

Project Management in Iceland and Beyond: Expected Future Trends for Project Management and the Project Management Profession

- Paper 3 of 3 in a series on the history, status and future of project management in Iceland.

Helgi Þór Ingason^a, Þórður Víkingur Friðgeirsson^a, Haukur Ingi Jónasson^a
^a School of Technology, Reykjavik University, Menntavegi 1, 101 Reykjavík

Fyrirspurnir:

Helgi Þór Ingason

helgithor@ru.is

Greinin barst 23. janúar 2019

Samþykkt til birtingar 16. desember 2019

Ágrip

Í þessari þriðju grein um sögu, stöðu og þróun verkefnastjórnunar á Íslandi beinum við sjónum okkar að framtíðinni og veltum fyrir okkur hvernig þessi faggrein gæti þróast á komandi árum. Byggt er á nýlegri rannsókn frá Þýskalandi þar sem fjórtan framtíðarstraumar og -stefnur í faginu voru skilgreindar, án þess þó að forgangsraða þeim eða raða eftir mikilvægi. Til að greina mikilvægustu framtíðarstrauma verkefnastjórnunar á Íslandi var Delphi aðferð beitt og niðurstaðan var sú að fjórir mikilvægustu framtíðarstraumarnir væru (1) Verkefnadrifnar skipulagsheildir; (2) Verkefnastjórnun fær aukið vægi og viðurkenningu á borði fyrirtækjastjórna; (3) Aukið flækjustig og áhrif þessa á verkefni og (4) Verkefnastjórnun verður viðurkennd faggrein. Rýnihópur sérfræðinga spáði í þessar almennu niðurstöður og dýpkaði þær.

Lykilorð: *Framtíðarstraumar, verkefnavæðing, Delphi aðferð, skapandi hugsun.*

Abstract

In this third paper under the heading *Project management in Iceland*, future trends in the project management and within the project management profession are investigated and benchmarked against recent research in Germany on the same topic. Fourteen interrelated future trends were identified but neither prioritized nor relatively weighted. To detect the most important future trends of project management in Iceland, a two-round Delphi survey was arranged to rank them according to significance. The four most important future trends are: (1) Project-oriented organizations; (2) Project management being acknowledged and discussed in corporate boardrooms; (3) Increased complexity and how this affects projects, and (4) Professionalization of project management. An expert focus group was established to elaborate on these future trends.

Keywords: *Future trends, projectification, Delphi survey, design thinking.*

Introduction

The context of this paper

This is the third and final paper in a series of articles headlined as “Project management in Iceland” on the evolution of project management and the project management profession in Iceland, which is a fast evolving, developed, Nordic country. The first paper explored the history of project management in Iceland, how project management has evolved as a profession, and the present situation in Iceland in this regard. The second paper discussed the economic significance of projects within the Icelandic economy in the context of present gross value added through project work, and how this has evolved in recent decades. It also compared the situation in Iceland to that in Norway and Germany, where similar research has taken place in recent years. This third and final paper, will explore the future, meaning how the importance of project work might evolve within the Icelandic economy, how the project management discipline might develop, and what major themes and trends might constitute to be the most important ones in this evolution in the coming years.

Projectification, introduction of the term and what is known — in general

Before we dig deeper into the Icelandic reality, let us start with a short detour by looking at the concept of projectification of society. The concept of projectification was introduced in a paper by Christophe Midler in 1995, in which he discussed research into the evolution of the French car manufacturer Renault between 1960 and 1990. This research showed that the success of the company increased over this period, as it evolved from being a traditional, functional organisation into a more horizontal, matrix organisation. Project managers were given more authority, and the application of project management was introduced as a way of running the business. The organisation took steps in this period towards becoming projectified. Midler et al. were the co-authors of another paper (Lundin, Midler and Wåhlin, 2015) on projectification, and how the projectification of organisations gradually influences societies in such a way that they become projectified. The notion of projectification has thus emerged through the years and projects have become a general form of work in organisations in all sectors of the economy. Maylor et al. (2006) discussed the emerging notion of projectification and argued that the term projectification has extended the definition of a project and emphasised that the establishment of programmes and portfolios has become a mechanism for managing organisations.

