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ISO 21500: The Benefits of Structure, Processes and Communication

Lára Kristín Kristinsdóttir

The School of Business and Department of Environmental and Natural Resources at the University of Iceland

Eðvald Möller

The School of Business at the University of Iceland

Abstract: *The objective of this research article is to examine the potential benefits of applying the ISO 21500 standard in a consultancy firm in Iceland. Qualitative research was conducted to explore how the employees of a certain company viewed processes such as structure and processes, communication and documentation. This was done by researching how the prevailing situation is before the application of ISO 21500 and to establish whether there would be any benefits from incorporating the standard. The results show that the standard can benefit companies even if they have several other ISO certifications. The benefits include greater synchronisation of processes in projects, stronger and more stable communication and documentation systems, increased solidarity with clearer boundaries and known expectations and, finally, a potential increase in quality.*

Keywords: *Project management, structure, quality, ISO 21500, processes, success criteria, benefits of project management standard, standard for a consultancy firm.*

1. INTRODUCTION

Project management is becoming increasingly salient in organisations as an increasing number become more project orientated with each passing year. According to Stellingwerf and Zandhuis (2013), 'One-fifth of the world's GDP, or more than $12 trillion, will be spent on projects each year in the decade 2010-2020' (p. 35). Involved in these projects are people working with complex processes and with concepts that are often hard to understand. With the increased demand and pressure resulting from such projects, the International Standard Organisation (ISO) decided to publish a project management standard, ISO 21500, to make these processes and concepts more comprehensible and accessible, enabling companies to cooperate with greater efficiency.

It is important when discussing project management to understand what projects consist of today. Most project management literature (Morris, 2013; Morris & Hough, 1988; Packendorff, 1995; PMI Standards Committee, 1987) defines a project as a unique once-in-a-lifetime task, with a set date of delivery, subjected to one or several performance goals and consisting of a number of complex and/or interdependent activities. Project management is then concerned with controlling all of these aspects. Managing projects requires that those involved master aspects of various combinations of disciplines such as leadership, time management, communication, documentation, managing stakeholders and so forth.

In recent years, associations such as the Project Management Institution (PMI) and the International Project Management Association (IPMA) have standardised project management and have instituted certification programmes for project managers. A wave of interest in project management has brought about the launch of journals such as the *Project Management Journal* and the *International Journal of Project Management*, as well as various meetings, conferences and events. But what has revolutionised the field is the publication *A Guide to the Project Management Body of Knowledge* (PMBOK Guide®). Its publication marked the beginning of structural project management that could be standardised over different organisations.

The International Organisation for Standardisation (ISO) has created a standard for project management, ISO 21500, which is a standard that has incorporated all the best practices in project

management from all over the world, whereas a significant proportion is from the PMBOK Guide®. The purpose is to provide guidance for organisations on the concepts and processes of project management that can have a positive effect on project performance. One of the reasons why the ISO 21500 standard was developed is that companies are constantly looking for answers to the question of why some projects are successful while others are not. Projects within organisations have gained increasingly more attention within the past decade; as Boltanski and Chiapello(1999) suggested, the 'projective city' is an integral part of modern capitalist ideology. What ISO 21500 aims to achieve is to provide a standard that is both international and can also be applied to more customised projects, generating a best practice mechanism for organisations to handle their projects so they can be more successful and give them greater control over their processes. The numbers of organisations involved in developing project management guidelines only show how increasingly important project management has become and the need for a single universal standard in project management by the world's leading standardisation organisation, the ISO.

2. ISO 21500

The content of the ISO 21500 standard (Stellingwerf and Zandhuis (2013) is grouped into four main chapters. It outlines the scope of the standard and explains who can benefit from using it. It provides a high-level description of the concepts and processes that are considered a form of good practice in project management. The standard then focuses on project management concepts, showing how they relate to each other and describing the environment in which projects are performed. The last aspect concerns the processes of project management. The standard recommends that these processes be followed for the whole project and/or individual phases. This gives project managers the opportunity to tailor the standard to their specific organisations and use the appropriate processes that apply in each phase. These processes should work for any organisation and play a great role in shaping the project management structure of the organisation. Significant coordination is needed to align and connect the processes appropriately, but the processes do not need to be applied uniformly in all projects or all project phases. As a result, the application of the standard can be tailored to address what the organisation deems appropriate in accomplishing its policy or goal. The processes are viewed from two different perspectives: as process groups from the management perspective or as subject groups from the perspective of a specific theme (Stellingwerf & Zandhuis, 2013). This article focusses solely on the subject group perspective.

