

Hans Georg Gemünden, Yvonne-Gabriele Schoper

## **Future Trends in Project Management<sup>1</sup>**

### **First results of the new expert survey 2014**

Hardly any area in the management sciences changed as much as project management in the last years. From a tools and methods oriented approach it developed into a holistic contextual, behavioral, and technical competence-based management discipline.

Is this change coming to an end or will project management further develop in the next decades? There are several singular hypotheses concerning future aspects of project management, however, a summary of the different trends and a compelling conclusion is still missing. Therefore, this expert survey aims to bridge this gap.

Following the first expert survey conducted in 2001 by Heinz Schelle and Karsten Hoffmann on the future trends in project management, this second expert survey 2014 addresses the following question: "Which developments do you expect in the area of project management by the year 2025?"

An international group of experts in project management, researchers as well as practitioners were asked to set up their prognoses on the future developments in project management. The outcome of this study provides a holistic summary on the future of project management for the next decade.

*Keywords: future trends in project management; project management trends; future developments in project management; trend analysis; expert survey; projectification, projectifflation*

---

<sup>1</sup> The authors dedicate this article to Prof. Dr. Heinz Schelle. They thank Julian Kopmann and Na Mi Nguyen for their valuable contributions to this article.

## Introduction

A trend is a relationship between an independent and a dependent variable, while the independent variable is time. In most cases, a trend is a positive development (e.g. economic growth, increase of wealth per person, higher average education), but a trend can also mean a decline (e.g. decline of employment in the primary sector agriculture, which leads to an increasing employment in the industrial and service sectors). A characteristic of these developments is change, e.g. the change of tasks which demands for new organizational structures. As a consequence the application of project management as a method for solving complex tasks has increased steadily in the developed industries. Project economy and project industry became the new key words in the last years. However project management is no longer a methodology of the industry, but conquered also other sectors such as education, health care, public administration, politics and culture. Thus the term “Projectification” has evolved.<sup>2</sup> “Projectification” is also the first trend of our empirical study, a trend that exists already since a couple of years and that will further proceed in its development in the next decade.

The following results will discuss more specific trends, particularly the management innovation “project management” itself, how it changed over time and how it might develop in the future. Moreover, we will discuss the challenges it has to cope with, new expectations it is expected to fulfill, new methods, technologies and individual and organizational capabilities that will be part of project management as well as the question what the impact of project management on society is.

In 2001, Heinz Schelle and Karsten Hoffmann asked 11 German and 23 international project management experts in a Delphi study to define their hypotheses on the future of project management for the next decade by the following question: “What developments in the field of project management can be expected in the next ten years in your opinion?” 27 main theses were summarized. Many of these hypotheses by the experts turned out to become realistic faster than expected, like the raise of program and portfolio management, the link between organizational strategy and project management, the raise of social competences in project management, the increasing international standardization and the call for intercultural competence for international project managers (Hoffmann and Schelle, 2001; Schelle, 2009).

In addition to this expert study of 2001 there are several prognoses concerning the future trends in project management (Bredillet, 2002; Kloppenborg and Opfer, 2002; Söderlund, 2004; Artto and Wikström, 2005; Bredillet, 2006; Crawford, Pollack, and England, 2006; Anbari, Bredillet, and Turner, 2008; Kwak and Anbari, 2008, 2009; Artto, Martinsuo, Gemuenden, and Murtoaro, 2009). However, all of those studies are older than five years and consequently out of date.

---

<sup>2</sup> The term „projectification“ was introduced by Christophe Midler (1995) in a study describing this trend at the French automotive manufacturer Renault, but it is nowadays also used at the level of a society, not only at the firm level..

To obtain an up-to-date holistic overview on the main future developments in project management, a new trend study was started in May 2014 to obtain a current prognosis for the area of project management over the next decade until the year 2025. In the following we are presenting the first results of this study.

## **Research Methodology**

For the expert survey 2014 international experts in project management were to be questioned. In order to receive a holistic view on the future trends we particularly paid attention to sample a diverse group of experts concerning the criteria nationality, age, gender, and experience in project management.

We asked N=308 international experts from two different stakeholder groups: 169 project management researchers and 139 international practitioners about their expectations concerning the future trends in project management. We have contacted them via a personalized email and asked the experts for their support to contribute to our trend study using the following question: “please describe the five trends in project management you consider the most important ones and which you expect will likely occur until 2025.”

Most of the researchers that were asked to participate had published frequently in project management journals, are often cited, and award winning members of the project management researcher community.

The practitioners are individual members of the national IPMA member associations Australia, Brazil, Chile, Finland, Germany, Netherlands and the UK. In Germany we asked all certified Level A project managers to contribute to the study.

A final sample of n=48 completed and useable questionnaires were received, n=26 from the group of the academics and n=22 answers from the practitioners, which corresponds to an average feedback rate of 15.6%.

The following table 1 shows the distribution of 48 survey participants concerning their nationality:

Germany	10
Australia	7
Netherlands	5
United Kingdom	5
Brazil	3
Norway	3
France	3
China	3
Chile	2
Sweden	2
Canada	2
Finland	1
USA	1
Italy	1

Table 1: Distribution of the survey participants per country

The national cultural origin is one aspect of diversity of the participants of this trend study, which is one criterion for an international study. The following Figure 1 shows the distribution of the participants per continent. The majority of 62% are European, 17% of the participants are from the Americas, 15% are Australian, and 6% are Asians.

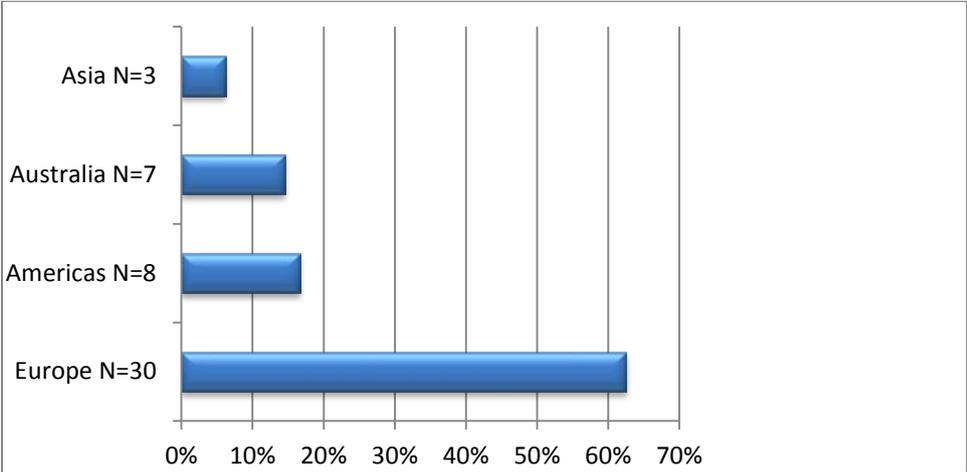


Fig.1: Distribution of the 48 study participants per continent

The second aspect of diversity is the gender distribution of the participants: n=6 or 14.3% of the participants of this study are female: 2 women are from the group of practitioners and 4 participating women are academics.