An indication of increased projectification of society can be seen in the regular reports on project management published by PricewaterhouseCoopers (PWC). A report from 2012 is based on interviews with people in management positions in organisations all over the world. An overwhelming majority considers project management to be a key success factor in any operation and a precondition for growth. A comparison is given with a similar survey by PWC from 2004, showing how the project management maturity of participating organisations has evolved in the period between 2004 and 2012. The difference is striking—the maturity has increased considerably, and the organisations have become more projectified through this period. In fact, the participants in the 2012 survey planned to increase their maturity even more.

Economic importance of projects

The first proposal to outline the projectification of societies in financial terms was made in 2015, when Wald et al. designed a method for assessing the economic impact of projects and applied this tool to the German economy. The share of project work in relation to total work in an organization is used as an indicator of projectification. This is an input-oriented measurement and can be applied to all types of projects, both external and internal, and it can be applied to all kinds of industries - independent of organizational factors. In this study, an undertaking is defined as a project if it fulfills a set of specific conditions: there is a specific target for the project, it is limited in terms of time, it requires specific resources, there exists an independent organization for the project, the project consists of non-routine tasks, it has a minimum duration of four weeks and at least three participants. 500 private and public organizations in Germany participated in the study, and the results show that the proportion of project work in total working hours in Germany in 2013 was 34.7% and estimated to rise to 41.3% by 2019. The assessment method and the results of this research are thoroughly described by Wald et al. (2015).

Why is it important to understand future development?

It is said that we need to know the past to understand the present and to plan for the future. Planning for the future is of utmost importance in modern times, not only for organizations that want to define their policies and create strategic plans, but also for societies who need to ensure that they build up the necessary infrastructure and support to maintain their competitive advantage and ensure the prosperity of their citizens. The economic weight of projects underlines the importance of enhancing professional project management in all layers of society, and this development must be monitored regularly in a systematic and consistent way to prepare for the future.

In the first two papers of this series, we have shed light on the development of project management in Icelandic society and its weight/importance in the economy at the present time. It is now time to look ahead and assess how things will evolve in the near future, and in this paper an attempt will be made to map the most important future trends regarding project management in Iceland. This information is valuable for organisations who wish to build up their infrastructure and resources to compete in a business environment that is characterised by continuous change and increasing demands. An understanding of future development is also valuable at state/national level, for those who define official policy and set laws and create frameworks for the use of public funds. Last but not least, understanding future development is necessary for educational institutions who need to keep up to speed and review and renew their emphases/priorities and offerings—in order to ensure that they can provide future students with the best possible education and training.

Literature – the future of project management

Morris (2013) gave an overview of how the discipline of project management has developed from the middle of the 20th century to the present time. Stages of this development include the planning and control stage with its focus on early planning and control tools, and the focus on engineering complexity and urgency, and this was the major focus of project management until the late 1970s. Organisation theory and the concept of the temporary organisation was introduced in the 1990s, and this was also the time when the project management associations published the first versions of their bodies of knowledge. Enterprise-wide project management was introduced as a concept in the last years of the 20th century, but around the turn of the century, agility gained more and more attention. According to

Morris (2013), the major drivers in project management at present have to do with social challenges, funding, the need for increased competency in project management, a more value driven approach and leadership.

The major drivers in project management today—as seen by Morris (2013)—are reflected in the way some academics talk about forthcoming trends and emphases in project management research and practice. Project management has reached a certain level of maturity, and the future focus of project management will be more on the organisational context, program and portfolio management (Grau, 2011). This includes effective governance of projects, programs and portfolios, human resource management and a general change in emphasis from specific technical and industrial issues to a broader organisational context (Turner, Anbari and Bredillet, 2013; Pollack and Adler, 2015; Geraldi and Söderlund, 2017). We will also be seeing a refinement of the understanding of success in projects, renewed definitions of success factors and success criteria, a broader conceptualisation of projects and a need to look at the wider picture - as seen from the organisation—rather than the narrow project picture (Turner, Anbari and Bredillet, 2013; Dalcher, 2016). A related, important issue is organisational strategy and its link to project management, together with macro project studies and strategy of project-oriented organisations (Turner, Anbari and Bredillet, 2013; Pollack and Adler, 2015; Geraldi and Söderlund, 2017).

