research interviews used by higher education institutions in Norway.

In the second module the transcribed interviews were analysed and the content clustered in topics which were regarded as the main challenges of Hvaler. This material was used in a workshop which took place on Hvaler in October 2023. The students of Hiof contributed to prepare and organize the workshop, where in addition to the local stakeholders involved from module one, also visiting students from Gent in Belgium participated. The design thinking method (Brown, 2008) was used in the workshop to develop prototypes and solutions to the challenges found in the previous interviews. This structure enabled a positive working environment among the participants and encouraged them to develop innovative proposals to overcome the identified gaps in the community.

The outcome was valuable for FREIIA-project and will be incorporated in the final reports related hereto.

The experience of organizing a study in two modules, starting with a first visit to the island focusing on collecting data followed by analysing such and the return to the island for a second time at a later stage to seek solutions by using the design thinking method, by involving students and stakeholders, was both efficient and scientifically acceptable. Given the positive process and valuable outcome, the two modules approach has been used successfully on the following studies on islands involved in the FREIIA project, as Schiermonnikoog in The Netherlands, Bornholm in Denmark and Koster in Sweden in 2024. In the studies carried out on the French islands La Groix and Ouessant in 2025 the modules were combined in a longer stay on the islands, instead of two, due to practical and financial reasons.

Regarding Hvaler and the challenges related to an increasing elderly population, a case study (Yin, 2018) was undertaken in 2024 at Dypedalsåsen - a health care institution on one of the islands in the archipelago. The case study included an in-dept interview with a leading staff member combined with observation on site, to get a better understanding of the work practices within the health care unit (Jamshed, 2014).

Results and discussion

The transcribed interviews undertaken by the students from Hiof on Hvaler have been analysed with AI tools, to get an insight into the main challenges addressed. One of the main concerns of the stakeholders interviewed were related to demography and topics closely related hereto as housing, job-creation as well as economic growth.

The demography development on Hvaler is in line with a general trend observed in various islands communities with an increasing elderly population (United Nations, u.å.) In this connection the need to encourage younger people to settle on Hvaler was shared among the interviewed stakeholders. The struggle to keep and to increase a younger population is shared with many similar islands communities (Cooke & Petersen, 2019). Where the missing option to obtain higher education close to home, lack of relevant employment and increasing housing

prices were given as explanation of the outmigration. Full year employment is a key task to attract young people to settle. The understanding to develop Hvaler to a full- year-season destination was shared by many of the stakeholders. They further addressed the negative impact a short peak season has on the fragile coastal environment, infrastructure and services and stressed that actions taken to stretch the season were important.

Hvaler is a popular vacation destination with 4,310 summerhouses, which implies a substantial increase in the population during the tourist season. This has consequences for the environment, the infrastructure and the services offered from both the public and private sectors.

As a result of this, the economic structure of Hvaler has changed over the decades from fishery and farming to services focusing on the summer guests and tourists; in terms of value creation and employment. This is shown clear in the sources of revenues of the local companies and the structure of employment.

Hvaler had 1,144 registered enterprises 2012, 50 - 90% of their revenues are related to the summerhouse owners and tourists (Rubach & Nilsen, 2013).

Table 1. An overview of the major business segments on Hvaler measured in employment

Construction (primarily housing and summerhouses):	13.1%
Retail:	14.3%
Transportation and logistics:	5.3%
Hotels and restaurants:	4.0%
Agriculture and fishery:	4.0%

Based on: (*Temaplan verdiskaping «Næringsstrategi 2019 – 2023» Del II: Ståsted, u.å.*)

Though the major employer of Hvaler is the municipality.

An overall common concern which was observed in the interviews is the lack of co-operation and dialogue between the various partners at Hvaler within the private sector, but especially in the interaction with the municipality and local authorities. This might slow and even harm progress and innovation.