Table1. *Project management processes cross-referenced*

	Process groups				
Subject groups	**Initiating**	**Planning**	**Implementing**	**Controlling**	**Closing**
Integration	4.3.2 Develop project charter	4.3.3 Develop project plans	4.3.4 Direct project work	4.3.5 Control project work 4.3.6 Control changes	4.3.7 Close project phase or project 4.3.8 Collect lessons learned
Stakeholder	4.3.9 Identify stakeholders		4.3.10 Manage stakeholders		
Scope		4.3.11 Define scope 4.3.12 Create work breakdown structure 4.3.13 Define activities		4.3.14 Control scope	
Resource	4.3.15 Establish project team	4.3.16 Estimate resources 4.3.17 Define project organization	4.3.18 Develop project team	4.3.19 Control resources 4.3.20 Manage project team	
Time		4.3.21 Sequence activities 4.3.22 Estimate activity durations 4.3.23 Develop schedule		4.3.24 Control schedule	
Cost		4.3.25 Estimate costs 4.3.26 Develop budget		4.3.27 Control costs	
Risk		4.3.28 Identify risks 4.3.29 Assess risks	4.3.30 Treat risks	4.3.31 Control risks	
Quality		4.3.32 Plan quality	4.3.33 Perform quality assurance	4.3.34 Perform quality control	
Procurement		4.3.35 Plan procurements	4.3.36 Select suppliers	4.3.37 Administer procurements	
Communication		4.3.38 Plan communications	4.3.39 Distribute information	4.3.40 Manage communications	

The first subject group is *Integration*, which is about planning the work and putting the plan into action. It covers the start and finish of the project and everything in between, including initiating, planning, implementing, controlling and closing and integrating the processes from all the other subject groups.

The second subject group is *Stakeholders*, which includes the steps necessary to identify the people, groups or organisations that could have an effect on or be affected by the project. It is important to be aware that stakeholders are part of every project and they can be impacted by or can have an impact on the project in favourable or less favourable ways.

The third subject group is *Scope*, which addresses the 'what' question: what 'product' is the project to deliver and what intermediate results need to be produced to obtain the 'end product'? The scope subject group covers all the processes required to define and control the work that is needed and not needed to deliver the project results.

The fourth subject group is *Resources*, which concerns getting the right people to lead, manage and contribute skills to the project while obtaining the materials and facilities and develop the infrastructure, etc. These people are called 'the project team' and it is beneficial to have the team assigned and available as early as possible. The project manager needs to establish a project team by obtaining the needed resources. The resources may include: people, facilities, equipment, materials, infrastructures and tools.

The fifth subject group is *Time*, which focusses on all the necessary steps to manage the timely completion of the project. Time management seeks to estimate activity duration and develop schedules to determine feasible delivery dates, milestones or end dates, taking all known constraints into account. Time management is sometimes seen as the core discipline of project management and various popular software tools are available which focus primarily on time management aspects.

Cost is the sixth subject group and it is typically one of the key constraints of any project. The cost subject group is therefore all about defining the budget and managing the actual project costs within the approved budget.

The seventh subject group is *Risk*. All projects have some kind of risk factor and this subject group is intended to address unknown circumstances and the consequences of project changes. Project risks are future uncertainties that may affect the project results and if the project management team neglects risk management, it will constantly be faced with unforeseen threats or loss of opportunities. Risk management is also about trying to minimise the impact of potential threats on the project results, which are anything that could cause a project to be delayed, incur more expense or be delivered at a lower quality. Constant evaluation is necessary to harvest the full benefits of risk management.

The eighth subject group is *Quality*, intended to support the project to achieve the desired quality of its objectives. Stellingwerf and Zandhuis (2013) contend that 'Failure to meet the project's quality requirements will have a strong negative impact on project performance and the delivery of its expected result. This underlies the importance of quality management' (p. 87).

The ninth subject group is *Procurement*, which is crucial as most projects need products, services or resources from outside the project team and there will be the need to purchase them. In complex projects, there is often the need for specialists who are 'not available in-house' and it is often not the best option to have a fixed contract price for every project. Therefore, a more specific arrangement may be needed when the supplier's creativity is required. To deal with these situations effectively, one should apply project procurement management.

The last subject group is *Communication* and it is considered crucial to the success of a project if communications are to be effective. It creates bridges between diverse stakeholders and connects those from various cultural and organisational backgrounds and with different levels of expertise. Project managers need to spend a considerable amount of their time communicating to ensure all participants are on the same page.