We applied the qualitative questionnaire method as we seek to understand the different opinions and attitudes of the respondents (Winter, 2000). The answers shall provide an in-depth basis for the statements concerning the future trends in project management in the next decade.

The responses of the participants were imported into Dedoose. This web-based software supports the analysis of qualitative and mixed methods research with text and can be used simultaneously by a group of researchers. It eases the analysis of the data by categorizing the defined answers and can be used by a group of researchers simultaneously. The 240 answers of the experts were discussed and assessed by the two authors and two doctoral students in five half-day workshops.

### **Definition of a Trend and Mega Trends**

To confirm that all participants have the same understanding of the term *trend*, we have given a definition at the beginning of the survey. “A trend describes a change of something over a certain period. Thus, feel free to either name changes in requirements for successful project management, or the way how projects are managed, or the diffusion of project management practices in our society.”

In comparison to a trend, a mega trend describes a fundamental, longer-term global development in technology, industry, politics or society. Mega trends influence a series of more specific trends. Examples for current mega trends are the worldwide growing population, demographic change, aging societies, urbanization, globalization, changing gender roles, individualization, climate change, and environmental pollution.

These mega trends also have an impact on the developments in project management: new demands are developing that can be handled by new solutions developed in projects, new tasks are created that will be solved in projects, new methods, tools and practices are created that modify the way how project management is carried out.

### **Results**

Every respondent was asked to define and shortly describe five future trends with a maximum of 150 words per trend with the following question: “Please describe the five trends in project management that you consider the most important ones and which you expect will likely occur until 2025”. The participating 26 academics and 22

practitioners delivered altogether 240 answers. Their responses were summarized and categorized by the authors in five days team workshops into the following 12 main future trend categories:

1. Projectification of Societies
2. Coping with Complexity
3. Transnationalization of project management
4. Virtualization of project management
5. Professionalization of project management
6. Learning and Education
7. Projects as Business
8. Stakeholder management
9. Project management goes Boardroom
10. Project-oriented organization
11. Women in project management
12. Project management Research

These 12 future trends are described in the following chapters by a short definition, their main drivers and barriers as well as their possible implications for the development of project management. The direct citations from the experts participating in our trend survey demonstrate their thinking and underline our conclusions.

## **1. Trend: Projectification of Societies**

Projectification of societies is defined here as the degree of diffusion of project management in all sectors of the societies (e.g. in the industry, public sector, private initiatives) (Packendorff and Lindgren, 2014; Midler, 1995).

“Projectification” comprises a variety of aspects:

- The relevance of projects changes
  - measured in the amount of work carried out in the organization form of projects
  - measured in the impact of projects
- Increasing acceptance of project management practices in society
- Structural changes in the project industry: distribution of projects in more diverse forms
- Change of the working styles in which projects are carried out
- Change of the requirements on projects and project management
- Change of the solution areas of how the individual projects can be managed
- Change of the project management system that is focused on the entirety of projects carried out by one or several organizations

Over the last decades a steadily increasing amount of the value creation of companies has been generated by projects (Walter, Hofmann, and Rollwagen, 2007; Turner, 2009)

The experts of our study state that although project management as a management innovation has already reached a high degree of diffusion, it will continue to grow. This means that increasingly more sectors of the societies will implement the methodologies of project management for solving their complex unique tasks. Within companies more functional areas will apply project management and the value creation will shift from operations to projects.

Traditionally those companies are part of the project economy that offer products as individualized complex services as e.g. in the construction industry, the machine building industry, the ship building industry, or in the aeronautical industry. In addition to the companies that organize the development and market introduction of their new products and services in projects. In the financial industry and in the service sector, product innovations are often linked to process innovations which are also organized as projects. But also complex organizational transformations or strategic initiatives are organized today in the form of projects. Whole branches as IT, the communication industry and consultancies deliver their tasks in the form of projects. In all these companies project management is part of the functional areas that organize their complex tasks in projects.

Projectification of societies means that also in other industrial sectors such as research, education, health care, culture, sports, public administration, politics, but also in private life the methods of project management are applied. This trend means that people spend more working and private time with projects. As a consequence the value creation through projects in the national economies is continuously increasing. Not only the turnovers are hereby part of the value creation process but also the consumptive, social, cultural, virtual and political parts. We are on our way from a project economy to a project society.

*“Project-based work will become the norm or business as usual in most sectors and most functions, rather than something separate from, or embedded within, routine, repetitive activities.”<sup>3</sup>*

Looking at modern project management as a social technology to solve complex tasks in a limited period of time with a given budget it can be stated that project management was a future technology in the 1950s with a promising potential but limited application. In the 1960s to the 1980s it advanced to a pace making technology which offered significant competitive advantage, particularly in the aeronautical and aerospace industry, the defense industry and for infrastructure projects as well as for complex new product developments. The further diffusion in traditional branches, in IT and consultancy companies made project management becoming a key technology.

---

<sup>3</sup> Expert statement from our study.

In the meantime project management is on its way to an ubiquitous social technology that all leaders should be able to master, and is part of all kinds of management and leadership education. Project management is consequently following the typical life cycle of a technology and developed into a basic technology.

*“The management of projects and project-based work will become a core competence of people within organizations and less the preserve of dedicated specialists.”<sup>4</sup>*

However, with the increasing application simpler and fewer demanding management tasks are also solved with project management. This trivialization of project management which can be described as „projectiflation“ (a short form of “project inflation”) should not be neglected if the relevance of project management is to be evaluated.

Indicators of this trend are time and money spent in projects and the amount of economic, cultural and social benefits as well as the losses caused by projects.