Increased complexity and how to deal with this will also be a major issue for the future (Sveivik and Andersen, 2015; Dalcher, 2016). Last but not least, an increased focus on environmental issues and the enormous challenges humankind is faced with will be an important variable for future research and practice in project management (Morris, 2013; Pollack, Adler, 2015). This is a key message of Morris in his book from 2013 on reconstructing project management, where he talks about global warming and the overwhelming and increasing importance of all its consequences, and claims that project, program and portfolio management will have a huge role in making sure that implementation perspectives are taken into account in the forming of strategy and creation of policy (Morris, 2013).

Useful information about ongoing trends in project management can also be found in the topics addressed at some of the more important project management research conferences. In June of 2017, the biennial IRNOP (<http://irnopboston.org>, International Research Network on Organizing by Projects) conference was held in Boston. At the conference a total of 81 presentations were given on a wide range of project management themes, where half of the presentations had to do with the organisational perspectives of projects and projects in the context of the organisation. Examples of such themes are leadership and decision making, megaprojects, programs and portfolios, stakeholder management and sustainability in project management, which has become an import topic. Similar trends could be seen in the annual EURAM (www.euram-online.org, European Academy of Management) management conference in Glasgow in June 2017, in Iceland in June 2018 and in Lisbon in June 2019. This indicates how the field of project management has been broadening and will continue to broaden in the coming years and be even more concerned with the management of project-oriented organisations, rather than with the management of individual projects.

A German research group presented a hypothesis about the future of project management in 2025 (Gemünden and Schoper, 2014; Schoper, Gemünden and Nguyen, 2015). This was the outcome of the collaboration of an expert panel of practitioners and researchers, organized by the team. A qualitative research approach was used, and the sample used consisted of a diverse group of 338 international experts, divided equally into project management researchers and international project management practitioners. The participants were asked about their expectations concerning future trends in project management. More specifically, the participants reflected on the following statement: *“Please describe the five trends in project management which you consider to be the most important, and which you expect will be evident between now and 2025.”* Analysis of the data produced the following 12 trends:

1. Projectification of societies: Project management will become more widely dispersed in all sectors of societies.
2. Coping with complexity: Increasing complexity in projects because of, e.g., globalization, urbanization and increasingly complex systems technologies.
3. Trans-nationalization of project management with alignment to world markets with consistent standardized concepts.
4. Virtualization of project management: Managing projects increasingly through Information and communications technology (ICT) support.
5. Women in project management; the growing number of women in all stakeholder functions in projects.
6. Professionalisation of project management: The occupation of project management will transform itself into a true profession, presenting the highest levels of competence.
7. Education in project management: The offerings for learning project management by universities, industry and professional organizations will increase on all levels of skills.
8. Project management research: An increasing volume of research on the existence, antecedents and impacts of project management practices, as well as the contingencies and dynamics of cause-effect relationships in projects and project management.
9. Stakeholder management: A more structured analysis of the frameworks for stakeholder management and the effects on project success.
10. Projects as business: Projects will be increasingly seen as an entrepreneurial undertaking to deliver business results.
11. Project management goes to the boardroom; Top management of organizations will become even more focused on the use of projects in achieving organizational goals.
12. Project-oriented organization: In a project-oriented organization, a major part of the value creation is delivered in projects. Project management is a core competence for such organizations and business functions are aligned to foster project management.

