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How effective knowledge transfer enables smooth project transition in small to mid-sized organization.

Case: Youredi Oy

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Abstract

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Project handover from sales to project team and from project team to support has not been very well defined in Youredi. The organization is small, and the newly formed teams are yet to learn what has been done before in the organization. As the company is in its growth phase, it is time to define what must documented and how the handover needs to be done. This thesis examines what is lacking in the current process of project handover and what improvements is required for the documentation.

The thesis focuses on the research problem how the knowledge transfer can enable project transition in a growing company. Through this study, the researcher intends to define the steps for the handover process and emphasize on what changes is required for the documentation.

Research methodology used for this thesis is Interviews. The data was collected by interviewing the team members from all the three teams i.e. Sales, Professional Services and Support. The interviews helped in understanding viewpoints of each team member regarding the current process of handover and documentation. Collecting these inputs helped in defining the processes and changes to documents.

It was clear that there is lack of structure in what was taking place when a project starts off at Youredi and goes through each of the phases. The teams did not follow any process for handing over project from one team to another. The documentation template was defined but the everyone followed their own ways to document the project.

The thesis aims to define the responsibilities of the team members and structuring the necessary documents in driving the handover process.

Keywords

Project Transition, Project documentation, Knowledge transfer, Project life cycle management, Project handover, Project maintenance

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1 Introduction

Successful handover of projects is not as simple as it seems, when it is supposed to move from one department to another and several people are involved. It is sometimes quite challenging when it comes to integration projects. Sales to project team and then to support, the knowledge transfer should be aligned so that, finally when a project is shelved by project side, it should be manageable by the operations and support team. Communication is the key here. Lack of sufficient communication between teams will affect project deliverables and project expectations.

In order to enable smooth project transition within an organization, project documentation plays a very crucial role. A proper and consistent structure for project documentation will make project handling easier for all the stakeholders. When a company is small, it is common that everyone does most of the project tasks and everyone has shared knowledge on the limited number of projects. As the number of projects grows, i.e. when the company grows and brings in more people, then the challenge is to share the knowledge with more people and maintain it. This is where documentation becomes handy. Knowledge transfer and management not only supports project transition, but it is also essential for supporting growth of an organization.

The purpose of this thesis is to design a structure for the documents in order to support the project transitions at Youredi. Youredi is a small sized organization with around twenty members. They are in their growing phase and hence it is time to start organizing all the existing projects so the knowledge can be used effectively. In Youredi, there is no standardized structure defined for the documentation from sales to project teams whereas there is some structure that has been recently developed for project handover between project team and support. Youredi is a company whose integration platform is widely used to integrate logistics and financial data of its customers and the customer's carrier partners or customers. In case of these integration projects there are several components involved which needs to be understood and communicated from team to team.

Here the documentation plays a key role, in which we document what the customer and their partner companies are expecting. The data structures used in each case differ from each other and such level of detail needs to be there in the documentation. In case these are missing then, it is time consuming when it comes to issue resolution as part of maintenance by support team. Hence the sync in communication is a crucial part and proper documentation is the key. The sole aim of this project is to define a structure for these documents, so that it can encapsulate all the required information.

1.1 Youredi

Youredi is an organization which provides cloud-based Integration Platform as a Service (iPAAS) solutions. Global trade and logistics are the focus industries of Youredi. The Youredi cloud-based platform enables quick connections and message translations between trading partners and customers as depicted in Figure1 below. By integrating with carriers, shippers, consignees, communities, and several systems, Youredi help their customers to scale up their data interchange with speed and agility. Hence providing customers the ability to analyse and optimize their supply chain processes.