The consequence of the trend projectification of societies is that the diversity of the project tasks and project management approaches will increase. Further, project management will become more elaborated and differentiated depending on the strategic meaning of the project, its size and volume, the time pressure or the specific industry.

Drivers for this new trend are the post-industrialization of the societies creating more complex tasks, new technologies that create new forms of collaboration as well as changing values of the new generation Y that may foster and transform project management in the future.

An implication of the trend projectification of societies is that project management will become a core competence for everybody: not only engineers and managers will know the techniques and are able to apply them, but also members of professions that have no contact with project management today, like in the health or education sector. However, as one size does not fit all, project management will become more elaborated and diversified. New phenomena will be included in project management.

## **2. Trend: Coping with Complexity**

*“Complexity - increasing project complexity is already and will continue to affect project management. I believe we will see new tools and skills for managing complexity in the future”<sup>5</sup>*

Complexity is defined by the number of elements of a system, the number of relationships between the elements, the dynamics of the elements and their

---

<sup>4</sup> Expert statement from our study.

<sup>5</sup> Expert statement from our study.

relationships.<sup>6</sup> It is a characteristic of a system or model where the overall behavior cannot be completely described although one has complete information about all its individual components and its mutual interdependencies.<sup>7</sup> Particularly projects are characterized by the diversity of the affecting factors, the extent of their mutual interdependencies and hardly structural decisions.

The tasks to be coped with by project management are becoming increasingly complex. This derives e.g. from the mega trends globalization and urbanization but also from increasingly complex systems technologies. As a consequence the amount and the budget volumes of the so-called „mega projects“ are increasing (Flyvbjerg, 2014). Many of these mega projects fail which leads to the question how the management of these projects can be improved and how the complexity is to be better coped with.

However, complexity is not only driven by the size and volume but also by the amount of stakeholders involved in the project. These stakeholders are better organized today and articulate their interests better and earlier. In addition all projects have to cope with an increasing insecurity e.g. concerning technological developments and changing customer requirements. Customers demand for increasing functional integration in the products and a reduction of cost, weight, time, and space at the same time. Fast reacting competitors also enforce the project dynamics as well as increasing shorter product life cycles. To better react with these circumstances particularly in the area of ICT (Information and Communication Technology) agile methods derived in the software development, which are also applied in other industries. The experts of our trend study foresee that these methods will further develop to hybrid methods integrating the classic procedures with agile concepts.

Further implications of the trend “Coping with complexity” are that:

- Collaborative methods will increase
- Standardization, modularization and integrating tools will proliferate
- Big data, simulation and statistical analysis tools will augment
- Systemic approaches will be increasingly demanded

The opportunity of better coping with complexity lies in a more efficient and effective handling of complex tasks which again leads to a competitive advantage for organizations as well as for national economies.

*“There has been a growing awareness that the existing tools and methods of project management are somehow limited when it comes to highly complex and dynamic project settings. An increasing number of consultants in project management*

---

<sup>6</sup> See Ulrich & Fluri (1992).

<sup>7</sup> See Härtl (2008).

*therefore offers services that are based on concepts that try to deal with these challenges, e.g. systemic consulting.”<sup>8</sup>*

### **3. Trend: Transnationalization of Project Management**

*“I believe that increasing globalization will affect project management in coming decades. Working across cultures and working remotely from other team members will become increasingly common. We will find more attention paid to techniques for supporting virtual teams and management tools and techniques to facilitate effective interactions for project management across distance.”<sup>9</sup>*

“Global orientation” is defined in international management as the alignment to the world markets with consistent standardized concepts. Hereby, local, lingual, cultural or religious differences are not considered. The resulting homogeneous standardization of product, processes, production, services, communication etc. implicates the effects of economies of scale and learning curves which lead to cost advantages. However the heterogeneity of individuals, organizations, cultures and nations is neglected in this approach. Due to these disadvantages the concept of global orientation was further developed in international management.

Transnationalism is a social phenomenon grown out of the growing interconnectivity between people and the receding economic and social significance of boundaries among nation states. Transnationalism refers to the increasing functional integration of processes of cross-border or trans-bordered relations of individuals, groups, institutions and states who interact with each other in a new global space.

The resulting “transnationalization” combines the advantages of the global standardization with the locally differentiated adaption. The diversity of individuals, groups, organizations, and cultures is taken into consideration as far as possible.

Transnationalization of project management combines the integration of standardized global project management processes of individuals, groups and organizations interacting on a multinational level with the advantages of the differentiation of project management to the local requirements by adaptation (“think global, act local”). Transnationalization of project management follows the objective to be able to flexibly adopt the global project management standards to the local needs of the organization, subsidiary, or local transplant.

Transnationalization of project management is applied in the area of international locally dispersed project work. This leads to a co-operation in virtual project teams who consequently need supporting technologies (e.g. communication tools like chat rooms, skype, video conferences).

---

<sup>8</sup> Expert statement from our study.

<sup>9</sup> Expert statement from our study.

*“We will find more attention paid to techniques for supporting virtual teams”<sup>10</sup>;*

*“Management tools and techniques to facilitate effective interactions for project management across distance”<sup>11</sup>*

Moreover, it is also applied in intercultural diverse project teams. These teams lead to the growing demand for intercultural trainings to train the appropriate handling with the cultural differences. In addition there is a growing demand for intercultural mediation as the following citation of an expert shows:

*“Intercultural project management (far beyond Hofstede and Trompenaars) and stronger intermediation”<sup>12</sup>*

Drivers of the trend *transnationalization* are the globalization itself, international alliances, international organizations, global meta-organizations, international standards (in project management: ISO 21500, ICB 3.0 and OCB of IPMA, PMBOK of PMI) and new technologies (transportation, IT and communication (ICT)).

Barriers for the trend *transnationalization* are political and economic crises, international rivalry, and the increasing disintegration of traditional cultures, societies or organizations.

Implications of the trend *transnationalization* are:

- the so-called “new cosmopolitans”, persons with international background who act as boundary spanners in international project teams,
- dispersed and culturally diversified project teams,
- and the challenge for project managers to cope with the conflicting interests of the diverse international stakeholders.

These challenges lead to the demand for increasing and profound intercultural competences of project managers.