The case of Iceland

The Icelandic economic system

The Republic of Iceland is a sparsely populated country with an area of 103,000 square kilometers and a population of 350,000 people. Iceland used to be a part of Denmark, and the country’s legislation is still largely based on the Danish legal system. Since the country’s gaining full sovereignty in 1944, a close relationship has been developed with the Scandinavian countries. Iceland has been a member of the European Economic Area (EEA) since 1994. Iceland is a prosperous country, with a GDP of almost 51 thousand USD per capita in 2015, according to the UN, the 12th highest GDP in the world. The export

economy is largely based on fisheries, aluminum production and tourism. Iceland is rich in resources with healthy fish stocks, hydro- and geothermal energy, huge water reservoirs and unique landscapes which attract many tourists. In 2013, 59% of import value and 78% of export value came from countries within the European Union (Hagstofan, 2016). Iceland scores highly on indexes indicating equality and human rights. Iceland is in 2nd place on the Gini index of income equality and in 16th place on the Human Development Index (Hagstofan, 2016). The total Gross Value Added in Iceland in the year 2014 was 12.000 million USD (1,530,775 millions ISK, using the exchange rate on Dec 31, 2014).

Importance of projects in the Icelandic economy

The initial study of Andreas Wald and colleagues (2015) provided a platform for studying Icelandic projectification and the economic impact of projects in Iceland. The Icelandic study was carried out in 2016 and is well described in our second paper (Fridgeirsson and Ingason, 2017) in this series.

142 companies from all economic sectors participated in the study, and the share of project work in terms of total working hours in Iceland in 2014 was shown to be 27.7%. The comparable figure for the year 2009 was 25%, and the ratio is estimated to rise to 31.5% by 2019. Another interesting finding from this research is that the share of commissioned external projects is only 13% of the total. In other words, the majority of all projects being executed in Icelandic organizations are internal projects; organizational and HR projects, IT projects, R&D and new product development projects, marketing/sales projects and infrastructure projects.

In addition to applying the original tool by Wald, a simple benchmark study with a much larger sample was also carried out to verify the outcome of the original study. In this benchmark study, a random sample of 768 managers in high management positions in Icelandic organizations assessed the status of project management within their companies. The majority, or 60% of participants believed that the impact of project management will increase, and hardly any of them think that project management will decrease in importance in the immediate future. In addition, it was clear that the size of organisation—in terms of the number of employees and/or turnover—was positively correlated with the application of project management.

Method

Delphi survey on most important trends in Iceland

The aim of the study was to examine how project management practitioners in Iceland foresee the future of project management and the project management profession in Iceland. As a frame of reference, the study of Gemünden and Schoper (2014) was applied, where twelve future streams in project management were presented.

A Delphi method was used for data gathering. The Delphi method (or Estimate-Talk-Estimate (ETE)) is a structured communication technique or method, developed as a systematic, interactive forecasting method relying on a panel of experts. The method (Hsu and Sanford, 2007) is used as to collect data from individuals with similar knowledge and experience within the same field of expertise as to reach a

common conclusion. In most cases, 15 to 20 experts are chosen to participate. Delphi is based on a questionnaire for the specified field and answers cannot be traced to the participants. Typically, Delphi is executed in two rounds. Once the first round is complete, the results are processed and used for preparing the second round. Participants are now asked to rank the outcomes from the first round in order of importance. The main advantages of this method are that each participant responds individually and does not see the input of other participants. This ensures that there is no bias from other participants (Hsu and Sandford, 2007).

A questionnaire was prepared, presenting and outlining the twelve future streams. Participants were asked to arrange them in order of importance. Participants also recorded their gender and occupational classification according to the NACE classification which is The Statistical Classification of Economic Activities in the European Community (NACE, 2019). This was done to facilitate comparison in case the survey is repeated at a later stage. The questionnaire was prepared using the SurveyMonkey web application for surveys. The survey was sent to recipients by email with detailed definitions of the 12 future trends, and further explanations of the purpose and structure of the survey. Once the results from the first round were reached, the second round was prepared and sent to the recipients in a similar way. In order to see if there was a decisive difference in the ranking of the trends, only the six top trends from the first round were used in the second round.

The panel of experts that participated in the Delphi survey were selected by the authors and consisted of experienced individuals from many industries. All participants have extensive knowledge of project management, due to their education and experience, and many of them have conducted research in the field. The survey was sent to a total of 34 individuals (12 women and 22 men).