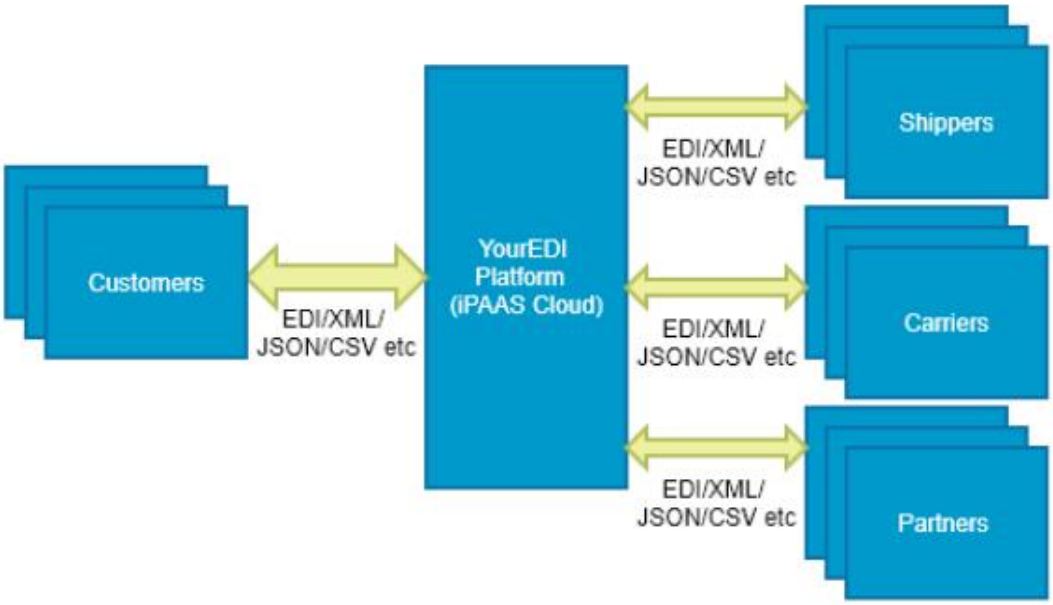

Figure 1: Integration using YourEDI Platform

Organization Structure

Youredi is a small and young organization of around twenty employees headed by its CEO. There are clearly four departments defined under him based on the operations. For this study we will be considering Sales, Professional Services (Project Teams) and Support (Support and Operations.) From the point when a project is onboarded till it is goes to maintenance mode, the whole project transition happens across these departments of the organization. Sales team is fairly new to Youredi, so there is a clear need in defining the documents and how they will be handling the project handover to Project teams in professional services. In project teams, the Architects are capable of defining a bigger picture on how to design the processes required for a project and act as Project Managers for the project. Integration Specialist along with the architects implement the project. Hence when it comes to preparing the documentation before hand

over to support, architects and integration specialist have a crucial role. After the handover to Support, this team has the responsibility to maintain the document. In case of major change requests, the integration specialist or architects could still be maintaining the document by recording the changes.