#### **4. Trend: Virtualization of Project Management**

*“Computers will continue to affect project management - sophistication increasing, computer applications to prompt and more intelligently engage and inform, computer generated visualizations of data increasingly being used to communicate and inform, ways to capture learning to improve - repository of project management learning and experience to draw upon -- all goals and areas where improvements are being made,*

---

<sup>10</sup> Expert statement from our study.

<sup>11</sup> Expert statement from our study.

<sup>12</sup> Expert statement from our study.

*expect them to continue - however new areas that are not yet anticipated may begin to affect project management.”<sup>13</sup>*

We define *Virtualization of Project Management* as increasingly managing projects virtually through ICT support. This can lead to the increase of efficiency, effectiveness, productivity, and scalability of project management. Herewith it is possible to work on even more complex projects, as the complexity of projects grows parallel.

For businesses, one of the main advantages that virtualization can provide is the streamlining of project management efforts to integrate new technologies and applications. Virtual machines can ease to manage, maintain and replicate, creating test environments and scenarios for improved troubleshooting and strategizing. In return, project management efforts can be enhanced to establish stronger growth and efficiency as a whole. Virtualization and the deployment of new solutions such as applications virtualization can keep project managers on track regardless of location and boost the efficiency, ability and scalability of their workloads to meet tertiary needs such as remote access and mobile support (Infrascience, 2014).

The enabler of virtualization in project management is the application of IT in project management, e.g. by the possibility to simulate project processes.

Drivers of the increasing virtualization of project management are:

- The capability of handling Big Data in milliseconds
- Fast communication enabling working in dispersed virtual project teams
- Modeling, simulation and automation of project management processes
- Visualization of processes

*“Project management simulators - organisations will trial complex and expensive project on a simulator before starting their execution. Universities will use existing and new pm simulators to train students in the complex art of managing projects and to provide them with hands on experience before moving out to the workplace.”<sup>14</sup>*

Barriers for this trend could be e.g. the misuse of ICT in addition to an increasingly growing resistance of the people against ICT.

Implications of the trend virtualization of project management could be new governance standards and a call for stronger leadership from managers to better handle virtualization. Reasons for this are the increasing egoism and opportunism in using ICT, the call for privacy and security of information and the information overload.

*“Integration of new IT technology with project management. This research will address what project management processes are changing within the context of*

---

<sup>13</sup> Expert statement from our study.

<sup>14</sup> Expert statement from our study.

*social media era and how to utilize new IT technology (e.g. big data, twitter and etc.) for project management.”<sup>15</sup>*

## **5. Trend: Professionalization of Project Management**

*“Continuous growth of the membership of professional bodies and of people getting credentials. This is parallel to a need for professional mobility and supported by the institutionalization of project/program/portfolio management. Academic degrees AND professional credentials become the norm.”<sup>16</sup>*

We define *Professionalization of Project Management* as the process in which the occupation (métier) of project management transforms itself into a true profession of the highest competence. This includes defining standards for the different kinds of single and multi-project management tasks as well as for knowledge bases, processes and competences required to fulfill these standards successfully. Professionalization of project management also includes an increasing level of profound and comprehensive application of the project management practices in all sorts of projects.

*“Project management will not be seen as only an engineering discipline. Understanding the benefits of the use of projects will be seen as an important skill for all managers.”<sup>17</sup>*

The driver of this trend is the growing awareness for the benefits of the application of project management for an organization. Top management is becoming aware that the cost for education and training of project managers, for implementing long-term career perspectives in project management similar to line managers, for supervising and long-term support of project managers, and for the implementation of PMOs with standardized core processes are much lower than the cost for unprofessional project management. Another driver of the trend of professionalization is the growing demand of organizations for well-qualified project managers as the top management is aware that projects are the tool to implement their corporate strategy. They realize that their success depends on the quality of the projects managed. Another driver of the trend is that project management sets internal and external benchmark standards.

*“Project strategy - the role of the project manager will become more strategic. In addition to planning and monitoring tools, project strategy approaches, model and tools will be identified.”<sup>18</sup>*

---

<sup>15</sup> Expert statement from our study.

<sup>16</sup> Expert statement from our study.

<sup>17</sup> Expert statement from our study.

<sup>18</sup> Expert statement from our study.

The implications of the professionalization of project management are that single and multi-project management tasks and roles become increasingly classified and that there will be new career paths for project managers in the organization. A further implication is that there will be professional associations that will lead and organize the process of professionalization of project management which means that project managers receive a chartered status in organizations, in academia, and in society.

*“Project management will continue to mature and move beyond the traditional 'execution' measure of project management success. Benefits mapping and value-management activities will continue to mature and to extend the understanding of the value created through projects. There will be improvements in methods for understanding and managing the actual value realized through project investments.”<sup>19</sup>*

## **6. Trend: Learning and Education**

*“Universities, colleges and private companies and associations will provide more education and training for people who are looking for a career within project management.”<sup>20</sup>*

Almost all experts of our study forecast that the offerings for learning project management capabilities will increase on all levels of skills by universities, industry and professional organizations and for all stages of project management careers. The methods of learning and teaching will be improved tremendously in the next years.

The driver of this trend is the growing demand from all sectors of society, from industry as well as public administration, for better and more standardized project management skills, abilities, and knowledge.

*“Research and higher education as well as services provided by universities, major consulting firms (usually in relation with major universities) and professional bodies must make a real impact.”<sup>21</sup>*

Another driver for this trend is the demand for higher order capabilities for coping with more complex projects and environments.

*“Managing learning and building human capabilities - I believe that there will be an increasing focus and the development of better methods for managing a network-based workforce, enabling skills to be developed to benefit the individual as well as the organizations.”<sup>22</sup>*

---

<sup>19</sup> Expert statement from our study.

<sup>20</sup> Expert statement from our study.

<sup>21</sup> Expert statement from our study.

<sup>22</sup> Expert statement from our study.

The implication of the trend *Learning and Education* is that project management as a core competence will be ubiquitous and that specialized offers will increase. New learning tools and applications as interactive games to develop the needed project management skills will be created. For all areas of competences - contextual, behavioral and technical competence-based – project management teaching and learning tools will be developed. This will lead to better qualified project managers and to a complete new business area.