Focus group on the output from the Delphi survey

Focus group is a research method whose purpose is to collect data from a group interaction of people who have experience or are likely to contribute something meaningful regarding the topic under investigation. The method is very valuable in an initial phase of research as to help prepare for the main data collection phase, e.g., as a precursor to the development of a more structured instrument. Focus groups should preferably consist of 6-8 persons. The researcher defines the topic and participants are encouraged to exchange ideas and opinions, giving a deeper perspective to the topic. When people interact with each other, the result can be more powerful than in a one-on-one interview. Focus groups should feel informal but should still be structured to a degree. The moderator is responsible for leading the discussion and questions should not exceed 10 per hour. The secretary at the meeting should take notes and be responsible for recording the meeting if required (Robson & McCartan, 2011).

The decision was made to conduct a workshop as part of a focus group. The reasoning behind this decision was that interviews would restrict the quality of collected information. The aim of the project was to verify the results of the Delphi survey, based on the study of Gemünden and Schoper (2014). Focus groups allow the participants to be creative and to think outside the box. Therefore, the focus group was the ideal method to acquire the required information.

Stratified, purposeful sampling was applied to ensure that the focus group participants represented a number of disciplinary affiliations and work profiles (Lyons, 2000). Out of the eight participants, five were males and three were females. The age distribution in the group was 25 - 54 years. All participants have university degrees at master's level— MBA, social science, civil engineering, computer engineering and humanities. Three of the participants had completed an executive master's program in project management (MPM program). The participants represented companies from different business sectors, consulting firms, a financial institution, a civil contractor, an electric power production company, an IT contractor and an aviation services company. All participants had experience in project management, ranging from moderate to extensive. Three of them had an international IPMA project management certification (C or B level) and two of them were coordinating extensive project management portfolios for their companies. Half of the participants had been active in the Icelandic Project Management Association and served as board members.

The focus group met for a 4-hour discussion on chosen topics, for which the participants had volunteered. The focus group discussion was prepared in such a way that it would be issue-driven and theory-based. The group was first introduced to some of the basic concepts of projectification and to the study on future trends in the project management discipline—as we have explained in this paper. Particular emphasis was put on explaining the four trends that scored highest in the Delphi study.

Design thinking methodology was used as a framework for the work session. All participants were divided into two groups that worked on the same subjects. The objective was to engage all participants in contributing and getting on board, and the focus was on sharing thoughts rather than on detailed discussion.

For each of the four trends, the following procedure was applied:

- The particular trend to be discussed was shown on a slide, with one focus question for that trend.
- Silent individual brainstorming for 5 minutes, during which each participant wrote his/her ideas on sticky notes.
- A 25-minute round the table sharing session. The participants shared their sticky notes, one note at a time, and put them on a wall. After all team members had shared their sticky notes, the group started to cluster the data. Common topics or patterns emerged, and the groups defined headlines for the different clusters.
- A 20-minute session where the two groups presented their findings and discussed them. The whole group agreed on a common understanding regarding the trend, before moving on to the next one.

The facilitation of the work session was mainly based on keeping to the timeline. Also, if participants got stuck in a detailed discussion, or if one participant took too much time to share her/his thoughts, a facilitator intervened in the discussion to keep to the timeline. Sometimes the participants ran into difficulties in clustering the data and in such cases a facilitator assisted the group. All results (sticky notes and headlines) were put on a whiteboard, photographed and documented digitally. All discussions were also recorded digitally.

The focus group sample was small, yet it represented a fairly broad selection of disciplines, ensuring that a diversity of variations was possible. The common academic background and project management experience facilitated a sharing of common experience in the group. This accords with the maximum variation criteria elaborated by Lyons (2000). The age distribution was wide, the gender distribution was acceptable, and many different business sectors were represented in the focus group.

Results

The Delphi survey

Table 9 below shows the distribution of participants in the Delphi survey, according to the NACE classification. The *mark is used as to indicate the sectors that were excluded from the survey.

Table 9. Distribution of participants in Delphi survey.