Cultural Heritage

Hvaler has undergone a transformation from a society largely dependent on maritime activities like fishery, to a service-oriented community focusing on summer guests and tourism. It is vital that the cultural heritage of Hvaler is integrated in this change, not only to preserve the identity of the archipelago but also to motivate for entrepreneurial projects (Hamza Boujida & Issam Debbagh, 2025). To secure and develop the coastal cultural heritage, a holistic approach from various stakeholders is required as Khakzad Pieters and van Balen have underlined (Khakzad et al., 2015). Demography plays a natural role here. The elderly population possess valuable knowledge, traditions and skills from the past. As bearer of the cultural heritage they must be encouraged to share their experiences and knowledge by active participation in the society for instance through volunteering work.

Demography - a wicked problem?

We will look further into the demography, end especially the growth of the elderly population and how this challenge is handled and if solutions used can be transferred to other aeras addressed as problems, as this is closely linked to SDG no3 “Good Health and well being”.



A wicked problem is characterized by its complexity and that it is hard to define given its own dynamics and that the content might change over time, which makes the search for solutions complicated (Ritchey, 2013) .

Demography and especially the increase of the elderly population with a substantial impact on the society in respect of financing and policy, thus qualifies as a wicked problem (Marier & Van Pevenage, 2017).

In order to get an understanding of the demography on Hvaler, the related challenges and the proposal for improvements; an overview of the major data related hereto will be presented in the following:

As per January 31, 2024 Hvaler had 4,777 inhabitants, as can be seen in figure 1, the population with an age of 50 to 84 years makes the majority. Whereas the group between 20 and 39 years is rather small. The average age of the population is increasing. The strongest growth was in the group above 65 years in the period 2013 -2024 (*Kommunefakta*, u.å.).