*“Use of (social) simulation tools, games, etc... to teach and learn project management.”<sup>23</sup>*

## **7. Trend: Projects as Business**

*“Demands for projects to be accountable for delivering business benefits as imagined. Here is where the link to strategy becomes complete; no longer a soft link, but a hard link. Projects are no longer being seen as simply a transitional hand-off between a strategy and an ongoing operational process. Project management will be required to help formulate strategy into the needed actions to deliver and demonstrate a long-term benefit to the organization. IT organizations, engineering organizations, and others who run the projects are increasingly being held accountable for much longer-term results.”<sup>24</sup>*

The experts expect that projects will be seen more often as an entrepreneurial undertaking to deliver business results. The emphasis on value and benefits of projects will increase, but also the aspect of sustainability of projects and project management will become important. Tools to monitor and assess the value, benefit, and sustainability of projects and project management will be developed.

Inputs like budget and time are weighted against benefits and no longer seen as strict constraints. The perspective becomes more long-term, strategic, and stakeholder-oriented than in the traditional „iron triangle“ view. The accountability of project sponsors for achieving these results increases. Project managers receive more autonomy and more influence, but they also need more entrepreneurial capabilities.

*“Project management will continue to mature and move beyond the traditional 'execution' measure of project management success. Benefits mapping and value-management activities will continue to mature and to extend the understanding of the value created through projects. There will be improvements in methods for understanding and managing the actual value realized through project investments.”<sup>25</sup>*

---

<sup>23</sup> Expert statement from our study.

<sup>24</sup> Expert statement from our study.

<sup>25</sup> Expert statement from our study.

Drivers of this trend are:

- Increasing share of profit and loss contribution of projects
- Increasing volume and complexity of projects
- Increasing innovation and sustainability orientation
- Project managers demand more autonomy and influence

Implications of this trend are that project managers will develop from deputy managers to responsible entrepreneurs. Another implication is that project owners develop from budget owners to business champions. These developments will increase the role and meaning of project managers in organizations.

*“Project governance - because project benefit management will become important, the accountability for benefit realization will have to be discussed further. Additional roles in the project governance model may be required and a more agreed approach in practice is going to be needed.”<sup>26</sup>*

However, this trend may not apply to all projects with the same strength. Innovative and market-oriented projects will be influenced stronger from this trend than internal and more incremental projects. In large infrastructure projects it is important to cope with complexity and avoid too much innovation. Anyhow, these projects are also an important area for entrepreneurial thinking and acting and for innovation. The problem is that innovation in these projects needs to be taken into account from the beginning. Realistic plans and risk assessments are needed and room for innovation is granted beforehand and controlled during the process.

The development of project management from an execution discipline to a discipline coping adequately with uncertainty and complexity is not an easy one. Thus, this trend will take time and will not apply to all kinds of projects and all kinds of people working in projects.

## **8. Trend: Stakeholder Management**

*„A more structured analysis of the frameworks about the stakeholder management and the effects on project success.”<sup>27</sup>*

Stakeholder management practices have become more elaborated and differentiated in the last ten years, while research on stakeholder behavior in project management is documented. Generally, stakeholder management is extremely critical for the project success, hence project management can learn a lot from stakeholder management theories which have been developed in the area of strategic

---

<sup>26</sup> Expert statement from our study.

<sup>27</sup> Expert statement from our study.

management and in the corporate governance literature. However it is not carried out professionally enough.

The dynamic nature of the development of stakeholder relationships has not yet been recognized sufficiently. It matters a lot if one knows how stakeholders can and probably will behave in a crisis of a project and how to handle such situations. If this is done successfully, this has a positive influence on the long-term relationship. Companies working in B2B markets have long-term inter-organizational relationships to their suppliers and customers, and solutions which are developed in projects are embedded in these relationships. To cope with this it is important that the internal stakeholders of a project work well together. This, however, is rather complex in practice. The co-operation becomes more complex when the project is largely dispersed at the own firm, in addition to the suppliers and buyers that have to be integrated.

A second area for stakeholder management is organizational change projects. In these projects gaining support for intended changes is a key issue, depending on the amount of change and the amount of people concerned, stakeholder management in change processes can also become a complex and political issue.

A third area for stakeholder management are public projects, like the national project for finding the storage for nuclear waste in Gorleben, Germany, and even more critical is the implementation of this project. Massive public resistance characterizes such projects, and the question is how to cope with them.

Given the three exemplary areas for stakeholder management, we expect that this trend will increase. There will be a growing need for project managers and project owners to better manage the relationships to internal and external stakeholders of a project, particularly if they have competing values and interests. Project managers need to learn to better cope with the tension between integrating stakeholders too intensely and becoming paralyzed as a consequence, or neglecting stakeholders and getting punished as a consequence by not listening to their demands. We also assume that the competences gained here will positively influence the next trend No 9: "Project management goes boardroom".

However, project managers can only solve their stakeholder management tasks if they receive active support from senior management. This means if there is development for better understanding project management practices at the senior level and if there is a higher will to invest in project management capabilities, then this will also improve stakeholder management and make it much more effective.

*"Discovering the sociology of projects (e.g. actor centered institutionalism)"<sup>28</sup>*

A driver of this trend is the new phenomenon that previously powerless stakeholder groups like citizens or employees receive more power (e.g. through the use of social

---

<sup>28</sup> Expert statement from our study.

media like Facebook and Twitter) and can activate that power quicker. The infrastructure project “Stuttgart 21” is an example for the negative consequences of not integrating the population and local neighbors from the early project phase onwards. Massive project changes that lead to cost explosions and even project stops are the consequence of neglecting powerful stakeholder groups in projects.

In addition, the group of internal stakeholders challenges project managers due to the participation and internationalization of employees in all subsidiaries of an organization worldwide.

*“Managing in multicultural / institutional context, most projects include stakeholders from different institutional environments. There is a challenge how to effectively integrate these stakeholders in a project.”<sup>29</sup>*

An implication of the trend of increasing stakeholder management can be that the role of the project manager will develop from the role of the implementer to the one of a relationship manager.

## **9. Trend: Project Management goes Boardroom**

*“Top management will become even more focused on the use of projects in achieving the goals of their enterprises.”<sup>30</sup>*

*“Project management will not be seen as only an engineering discipline. Understanding the benefits of the use of projects will be seen as an important skill for all managers.”<sup>31</sup>*

*“Integration of PMO and Business Management in an institutionalized strategic management (Chief Strategy Office)”<sup>32</sup>*

We define the trend “Project management goes Boardroom” as the raising recognition of the importance of project management for corporate success by decision makers in industry, policy, media, and society. Further, this trend contains

- the raising influence of project-oriented thinking among senior executives, senior politicians, members of high-level control boards,
- the implementation of project-oriented governance systems,
- as well as the systematic increase of organizational competences in project management.