NACE Code	Sector	Participants in 1st round	Participants in 2nd round
A	Agriculture, forestry and fishing*	2	1
B-E	Manufacturing industry (excluding construction)	1	1
G-I	Retail / transport / hospitality / tourism	2	1
J	Information and communication	3	2
K	Financial services & insurance	1	1
O-Q	Public sector, education, health	2	1
L	Real estate	1	1
F	Construction*	4	2
M-N	Corporate service providers*	6	6
S+F+L+ M-N	Other service providers	1	0
Total (male/female)		17/6	14/2

Table 10 shows the ranking of the twelve future trends (Gemünden and Schoper, 2014) after the first round of the Delphi survey. Defined by a panel of experts.

Table 10. Ranking of the twelve trends in the Delphi survey - 1st round.

Trend	Rank
Coping with complexity	1
Project management goes boardroom	2
Project-oriented organization	3
Professionalisation of project management	4
Virtualization of project management	5
Projectification of societies	6
Trans-nationalization of project management	7
Projects as business	8
Education in project management	9
Stakeholder management	10
Women in project management	11
Project management research	12

The trends ranked 1 to 6 were used in the 2nd round of the Delphi study. The results can be seen in Table 11.

Table 11. Ranking of the twelve trends in the Delphi survey—2nd round.

Trend	Rank
Project-oriented organization	1
Project management goes boardroom	2
Coping with complexity	3
Professionalisation of project management	4
Projectification of societies	5
Virtualization of project management	6

Focus group discussions

The focus questions were based on the top four future trends, according to the Delphi survey, and were as follows:

- Trend 1: **Project-oriented organization**—*How do you see the project-oriented company in the year 2030? Rationale:* To explore how the organizational structure of companies might change as a consequence of the foreseen development that a large part of the value creation of companies will be in the form of projects.
- Trend 2: **Project management goes to the boardroom**—*How do you see the support and understanding of top management of organizations for projects and project management developing between now and the year 2030? Rationale:* To explore whether leaders and managers of organizations will be involved in projects in a different way in the future, and if so how?
- Trend 3: **Coping with complexity**—*What will be the response to the increased complexity of projects and project management between now and 2030? Rationale:* To explore how traditional PM methods will have to change as to deal with increased future complexity.
- Trend 4: **Professionalism of project management**—*How do you see project management developing as a profession between now and the year 2030? Rationale:* To explore this development and

speculate how educational institutions and the professional project management associations might best respond to it.

The following are the results from the focus groups—and as explained above—compiled directly from their discussions:

The Project-oriented organization

- **Organizational structure:** There will be changes within companies, whereby the focus will move from departmental structures to more focus on employees and projects. Employees will not be in fixed positions but rather participate in projects as needed for a certain time. More emphasis will be placed on defining employees' competences and skills.
- **Knowledge and processes:** A new generation will be open for new ways and ideas of how with regard to execute projects. 'Gates' and 'phases' will be used more, as well as program management, which will become more consolidated. When it comes to employees, the focus will be more on their flourishing and wellbeing. There will be an increased requirement for employees to have comprehensive skills and a more general knowledge of project management.
- **Strategy:** There will be a clearer link between company strategy and project-orientation. Business strategy and budgeting will increasingly take projects into account where projects and project portfolios can be used effectively as to actualise both strategic and budgeting intentions. Project management will be seen as having a high stand in the value chain and project portfolios will link the shaping of strategy to execution for value. This will lead to more effective use of portfolio management, which will in return result in better utilization of resources.
- **Quality:** Projects will increasingly be well-defined, and documentation will be centralized within organizations. Projects will have pre-defined benefits and not defined by only cost, schedule and quality.
- **Resources:** Resources will not necessarily be part of the organization, but rather be pulled in based on the needs of projects. Project managers will be more specialized, and some might have special expertise of portfolio management.
- **Human factors:** With more use of Artificial intelligence (AI) earned value and critical path will become automatic, but the human factor will be the challenge. Project managers will be challenged to combine people's talents and to effectively get the most out of them.