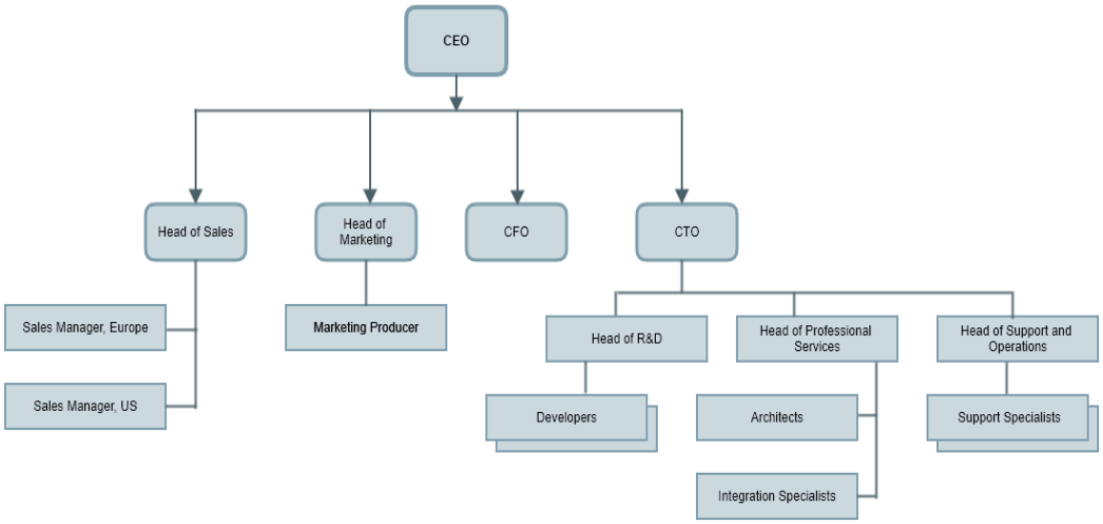

Figure 2: Organization Structure

Handover from Sales to Project Team

At the beginning of each customer project, the sales team is responsible for arranging the Handover meeting. In this meeting, sales will address the project group about the various details of that project. The information provided to the Project Team are customer contact details, project scope and specifications, contract with customer, billing principles, expected delivery of the solution etc. All the information and knowledge transfer from this meeting is documented in tools like Confluence and Visma-Severa, so that it is available for reference of the project team at any point of time.

Handover from Project Team to Support

After the completion of a customer project, the project manager responsible arranges the Handover meeting from the project team to the support and operations team. It is expected that the project team completes the initial documentation of the solution, before arranging this meeting. In this meeting the project manager along with the project team discusses the following topics to the support team. Overall functionality of the solution, SLA with the customer, possible error situations and how to handle them etc. The Support and Operations team is addressed on the possible future developments of the project as well.

Project Transition Process Overview

Figure 3 explains how a project flows from the Customer to different department in the organization and what processes it goes through before it reaches the Support team in more detail. The Sales team gets the requirements from the customer and discusses the needs with Project managers and Chief Architects in Professional Services to understand what a feasible solution for the customer's requirements could be, and what are the assumptions. The contract is prepared, and the sales team proposes it to the customer. This stage of the process can go on for several iterations until both parties agree on scope, cost, resources etc.

Once these factors are agreed, the project is kicked off and resources within the professional services team agrees on the design and implementation of the project. The implementation of the project is initiated, and the project is divided into different phases according to the requirements and other factors. Each of the project implementations undergoes technical testing and the results are reviewed by the customer. There can be changes proposed by the customer at this stage or later. Once the customer does the Acceptance testing and agrees to the result of the implementation, the project goes live.

Implementation, technical testing, acceptance testing and go live stages will keep repeating for all the phases of the project. Once each of the phase of a project goes live, the project is handed over to the Support team. Handing over to the support team includes completing the documentation on the processes build for the project. The possible errors that could happen and their severity. High level and detail level understanding of the project is necessary, and to keep both teams on the same page, handover meeting is conducted. When a project is closed, the project is taken over by Support team and the team holds responsibility in maintaining the project and ensure that the customer receives quality support for their project. To make this possible, knowledge sharing through documentation and handover meeting play a crucial role providing efficient service for the customers post project closing.