---

<sup>29</sup> Expert statement from our study.

<sup>30</sup> Expert statement from our study.

<sup>31</sup> Expert statement from our study.

<sup>32</sup> Expert statement from our study.

The drivers for this important trend are taking place on a societal level, on organizational level, and on an individual level.

(1) On a *societal level* we observe a strong movement for seeing “mega” projects more and more critically, and we observe that politicians are made accountable for the failures and risks of projects financed by public money. In Germany we saw a strong debate about the railway project “Stuttgart 21” and the consequence was that the state Baden-Württemberg that always had a conservative government got a governor from the green party. In Berlin the Mayor announced to step down in December 2014 – the main reason for his decrease of popularity was the disaster of the Berlin airport project where he is the head of the control board. Such events question the governance principles of projects – the standards for planning and controlling in the early stages will rise and the governance standards for the control board will increase. Germany will follow developments that already have materialized in countries like Great Britain and Norway where a promising quality insurance system has been implemented. This trend will not only cover large infrastructure projects e.g. for traffic, energy, water and health care, but also mega projects in sports and cultural industries.

(2) On the *firm level* there are regulations to report risks of major projects in US GAAP and in IFRS, but these regulations are not sufficient. The ongoing debate on corporate governance will lead to stricter regulations to avoid disasters as the steel project of ThyssenKrupp in the Americas. The regulations will not only hit contractors who deliver complex solutions by a network of firms, they will change the roles, competences, and behaviors of the organizations which are the *clients* of such projects. Top managers of public utilities and other organizations who engage in large infrastructure projects will become accountable for their planning and risk management. Thus, project management will go boardroom, because media, shareholders, unions, and social movements will not tolerate this. There are standards and expert competences available already, and they will be used to empower the control boards.

Companies perform simultaneously hundreds of projects for product, process and business innovations and for organizational transformations of all kinds. These projects are the basis for the future value creation of the organizations. However, recognizing the next innovation waves, seeing in time new disruptive innovations and reacting to them quickly is a challenging task, because of the very high uncertainty of the new developments. In order to cope with this complexity, which is increased by the fact that projects become more internationalized, globally dispersed, and more collaborative with other firms or research institutions, it is necessary to develop strategies to control the development of the project landscape.

Shaping the project landscape by prioritizing which projects will be implemented is a strategic issue. Major strategic initiatives are organized as projects or programs. The decision makers are accountable for these phenomena by their stakeholders.

Drivers of this development are better methodologies for managing project portfolios and programs as well as the increasing value and loss contribution of projects and the increasing accountability of managers. The implication is that project management is considered as a core organizational competence and that firms are striving to become project-oriented organizations.

There is an increased understanding of top managers that strategies without implementation are not successful. Successful organizations are those with excellent project management skills and vice versa.

*“Top level managers must learn to put project management on their agenda and recognize the importance of projects to their success. CEOs and CFOs must learn to treat project budgets as investments rather than cost and assess projects by the value they are bringing, not just by how well they met time and budget goals.”<sup>33</sup>*

(3) On the *individual level* we see that the ability to manage projects successfully is becoming a usual and career-relevant phenomenon for people in management. These are often people with an engineering, ICT or natural sciences background who have to fulfill management tasks with an increasing level of complexity. Since the career paths have changed and staying in one firm is not a lifetime perspective any more, many managers seek to get certifications for their project management skills and look for networking opportunities to find out where their acquired skills are needed and valued. This strengthens the professional organizations fulfilling these needs. These managers experienced the value of project management methods by themselves and what can happen if they are not taken seriously. This motivates them to recognize these competences when they move upwards in the career path. They also experienced that project managers not always get the required influence and support from their organization which is required to perform projects successfully. Thus, they will also be promoters of changes when it comes to the very critical issue of empowering project managers.

When we presented this trend at the PMI Research and Education Conference in Portland in August 2014, there was a controversy if this trend will become realistic and how quickly this may occur. The majority of researchers and practitioners were skeptical. There are several external and internal drivers which increase this trend, but there also strong barriers against it, above all the willingness to empower and qualify people working in project management. Thus, this trend will probably show a positive direction and it will reach a substantial share of adopters in the next ten years – but it might not be the majority of organizations. However, we have a strong believe, that those organizations which follow this trend will be the more successful ones.

## **10. Trend: Project-oriented Organization**

---

<sup>33</sup> Expert statement from our study.

*“PMOs will be very wide-spread. The standards and manuals will be even more important, but will allow for flexibility.”<sup>34</sup>*

*“In some areas and some organizations, projects are being seen as an important way of organizing many of the most critical activities. In order to fill the expectations produced by this view, project management will need to change significantly.”<sup>35</sup>*

The trend “*Project-oriented Organization*” means that a major part of the present or future value creation of an organization is created and delivered in projects. Project management is a core competence for these organizations, and business functions are aligned in order to foster project management. Advanced multi-project and program management and career systems for project managers are implemented.

Indicators of this trend are the amount of value creation in projects, the degree of project orientation in overall strategy and in project management aligned business functions (Planning and Controlling, Organizing, HR, Marketing, Sourcing, R&D, ICT) as well as the empowerment of project managers and project management.

Project-oriented organizations create and deliver a major part of their present or future value creation in projects. Thus, project management is a core competence to these organizations. This competence refers not only to the successful management of single projects but also to the development and sustainable implementation of a framework that consistently enables projects to succeed. The framework includes organizational competences for planning and controlling projects, defined roles, governance systems and processes, and competences for leading project teams and interact according to the requirements with the stakeholders of a projects.

Project-oriented organizations use project portfolio management practices to systematically shape the project landscape. They actively manage the inflow of project ideas, the selection of the best project proposals and the exploitation of synergies between projects, they steer the project portfolio in accordance with their strategy, and they exploit the value potentials provided by the projects.

Project-oriented organizations provide dedicated competence development systems for individual project managers as well as career systems for project managers that are equivalent to careers in the line management. Furthermore, they developed processes and committees for the management of single projects as well as of the project portfolio as a whole (PMO, Portfolio Steering Boards). They have implemented standards for the operational organization of projects, for project planning and for the human resource management of projects.