3. METHODOLOGY

The objective of this research study is to explore what benefits ISO 21500 can bring to a consultancy company in Iceland. To understand how the standard can be a tool to assist organisations and

companies to improve their project management methods, an international consultancy company was selected. The headquarters are in Reykjavik but other branches are in the US and in Africa. This particular consultancy company was selected since it had previously expressed great interest in incorporating the standard. It is used as a case to illustrate the difference the standard could potentially make if applied. A qualitative study was conducted to understand how the company was managing their projects at the time, what problems they were facing with regard to project management and what changes they expected from applying the new standard. The interviews were semi-structured (Newton, 2010) so a list of questions was developed to cover specific topics, but the interviewee had a great deal of leeway in how to reply. Out of 14 employees located in Reykjavík, six were interviewed.

3.1. Validity and Reliability

From the beginning of research to the end it is of the utmost importance that the researcher maintains neutrality to ensure the quality of the research and the opinions of its participants is presented truthfully. It was also considered appropriate to conceal the identity of the participant so the participants would express themselves more openly about the topic, thus placing more emphasis on what was said rather than who said what. It must be noted that in research such as this, the environment is constantly changing and so are the perceptions and interpretations of the interviewees. The analysis is interpreted by the researcher in a way that reflects the interviewer's world view, which affects how the data are represented and thus the representation can therefore not be considered the absolute truth (Attride-Stirling, 2001; Bryman, 2006; Denzin & Lincoln, 2005; Nuttall et al., 2011).

4. RESULTS

The analysis showed that there are several processes that need either to be incorporated or looked into in greater detail. The results reported here are divided into three categories, each of which is addressed in turn.

4.1. Structure and Processes

Structures and processes are the foundations of how the company is run. As a result, ISO 21500 puts great emphasis on describing these factors. Participants described the structure as quite flexible as it is a small workplace in which everyone obtains information verbally through communicating in the open area of the workplace. A participant described the processes as being integrated into the daily life of work so that there is no need for processes to be written down for each employee. Others believed the workplace could have more structure, so that employees could be more informed about delegation or resources in certain projects. There was a view that everyone needed to be flexible as it was often unclear what projects might come up and how long it might be between projects. There were different views among the participants about the structure and processes, which led to discrepancies in this regard.

4.2. Communication

Communication is crucial when running large and complex projects. The main point the participants made was the need for improved communication between employees and managers and in projects and when working abroad. Participants wanted to be better informed about the latest decisions taken by the management and to know where the company was heading. Participants who were managers agreed that it would be beneficial to inform the rest of the employees if new investors came on board or other important decisions were made. Participants also stated that it was unclear what was expected of employees because of blurred lines of communication. One of the reasons stated by a participant was that there are different personalities in the office and they had different styles of working. Participants also considered that communication on project teams was lacking or disorganised. They mentioned that there was a need to define clearly who was involved in each project, making it possible to communicate with the appropriate people. Communications was also believed to be a serious problem when participants were working abroad as most of the communication took place verbally at the office. When other participants were working abroad they experienced the need for better communication and more transparency. All participants agreed that communication was something that needed to be looked into and improved in some way or other.

4.3. Documentation

The company uses a common hard drive which contains most documents. This is what most participants use, but they described several problems with it. It is considered quite difficult to save documents on this drive when participants are working abroad as often the Internet connection is quite slow. Participants then resort to saving documents on their computer and, more often than not, forget to save the documents on the common drive afterwards. Because of this limitation, they have tried various options to keep their documents organised. Some participants use Dropbox, while others use external hard drives, but there are also other less efficient techniques used to store documents, such as searching e-mails. As a result, the participants stated that they did not really have a system for the categorisation of documents except rather loosely.

SharePoint is used by organisations as an online technology that provides a secure place to store, organise, share and access information using almost any device. Participants have a variety of different opinions using this software, but when asked if they used it, they had mixed feelings regarding its utility. Some were starting to use it, whereas others believed that it was for people who were new to the company and some considered they had not had enough time to look into it because of their workload. They all recognised the potential of SharePoint, but felt lost because they did not know how it worked properly, used it in a very limited way or had had a bad experience with it and therefore did not use it at all. Participants also reported the same problem with SharePoint as with the common drive in that it was difficult to work with abroad because of limited Internet connectivity. The participants expressed reluctance to use SharePoint in Iceland because switching to two systems was considered time consuming.

One of the reasons projects were not documented properly was that they were considered too small. A participant also stated that money controlled how much projects were documented. He went on to explain that the bigger the project, the greater the need for documentation, but matters tended to be discussed rather than documented in smaller projects. Documentation was considered overall to be something the company needed to focus on to a greater extent and the development of a reliable, centralised form of documentation that everybody used was viewed as essential.