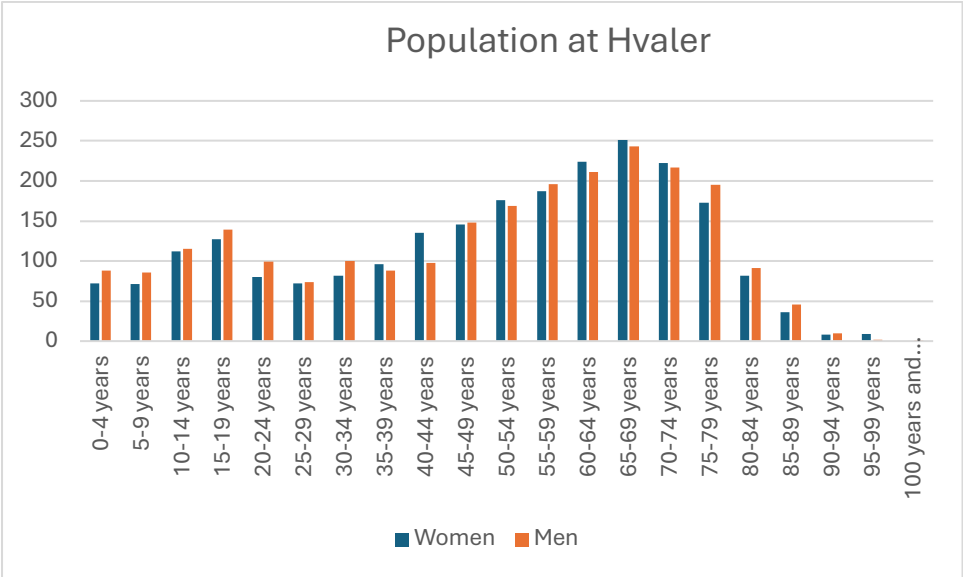


Fig.1 Population at Hvaler based on data form Statistics Norway

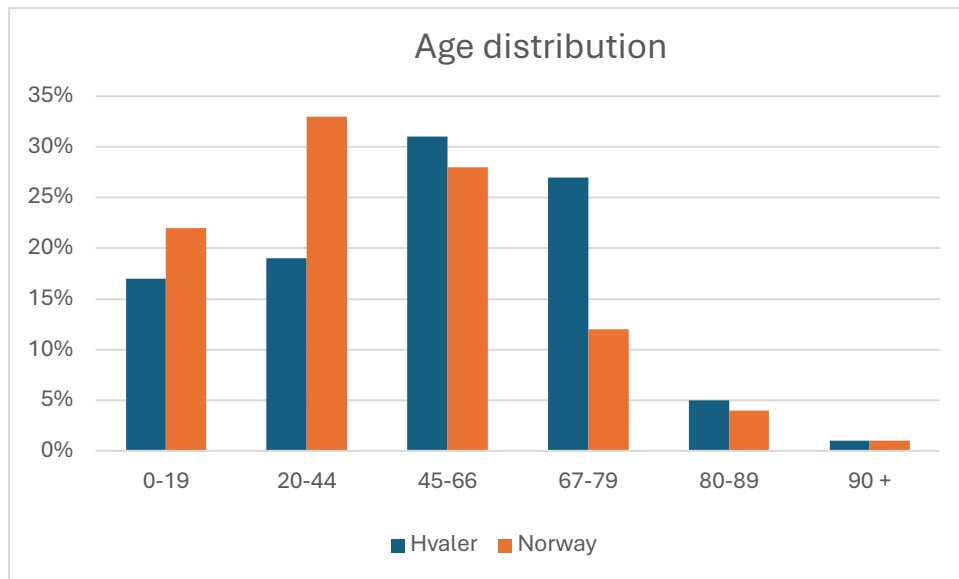


Fig.2 Comparison of age distribution on Hvaler and in Norway based on data from Statistics Norway

Figure 2 shows a clear difference between the population of Hvaler compared to the rest of Norway. 17% of the population at Hvaler is younger than 20 years, whereas in Norway this group makes up 22%. On the other end of the scale 33% are older than 67 years at Hvaler, which is a sharp contrast to 17% for the rest of the country. Assumed that women and men between 20 and 67 years can be categorized as the available work force; half of the population at Hvaler is part of this group. In Norway the similar group stands for 61% of the population.

Statistics Norway (the official statistical bureau in Norway) has predicted a population growth up to 5,200 inhabitants by 2030 on Hvaler; which is among the highest growth rates in Norway (*Kommunefakta*, u.å.)

The population group with an expected substantial increase will be among people above 70 years - this will have an impact on the whole society at Hvaler and how it will face this challenge (Cecchini et al., 2019).

The stated lack of inflow of younger families is to some extent mitigated by the fact that the number of the working population of 20-67 years has been stable from 2013 to 2024.

Demography – a contributor to resilience

The robustness of a society is closely related to economic development where socio-demographic diversity is an important contributor (Cecchini et al., 2019). The age distribution at Hvaler has various aspects. The outflow of young people might concern, but the fact that the working population has remained stable indicates a certain resilience. The growing of the elderly population can hamper development, but as they stay and live on the Hvaler archipelago they also represent a stable group, supporting resilience. They have various needs, especially within health care, but their contribution to the society support regularity and ability to handle changes.

Rethinking in elderly care

To get a better understanding of the challenges related to ageing population on Hvaler an interview with a department head at the local health care centre Dypedalsåsen was undertaken in addition to observations in their premises.

The elderly care provided by the unit coordinated activities has obtained a high degree of satisfaction among their clients and is widely known for their excellent services.

The unit has a good working climate and a high degree of motivated team members, which was manifested by a low sick-leave rate of only 2.9% in 2024 compared to 6.4% for the Hvaler municipality in total (Hvaler Kommune, 2025).

Given their positive contribution to what is described as a challenge to society, it is interesting to seek the factors leading to this result.

The health care centre is run by the Hvaler municipality. The department for coordinated activities, which has key role on the elderly care, was established in 2020. The team consists of 12 persons; 9 females and 3 males; with a range of age from 24 to 60 years.

The team members have a well-diversified background regarding education and working experience. Most of them have been working in the health care system over years. The professions represented are social worker, nurse, healthcare worker, physiotherapist, occupational therapist but also teacher and technician.

Their tasks are mainly:

- Preventive work through activities
- Rehabilitation
- Improve health and ability for elderly people to care for themselves, preferably at home, through activities.

Many of the elderly people at Hvaler prefer to stay at home as long as possible. As many of them live in their own houses, they also contribute to the municipality and co-finance their own health care by paying property tax paid to the municipality. This tax amounted NOK 58 million in 2024, when the municipality had a total income of NOK 642.5 million.