In addition, project-oriented organizations succeed in executing multiple projects simultaneously and embed them seamless in the structure and the processes of the line organization. In those organizations not only the cross-functional project teams

---

<sup>34</sup> Expert statement from our study.

<sup>35</sup> Expert statement from our study.

are well integrated, but also the superior line management is incorporated in the project portfolio processes.

Many projects are executed within a network of associated business partners. Thus, a range of additional competences are required (e.g. networking competence, claim management competences).

This project management trend describes the creation of organizational competences for single and multi-project management.

Drivers of this trend are:

- Increasing urbanization, virtualization and globalization
- Increasing relevance of mega projects, future business and organizational transformations
- Increasing professionalization of project management

Open questions are:

- What are the limits and drawbacks of project orientation?
- Which role does the project-oriented organization play in project-networks?

*“The management of projects at an organizational level will be a core part of business and government, with tailored support for activities, and portfolio management undertaken routinely. Organizational design will be explicit and there will be matching of people and process to the task being undertaken.”<sup>36</sup>*

A concluding remark: From our ten years of research on multi-project management we know that the project-oriented organization is not only an issue of organizing and planning. It is a *behavioral* issue, particularly how the different parties involved co-operate. Not only the horizontal co-operation between different business functions is important, but the vertical co-operation between lower, middle and upper management level is very critical. This trend *Project-oriented organization* is also fostered by the former trend that the value of multi-project management is recognized at the senior management level, and that the promoters play an active role in implementing, improving and executing project-portfolio management.

## **11. Trend: Women in project management**

*“Women in project management: the increasing amount of women in managing and leading projects, programs and portfolios will change the way how projects are managed in the future, but also the evaluation criteria for project managers.”<sup>37</sup>*

---

<sup>36</sup> Expert statement from our study.

<sup>37</sup> Expert statement from our study.

In the past decades, one of the most important and significant labor force trend was the increase of women within management positions in public, private and government sector organizations (Catalyst (2014); Ely et al. (2011)).

The trend “*women in project management*” is defined as the growing amount of women in all stakeholder functions in project management, from project manager to senior manager to contractor. An increased amount of women in project management lead to new approaches how projects are carried out and managed. This involves the leadership style, communication style, meeting style, team composition and development, motivation if people, dealing with complexity, coping with challenges and risks, project reporting, and so on.

Project management has been characterized as a “macho profession” (Cartwright and Gale (1995)). As the profession confronts the growing need to manage expectations, relationships and trust, this style of behavior is being called into question. As the profession evolves, scholars are noting a shift from a discipline based on technology and control to a focus on interactions and learning. This trend towards accepting the “softer” side of project management appears to correlate with the increasing acceptance of feminine strengths legitimized by literature in organizational theory. In this context, questions regarding the role of masculinity and femininity become increasingly important to the emerging profession.

Project management will becoming increasingly more female: the amount of women under 30 years working as a project manager is growing rapidly: this target group of young women under 30 years represents with 26% the second biggest age group of all females at the German project management association GPM (Schoper, 2014). The same development can be observed in the UK. A current study of British project managers shows that the amount of women in project management is increasing from 25% in the year 2008 to 30% in the year 2014, which corresponds to an increase of 20% of women in project management. The amount of female students in project management increased in the UK to even 53% (Arras People, 2014). As a consequence we conclude that the amount of women in project management will further increase in the next 10 years, probably to 35 to 45% depending on the strengths of the barriers and the attractiveness of other management areas.

With a growing number of younger women in the field of project management, differences may occur on how projects are lead, understood and carried through.

Drivers in this trend are the corporate cultures and managerial gender compositions in the organizations. Further drivers are the gender specific education, motivation, training and development opportunities as well as the lack of qualified male specialists particularly in the aging societies.

Potential opportunities for the trend of more women in project management are the different communication skills of women. In comparison to the direct communication style of men, most women are able to get information informally and hence are more

likely to be aware of a problem before it becomes an issue. Further, most women are able to motivate their team members by being personal, whereas men do motivate by encouraging competition amongst team members and bringing the best out of the members by motivating them to work effectively under pressure. Therefore the leadership style, motivation and team building will change with more women in place. Many women have innate multitasking abilities which enable to deal with changes and unexpected risks and opportunities. In comparison, men are being more competitive and less likely to accept that something is not achievable. Therefore many women have the courage to challenge the current status quo in a constructive way and to better deal with challenges and risks, important characteristics for project managers particularly in complex projects.

A barrier against this development is the so-called “glass ceiling”, which summarizes the phenomenon of the unseen, yet unreachable barrier that keeps qualified women from rising to the upper rungs of the corporate ladder in the organizations, regardless of their qualifications or achievements. Other barriers against women in project management are the lack of career and professional development opportunities for women (e.g. getting the chance to lead a project) and the missing support that women receive from organizations to integrate their work with family life (e.g. part-time jobs, in-house nursery and child care, flexibility policy for young parents) as well as a lacking understanding on behalf of male colleagues and superiors when women give priority to their family responsibilities. Last but not least the lack of self-confidence of many women who struggle in case that they have to negotiate for the own career paths or personal income.

## 12. Trend: Project Management Research

*“Finally, I really feel that now that the field is maturing, we should try to balance our methodological approaches. From my own review of the literature in 2010, and what I’ve been reading since then, I think it’s fair to say that 80% or more of the project management research takes the shape of qualitative case studies. These are great and useful and should not go away. However, now that the field is becoming more mature and less ‘exploratory’ I think there should be a shift toward rigorous testing of what we know through quantitative analyses of large-scale, authoritative databases. It would be great if some of those could be identified, or collected, over the next years.”<sup>38</sup>*

The trend “*project management research*” describes an increasing volume of research on the existence, antecedents and impacts of project management practices, and the contingencies and dynamics of cause-effect relationships in projects and project management. The experts of the survey predict that not only the volume but also the quality of project management research will increase over time.

---

<sup>38</sup> Expert statement from our study.

Indicators of this trend are:

- The amount of publications, citations, and readership will increase over time
- The amount of research grants and chairs devoted to project management research will increase internationally
- The amount of usage of project management research results in decision processes and results will increase over time.

The implications of this trend are the increasing relevance and elaboration of project management in practice. The quality of project management research will increase but the fundamental question is if this management science will catch up sufficiently in the future to attract good researchers. Consequently the main barrier of this trend is the low status of project management in management research.