Project management goes to the boardroom

- **Ownership:** There will be more focus on projects where project portfolios will be used effectively, and projects will be ranked according to importance. Managers will have ownership of projects related to the business.
- **Information sharing:** Projects will have a project sponsor, who will own the project and follow it through as visible and measurable results will be seen as being increasingly important. Each project will be well monitored, and reports will be made to managers.
- **Change management:** Change management will increasingly be used in business strategy implementation.
- **Education:** Boards will demand more knowledge on project management and the focus will be on projects and project management.
- **Portfolio management:** Managers will realize the value of project portfolio management and the concept of value added in the context of PPP management.

- **Professionalism:** There will be a better understanding of what the difference is between a project and what is a day to day job. The importance of projects will grow, and the importance of defining projects with other companies will be increasingly used.

Coping with complexity

- **Cooperation:** There will be more focus on projects as investment and for long-term gain, rather than as a single contract and such cooperation with other companies will make projects more complex.
- **Employees' skills:** In complex projects, emphasis will be on communications and skills. People will have to learn more languages, be more open minded and be able to work with different cultures. This will also call for increased specialization of employees.
- **Technology:** Better software solutions will be available.
- **Flexibility:** Project management will entail more flexibility and new methods. Agile and Scrum will be used more effectively to make complex tasks simpler.
- **Increased analysis:** Projects will be better defined from the beginning and with it will come more thorough analysis of risk and interests of different groups.
- **Benefits:** More emphasis will be placed on benefits and cooperation with those who buy the end product or service.
- **Professionalism:** There will be better supervision of projects where processes and documentation will be stricter.

Professionalization of project management

- **Professional title:** Ethics and standards will be more apparent and project managers might be awarded a regulated professional title.
- **Certification:** There were different views on certification of project managers, but overall the panel agreed that there will be increased demand for certification from the public sector, and this will entail an extra dimension where project managers have more specialised knowledge.
- **Education:** Universities will set requirements for a general knowledge of project management and project management will develop in a similar way as the human resource management has developed. Companies are likely to have a team which focuses on complex projects, in similar fashion as does a human resources management department with regards to staff.
- **Research:** More research will be done on topics with project management as the focus.

Discussion and conclusion

Our findings indicate a noteworthy development, whereby future trends in project management will be characterized by a shift from a focus on conventional, permanent organisations towards a keener focus on the 'temporary organization' of projects and programmes. We also expect a stronger focus on individual project managers and their leadership abilities. This shift will call for more emphasis on comprehensive skills and general project management knowledge at a higher level.

Our findings further indicate that the use of IT-technologies and artificial intelligence (AI) in project planning, organizing and estimation, will make many project management practices increasingly automated. Instead of invalidating the future role of the project manager, it will enhance this role and demand a higher level of leadership competences, such as an increased ability to deal both with intra-

and interpersonal issues on a higher level—i.e. to deal with self-managerial challenges, communication skills and cultural awareness—and the ability to deal with increased complexity. Similarly, agile approaches will continue to be used as methods to better manage complexity through iterations and dynamic approaches to project management.

We predict that project management as a profession will be increasingly valued in future, and that project management standards and ethical codes of conduct will be increasingly important. Project portfolios will link the shaping of strategy to execution, and boards of directors/boardrooms will demand more information on planned and ongoing projects. Managers will serve as project sponsors and have ownership of projects relating to other business areas, and they will be held accountable for project outcomes. There will be more emphasis on projects as investments and for long-term gain.

Our findings are in line with some of the key references detailed in the literature review section of the paper. There will be an increased demand for project management competency (Morris, 2013), the discipline will focus more on the organisational context (Turner, Anbari and Bredillet, 2013; Pollack and Adler, 2015; Geraldi and Söderlund, 2017), and higher levels of complexity will demand the professional ability required to deal with them (Sveivik and Andersen, 2015; Dalcher, 2016).

The predicted trend of the project manager's role is that it will require independent people who are able to work in a self-reliant manner. This is to some extent the opposite of being a company employee. The future professional project manager will increasingly assume the role of an internal or external consultant on whom the project owner can rely when it comes to executing strategy and getting things done. This trend should be taken into account when defining the professional standards of the project management profession and shaping future educational and training programs for project managers.