Though being a traditional institution within the public sector, which in general has a limited room for improvements related to innovations, the team at Dypedalsåsen has shown ability to seek creative solutions and willingness to try out new methods in order to improve the quality of their health care services provided. As an example, is their participation “Roald Worlds for Seniors” the world cycling championship for seniors (<https://roadworlds.com/>, u.å.) – which they won in 2024 and 2025. The participants met twice a week during the year for training and preparation. During the championship, which took place in October, the participants met five days a week from 8 am to 3 pm to cycle in a room (in fact they had to move to larger premises in 2025 due to an increased number of participants) equipped with ergo-bikes and hand-bikes. All the participants cycled according to their physical abilities, the oldest was 100 years old, the youngest 55 years old. The route was shown on a wide screen and the distances biked were recorded. The system Motiview is delivered by Motitech, a Norwegian welfare technology company founded 2013.

The outcome of the biking initiative has been encouraging, measured in improved mental and physical health of the participants. It also illustrates the willingness of the team at Dypedalsåsen to try out new methods, and that limited efforts by combining traditional tools with new technology can make a change. It underlines that elderly people can be innovative when guided and supported by a motivated project leader, as was also the case with the Irodori company on the Japanese island Kamikatsu (Haga, 2015).

Critical factors for success at Dypedalsåsen

Based on the data collected the following factors were identified, which have an impact of conduct of work for the department for coordinated activities at Dypedalsåsen:

- 1 High degree of mutual confidence and trust both among the team-members and with their clients
- 2 multi-disciplinary team in respect of gender, age and competence
- 3 Sharing culture
- 4 Stability in the team
- 5 Small and mobile unit
- 6 Solution-orientated mentality
- 7 Willingness for changes, development and innovations
- 8 Clear leadership
- 9 Use of volunteers

The factors 1-8 contribute to motivation and the ability to deliver health care services with high standard, which is highlighted in WHO`s building blocks of health systems in regard of health workforce and leadership and governance (WHO, 2010).

These factors are further important to establish psychological safeness within a team, which is key to secure the optimal contribution of each member of the group (Nemanick, 2022).

In respect of volunteers, the use of external, oft elderly people has been positive, as also have been observed on Croatia islands (Klempic-Bogadi & Podgorelec, 2014). On Hvaler the contribution of elderly volunteers is often connected to activities, mainly of social character, which do not require a formal education or approval. At the health care centre this contribution is honoured by the patients. Further their support releases the staff to focus on other crucial and required tasks. Finally, the volunteers experience recognition and gratitude from the society due to their active contribution. Many of them are recon as the “elderly energy” being contributors rather than a source of concern.

Conclusion

In the FREIIA project challenges and opportunities with various stakeholders at Hvaler were highlighted and discussed. A main topic was the impact a growing elderly population has on society. A deeper knowledge of this subject was obtained in dialogue with the local health care centre and by observation of their creative scope of work.

A community where the majority consists of elderly people can be a source for innovation, which opens a market for creative products and services provided by young entrepreneurs and support the resilience of a fragile society as an island.

The needs of the elderly population combined with their (often) sound financial position trigger various business opportunities from construction work, such as adjusting indoor facilities in accordance with changing life-phases, to shops, various services and health care. This will provide a need for employment and motivate younger people to move to and establish themselves on Hvaler, which again will trigger business opportunities to meet their needs for children`s care, kindergarden, education, housing, leisure activities and shops. A driving force in such a process will be cooperation across the groups at Hvaler, which was another topic, which was addressed in the FREIIA project. To improve the cooperation among various stakeholders at Hvaler, it is necessary to build psychological safeness among the various partners. Psychological safeness being a critical success factor observed at the Dypedalsåsen-health care team. It is important in such a process to build common trust and confidence. This relies on the ability to show respect for the various partners, further to have a common understanding that the involved partners will contribute to the wellbeing of all and recon a mutual dependence regarding the problems addressed and that the finding of solutions requires a cross-disciplinary and sharing-culture.

To improve communication and cooperation at Hvaler, common meeting-places with various stakeholders are required, supported and facilitated by the municipality. These common arenas can contribute to the exchange of ideas and finding solutions commonly. This enables dialogue, involvement and supports democracy all important factors to improve resilience on an island, and elsewhere to manage the future crises and challenges, but also to preserve the cultural heritage.

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