The key research questions are:

- What is the core of project management research, how can the identity of project management research be improved?
- What really differentiates project management from other management disciplines?

*“Increasing maturity of project management research: This is a trend I suppose to fully develop over the next 20 years. Compared to related disciplines, project management research still lacks behind in terms of theoretical foundation and methodological sophistication. There are first signs that scholars in project management try to catch up. Publications in the leading journals of project management research will improve in terms of scientific rigour.”<sup>39</sup>*

## **Conclusion**

The international expert study 2014 on the future trends in project management shows that project management as a relatively young management science will further develop in the next decade. There are two main categories that influence these trends:

The first six trends identified “Projectification of Societies”, “Copying with Complexity”, “Transnationalization of project management”, “Virtualization of project management”, “Professionalization of project management” and “Learning and Education” are more activity oriented and refer to the improvement or the better feasibility of project management in practice.

In comparison to the second category of the future trends identified as “Projects as Business”, “Stakeholder Management”, “Project management goes boardroom”,

---

<sup>39</sup> Expert statement from our study.

“Project-oriented organization”, “Women in project management” and “Project management research”. These trends refer to the players of and in project management, their activities, instruments, and tools. These trends have in common that they are value-oriented. Particularly the aspect of governance can be diagnosed as a cross-sectional development that has an impact on the stakeholders, on the top management of the organizations and the organizations themselves.

The following steps of this trend study are to enlarge the amount of experts, to compare the answers of the academics with the practitioners concerning their differences and perspectives, and to examine if there are continental differences between the answers of the experts as well to appraise the statements received concerning the main trends in project management of the last ten years.

## References

- Anbari, F. T., Bredillet, C. N., and Turner, J. R.* [2008] Perspectives on research in project management. In: Best Papers Proceedings, Academy of Management 2008 Meeting [CD]. Anaheim, CA: Academy of Management
- Arras People* [2014] Project Management Benchmark Report 2014, London
- Artto, K. A., Martinsuo, M., Gemuenden, H. G., and Murtoaro, J.* [2008] Foundations of program management: A bibliometric view. *International Journal of Project Management* , 27, 1–18
- Artto, K. A., and Wikström, K.* [2005] What is project business? *International Journal of Project Management* , 23, 343–353
- Bredillet, C. N.* [2002] Mapping the dynamics of project management field: Project management in action. In: Proceedings of Project Management Research Conference, pp. 157–169, Newtown Square, PA
- Bredillet, C. N.* [2006] The future of project management: Mapping the dynamics of project management field in action. In D. I. Cleland and R. Gareis (Eds.), *Global project management handbook*, 2nd edition, p. 3-1–3-24
- Cartwright, S., Gale, A.* [1995] Project management: different gender, different culture? : A discussion on gender and organizational culture – part 2, *Leadership and Organization Development Journal*, Vol. 16, Issue 4, p.12-16
- Catalyst* [2014] *U.S. Women in Business*. New York: Catalyst, June 10, 2014
- Crawford, L., Pollack, J., and England, D.* [2006] Uncovering the trends in project management: Journal emphasis over the last 10 years. *International Journal of Project Management*, 24, p. 175–184
- Ely, R.J., Ibarra, H., Kolb, D.* [2011] Taking Gender into Account: Theory and Design for Women’s Leadership Development Programs, INSEAD Working Paper, Fontainebleau
- Flyvbjerg, B.* [2014] What You Should Know About Megaprojects and Why: An Overview. *Project Management Journal*, 45, p. 6–19
- Härtl, H.: Implizite Informationen: Sprachliche Ökonomie und interpretative Komplexität bei Verben (= studia grammatica 68).* Berlin: Akademie-Verlag, 2008
- Hoffmann, K., Schelle, H.* [2001] Die Zukunft des Projektmanagements: Ergebnisse einer Expertenbefragung. *pmAktuell*, 04/2001, p.11-15
- Infrascience* [2014] <http://www.infrascience.com/news-events/enterprise-project-management/virtualization-the-it-trend-of-the-future> ((2014-31-08)
- Kloppenborg, T., and Opfer, W.* [2002] The current state of project management research: trends, interpretation and predictions. *Project Management Journal*, 33 (2), p. 5-18
- Kwak, Y. H., and Anbari, F. T.* [2008] Impact on project management of allied disciplines: Trends and future of project management practices and research. Newtown Square, PA: Project Management Institute

- Kwak, Y., and Anbari, F. T.* [2009] Availability-impact analysis of project management trends: Perspectives from allied disciplines. *Project Management Journal*, 40(2), p. 94-103
- Lundin, R.A.* [2010] On trends and the future of project management research and profession", *International Journal of Project Management*, 2011, Vol. 29 Issue 3, p. 241-243
- Midler, C.* (1995) "Projectification" of the firm: The Renault case" *Scandinavian Journal of Management*, vol. 11, pp. 363-375
- Packendorff, J. and Lindgren, M.* (2014) Projectification and its consequences: Narrow and broad conceptualisations, *South African Journal of Economic and Management Sciences*, vol. 17, pp. 7-21
- Schelle, H.* [2009] Projektmanagement: Prognose und Realität in: *Die Kunst des Projektmanagements inspiriert durch den Wandel*, hrsg. von GPM Deutsche Gesellschaft für Projektmanagement Nürnberg: 2007, S. 42-53
- Schooper, Y.* [2014] *Frauen im Projektmanagement*, hrsg. von GPM Deutsche Gesellschaft für Projektmanagement Nürnberg: 2014
- Söderlund, J.* [2004] On the broadening scope of the research on projects: A review and a model for analysis. *International Journal of Project Management*, 22, 655–667.
- Ulrich, P. and Fluri, E.:* *Management*. Haupt: 1992.
- Walter, N. Hofmann, J. and Rollwagen I.* [2007] *Deutschland im Jahr 2020 – Neue Herausforderungen für ein Land auf Expedition*, Deutsche Bank Research
- Winter, S.* [2000] *Quantitative vs. Qualitative Methoden 2000*, [http://imihome.imi.uni-karlsruhe.de/nquantitative\\_vs\\_qualitative\\_methoden\\_b.html](http://imihome.imi.uni-karlsruhe.de/nquantitative_vs_qualitative_methoden_b.html) (2014-01-08)