4.4. Expectations And Roadblocks

All of the participants had some idea of what they would like to improve with regard to projects, processes and communication. One participant wanted to incorporate a database to handle documentation and the sharing and distribution of information. Participants also wanted documented meetings in which projects would be discussed, giving greater clarity to when a project came to a halt, why it did so and what could be done about it. Other participants wanted to improve current processes and have a system that provided a better overview of their projects, some kind of an umbrella that kept all projects together and put them into one system. Some wanted to update SharePoint while others wanted a different kind of software. What was also expected of the standard was that it would result in more disciplined working practices, a sound structure and greater significance accorded to information sharing. Furthermore, one participant wanted a greater emphasis on team-building, enabling everyone to work better together as there were considered to be two distinct formations at work: management and employees. As part of this, communication needed to be better between departments, with people talking more about projects and processes. It was also considered good to have project management meetings for all the staff on a regular basis. Participants also wanted some kind of database or guidebook to look up processes if in doubt, so everyone would be working using the same methods and it would be possible to eliminate unexpected incidents.

There are expectations and then there are roadblocks. When asked if there was anything standing in the way of achieving these expectations, participants were not all optimistic. From past failures to current attitudes, participants felt that changing the company would present a challenge, either because they felt they themselves could not change or they felt others would not be amenable to it. In particular, the average age of those in the company was considered to be an obstacle as not all employees were seen as being open to new ways of working because of their outlook. Furthermore, the participants all mentioned that there was little time available and extra work would definitely not be welcome. One participant stated both bureaucracy and the extra workload would present barriers, which is a common mistake by many focussing solely on the administrative and bureaucratic part, instead of focussing on the production process (Cachadinha, 2009). Other participants pointed out

that even if a system were put in place, not everyone would follow it. Employees are considered to be so different, independent and so fixed in how they work that '*this standard is attacking a certain kingdom where each and every one is a king'.*

5. DISCUSSION

In this section, the findings and what they might mean for the case company as well as other companies seeking to implement ISO 21500 are discussed. There is considerable potential to run a very effective company even though it is young and relatively small in scale. In such a company, with a staff of fewer than 20 people, it is easier to change the way of working than to change a large-scale organisation with over 100 people. What is crucial for a company that is expanding its base and hiring new employees is a solid structure and clear processes. As the case company has already incorporated ISO 9000, it might be possible to set up an online project management system visible only to employees.

The standard devotes one whole subject group to communication only. It is important to plan the flow of communication, what information is to be distributed and who should be informed. It should not be up to each individual how much information should be shared, but rather that there should be a standard process governing the sharing of information to mitigate confusion or discomfort on the part of employees. All of this also needs to be managed to ensure that all communications are at a certain standard, thus satisfying project stakeholders as well as resolving communication problems if they arise. What would need to be put in place is a system whereby managers could request certain information from employees ahead of time, so employees could update and inform managers on each project. Thus, managers would have an overview of all the projects in a more systematic way. Managers would also need to share information when management decisions are made and a good way to incorporate this would be documented management meetings and giving regular feedback to employees concerning their work. Regarding communication while abroad, there are solutions such as holding documented meetings on a regular basis and saving the documentation using a system that is available to all employees no matter where they are located.

Documentation is one of the key aspects of running a good company. It is important to have a centralised documentation system in which data and documents can be stored for safekeeping and shared effortlessly with the right individuals. One of the ways to solve the problem would be to incorporate the ISO 21500 standard to get the documentation system in order and set up a process for storing and sharing the data properly. In this way, the project team members could continue working on other aspects of their projects without worrying about documentation failure along the line.

It is crucial for staff to be given training outside the company to learn how to use software such as SharePoint (or another system) if that is going to be the main documentation system. Adopting such a system is something that the company would have to devote itself to fully, incorporating new ways of working. There are endless opportunities today with regard to documentation systems and storage. The company will have to decide what documentation system it would like to install and all employees and supervisors will need to adopt that system wholeheartedly, otherwise exceptions will undermine the whole process. Which system is used is up to the company to decide: it is about finding what best suits the company culture and fits with the processes as the standard does not recommend any particular system. Another factor that needs to be considered is the outlook towards new systems and storage solutions as there are fears that the cost will be too great, the system will be too time consuming to learn and that some employees may be quite negative about using it. These are not trivial matters and the adoption of the appropriate system is something that is crucial for the company to move forward, to tackle large projects and to enable the employees to work together as a team. If this aspect is neglected, it will be hard to maintain quality in any other part of the company's work.