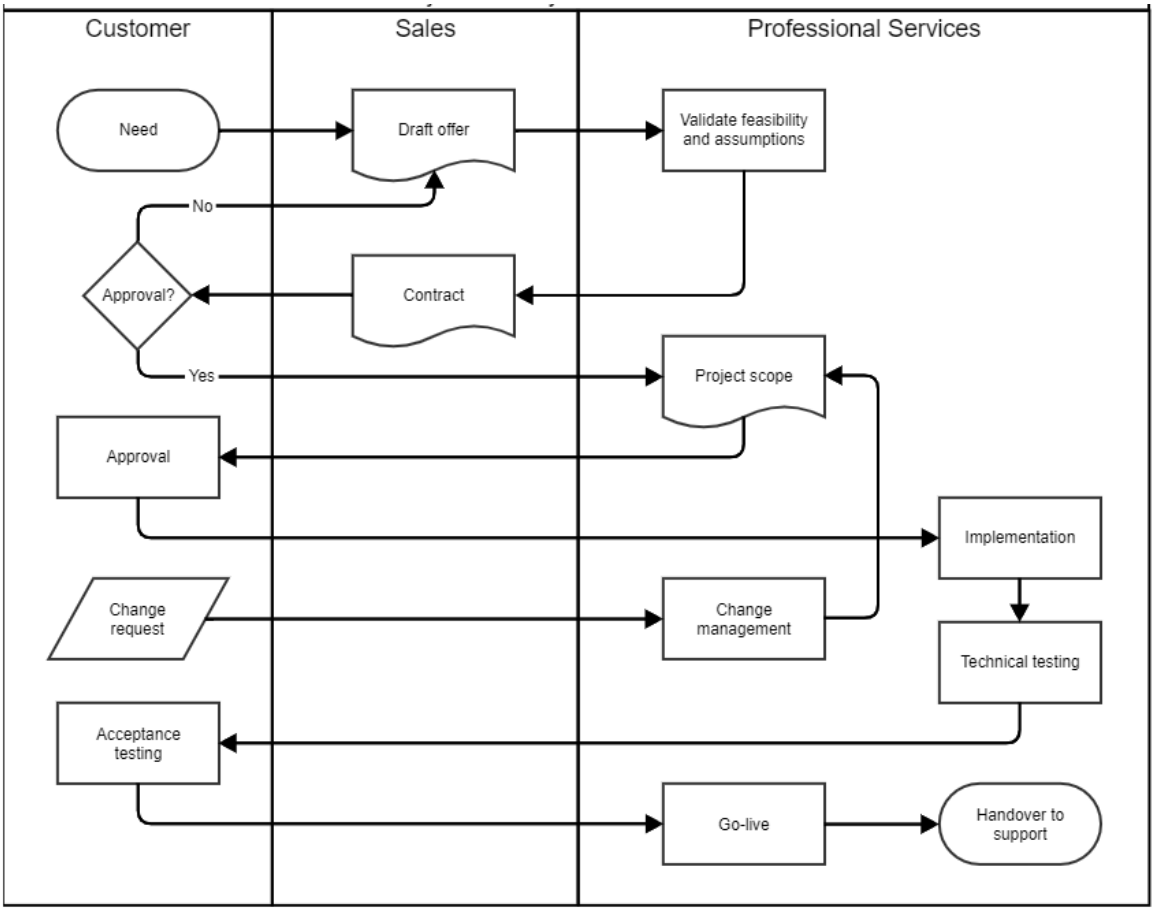

Figure 3: Process Transition Overview

1.2 Objective

The aim of this paper is to identify how the project documentation should be structured for the handover to be efficient. Knowledge transfer should be done, so that the project team can implement the project, to meet the client expectations and the operations and support team can rely on the documentation for maintaining the delivered projects.

In Youredi, at present there are documents created for the project, and change management is tracked using these documents. Operations and support team refer to these documents for their day to day issues and tasks.

In this case one objective is to identify what is the current structure of this document and is it being followed consistently across all projects. What is included and what is lacking in the current project documentation structure and how it could be improved.

In Youredi, there is no specific structure for the Sales to project team handover document. As Youredi is a small sized organization, the second objective here would be to define a structure for the project documentations which could be maintained through its life cycle

i.e. From Sales to Project team and from there to support. Hence assuring that this document contains all the necessary information for supporting the project.

1.3 Research Questions

Youredi is a small sized company with around twenty members and till now the main members of the board were involved with sales, development, implementations and any tasks for that matter. This is the case with most startups and small sized companies. Now that Youredi has started to grow with more customers being onboarded, the sales team is formed, and they are yet to start their operations.

This thesis paper is about the structure of the documents and what needs to be included in them during the handover. Here the first research question focuses on project handover from sales to project team.