As stated at the beginning, this paper is the last of three papers on project management in Iceland. It illustrates how project management and the project management profession has crystalized within the Icelandic society, a small Nordic community known for the independent character of its people, who possess high levels of creativity and strong social capital. It also illustrates how a method from the world of engineering, based on mathematical optimization and operational research has developed into a substantial profession of well-equipped doers/achievers who can work both independently and with others to shape our future.

This study—and the other two articles on the evolving on project management in Iceland—indicate that the discipline of project management will play a significant role in defining organization theory in the future, impact the role of line- and functional managers, and advance organizations towards a more behaviourally-based set up. Project management (project, programme and portfolio management) is the contemporary solution to our future need to deal with complexity through agility and versatility.

References

- Dalcher, Darren, and Darren Dalcher. "Rethinking project practice: emerging insights from a series of books for practitioners." *International Journal of Managing Projects in Business* 9, no. 4 (2016): 798-821.
- Gemünden, H. G. and Schoper, Y. (2014). Future trends in project management. *Projekt Management Aktuell*, 6–16.
- Geraldi, J., & Söderlund, J. (2017). Project studies: What it is, where it is going. *International Journal of Project Management*.
- Grau, N. (2011). Future trends in project, programme and portfolio management. *IPMA Expert Seminar 2011*.
- Hsu, C.-C. & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment, Research & Evaluation*, 12(10), 1–8.
- Lundin, R. A., Midler, C., & Wåhlin, N. (2015). Projectification revisited/revisted. In *International Research Network for Organizing Projects (IRNOP) research conference UCL, London, UK*
- Lundin, R. A., Midler, C., & Wåhlin, N. (2015). Projectification revisited/revisted. In *International Research Network for Organizing Projects (IRNOP) research conference UCL, London, UK*.
- Lyons, E. (2000). "Qualitative data analysis: data display model", in Breakwell, G.M., Hammond S. and Fife-Schaw, C. (Eds.) *Research Methods in Psychology 2nd Ed.*, London, Sage Publications, pp. 269-280.
- Maylor, H., Brady, T., Cooke-Davies, T., & Hodgson, D. (2006). From projectification to programmification. *International Journal of Project Management*, 24(8), 663-674.
- Midler, C. (1995). "Projectification" of the firm: the Renault case. *Scandinavian Journal of Management*, 11(4), 363-375.
- Morris, P. W. (2013). *Reconstructing project management*. John Wiley & Sons.
- Morris, P. W. G., Pinto, J. K., & Söderlund J. (2012). *The Oxford handbook of project management*. United Kingdom, Oxford: Oxford University Press.
- Packendorff, J., Lindgren, M. (2014) Projectification and its consequences: Narrow and broad conceptualizations. *South African Journal of Economic and Management Sciences*, 17, pp. 7-21.
- Pollack, J., & Adler, D. (2015). Emergent trends and passing fads in project management research: A scientometric analysis of changes in the field. *International Journal of Project Management*, 33(1), 236-248.
- PWC (2004) *Boosting Business Performance through Programme and Project Management*. A first global survey on the current state of project management maturity in organisations across the world. PricewaterhouseCoopers. PWC report from 2012 and comparison with the earlier report, showing a sharp rise in pm maturity.
- Robson & McCartan, 2011, p. 298-304

- Schoper Y., Gemünden H. G. and Nguyen N. M. (2015). Is this the Future? Fourteen Future Trends for Project Management in 2025. Proceedings of the 12th IRNOP conference, Bartlett School of Construction & Project Management, London.
- Svejvig, P., & Andersen, P. (2015). Rethinking project management: A structured literature review with a critical look at the brave new world. *International Journal of Project Management*, 33(2), 278-290.
- Turner, J. R., Anbari, F., & Bredillet, C. (2013). Perspectives on research in project management: the nine schools. *Global Business Perspectives*, 1(1), 3-28.
- Wald, A., Spanuth T., Schneider C., Futterer F., Schnellbacker B. & Schoper Y. (2015). Makroökonomische Vermessung der Projektstätigkeit in Deutschland. Pýskaland, Berlín: GPM Deutsche Gesellschaft für Projektmanagement e. V.