When incorporating any standard or making any changes, there will be certain roadblocks and expectations. The typical constraints in all projects are considered to be time, cost and scope. These aspects all need to be considered and reviewed if the ISO 21500 standard is to be implemented. Knowing expectations is a good way of establishing what is wanted. It is about finding where you want your company to go and ISO 21500 can help you get there. It does so by setting out the framework for the work that you want to do. However, the standard does not guarantee the efficient running of a company just by its adoption. Rather, the more work that is put into its implementation, the more is gained. It is not a question of what the standard will give the company; it is more what

the company wants to achieve with the standard. The employees and the managers need to contribute for this to work; otherwise there is no point in incorporating it. Everyone needs to participate and they need to know exactly why they are doing so. The transition time might be uncomfortable for some, but the potential is vast.

6. CONCLUSION

The benefits ISO 21500 can bring to an international consultancy company are several. One of the main benefits is setting out a common process for all projects in which employees and managers synchronise their work and minimise shortcomings. According to the standard, all projects have to go through the same processes and procedures as quality is not only expected within larger projects but all projects the company produces. The standard, therefore, does not discriminate between projects. It would be beneficial for companies to start documenting and setting up all the processes for all projects so that when larger projects are tackled they fall into a natural pattern of processing. The application of the standard therefore enables companies to adjust the way of working so it is possible to ensure quality for all projects, but also to give employees and managers the room to focus on the bigger picture rather than unnecessary mishaps.

The third benefit would be if communication and documentation are managed with great care and with the necessary resources. In this respect, the standard would pave the way for stronger and more stable documentation and communication processes. What companies need to ask themselves is how they are going to keep all the valuable information that employees create. With the implementation of ISO 21500, communication and documentation will be planned and managed and information will flow through certain distribution channels. As a result, valuable information will be to hand and give employees clearer work procedures to work with. The fourth benefit the standard could bring is solidarity between management and employees as, if used wisely, it can create clearer boundaries of what is expected of everyone and stronger ties in terms of working as a team. Organising priorities and creating clearer processes and a stable structure would reduce stress and uncertainty, giving employees and managers more freedom and ease to work on their projects and collaborate to ensure everyone has projects to work on.

The last benefit mentioned here, even though there are a great many more, is quality. Quality is something that every company needs to address as it is what the company stands for. The implementation of the standard can give companies the opportunity to evaluate what kinds of work procedures they want to incorporate and how they will embed that notion of quality in the minds and behaviours of their employees and managers. Implementing a standard is quite impossible if the staff members do not welcome the changes it might bring. So, not only does it take time and effort to implement a standard, but it will come to nothing if people do not use it. Therefore, a company really has to ask itself difficult questions if it wants to incorporate ISO 21500:

- Why do we want to implement the standard?
- Are we willing to invest time and effort to derive long-term benefits?
- Are there those who do not wish to partake in this? If so, why?
- What quality do we want to share with our customers?

Quality is something that needs to be instilled into every single person as it is not only a way of working, but also an attitude or a way of thinking. Some may tend to see certification as an end in itself, rather than a means of implementing an ongoing quality system which seeks the objective of sustainable improvement (Love & Li, 2000). It has to be understood why the company does things in accordance with a standard to be able to work towards the associated notion of quality. Ensuring that employees are aware of where the company is heading and the standards the company expects can help employees to work together to achieve that quality. This could be the opportunity to make a good company great.

6.1. Limitations

As with any research, this study has certain limitations. In particular, only one company was involved in the researchand there is limited information about other companies that intend to incorporate this standard. In future, it would be interesting to undertake a comparison of organisations in terms of what benefits ISO 21500 brings when it is better known and in wider use. Furthermore, it would be interesting to see which processes gain more emphasis than others and how they contribute to better quality and efficiency across different industries.

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AUTHORS' BIOGRAPHY

Lara Kristin Kristinsdottiris currently Director of Quality, Health and Safety at Reykjavik Geothermal which is a geothermal company devoted to bring sustainable and clean energy to the developing countries. She has a Master's Degree in Environmental and Natural Resources from University of Iceland and a Master's Degree in Social Anthropology from London School of Economics.

Eðvald Möller is a teacher at the University of Iceland. He has M.Sc. degree in industrial and operational engineering from KTH Royal Institute of Technology, Sweden, and an MBA with a focus on management, operations and finance companies from the Management School of Edinburgh. His areas of expertise are in the field operation research and logistics, optimisation, feasibility studies, and project management. Along with academic research he works as a consultant with Icelandic and foreign business. He has written several books in field of model building and project management. He is in a doctoral program at Imperial College London.