1. What should be included in sales document, so that project team has a clear picture on what has been agreed with the customer. What is the standard followed for this document according to the books of project management?

As, mentioned before, there is already some documentation structure that is followed in order to keep track of project implementation and change requests. The second question focuses on the improvements and changes that could be brought to its structure.

2. How should a project documentation be structured so that it includes all the requirements, specifications and challenges during its implementation phase?

The third part of the research questions include, what should the handover documentation from project team to support be like. This part also focuses on finding out which ways of handover has been the most effective according to the studies done in the past, concerned to the project documentation to support.

3. What process should be followed when a project is handed over from project team to support? Is this going to be a document or a checklist or both?

4. What would be the best method or sequence of steps that could be followed in order to make this handover effective?

1.4 Research Approach

Qualitative Research:

The research analysis method used for this project is Qualitative Research methodology. In this case, we are analyzing the current situation on the structures and contents of the project documentations and the possible solutions, structures or patterns that could solve the underlying problem.

The approach here is one-on-one interviews and focus groups. After the interviews with the stake holders, the findings will be introduced to the stake holders and they can agree on the structure. In this way, we can find and conclude on patterns for documents understandable by everyone.

The analysis here is done by identifying the ideas put forward by each stakeholder and later consolidate all the patterns in order to define a structure for the documents. For example, the support and operations specialists expects a certain level of information from project documents. Similar is the case with integration specialists and architects on the project related information received from the Sales team. From the interviews, a pattern on the expectations of each team could be deduced.

1.5 Research Strategy

The research strategy is essential for finding answers to the research questions in order to drive this study forward. This paper could use mixed research which includes both inductive and deductive approach. Since the approch of the research is qualitative, the strategy could be more inclined to be inductive than deductive. From the data collected in this study, it is essential to find out the pattern of the underlying problem and what stakeholders would need to improve. Findings on the current issues or what is lacking is more of a deductive approach (Datt and Chetty, 2016). Whereas, observing the patterns identified from the interviews and then proposing a theory on how to do the project transition and identifying the required document structures supporting it would be major part of this study which is clearly an inductive approach.

1.6 Research Validity

The research validity is applicable in case of Youredi, as there is some structure for the existing project documents. There is a need to develop a structure for the processes and documents for initial phases of a project. Keeping the existing documents as a point of reference, it needs to checked if the research question and the methodologies used in this

study would provide the desired outcome. Validity can be tested for part of this study, when the findings of the individual interviews is shared with a wider audience. ”The findings put forward are those of the stakeholders and the researcher is not biased to any opinions and the conclusion is also drawn from the focus groups on how they would want the processes and documents to be structured in order to use and maintain it as well. This form of validity is coined as Internal Validity (Carson, D. and Hine, D, 2007)”.

1.7 Research Reliability

”Reliability of the study is its efficiency to be consistent and the researcher’s ability to collect the accurate information and all possibilities proposed during this research(Carson, D. and Hine, D, 2007)”. Every time a project is introduced in Youredi, the project has to go through all the required phases of project transition relevant to that project. In which case, the outcomes of this study is applied when a project is intiated and each time it becomes an opportunity to test how much the results of this study has been reflected in real time.

While mentioning reliability, it is important to mention about error. An error in the study can occur due to several factors, and it can happen while planning or implementing the research. One of the risk that I foresee here, is the situation or context of project which might not have similar structure that has been encountered till now by any of the stakeholders or the researcher. In this case, may be some part of the study could be applied or a new strategy needs to be introduced to handle and maintain that project. This study thus considers only the project transitions and project documentations done so far, in order to be within the limits of the scope of this study.

1.8 PDCA

The Plan-Do-Check-Act is an iterative management methodology that is used for continuous improvement of the processes. The below diagram represents an extended version of PDCA called OPCDA where O represents ‘Observation’. In this study, the iteration will happen after observing the current situation on how the knowledge transfer is happening at Youredi.

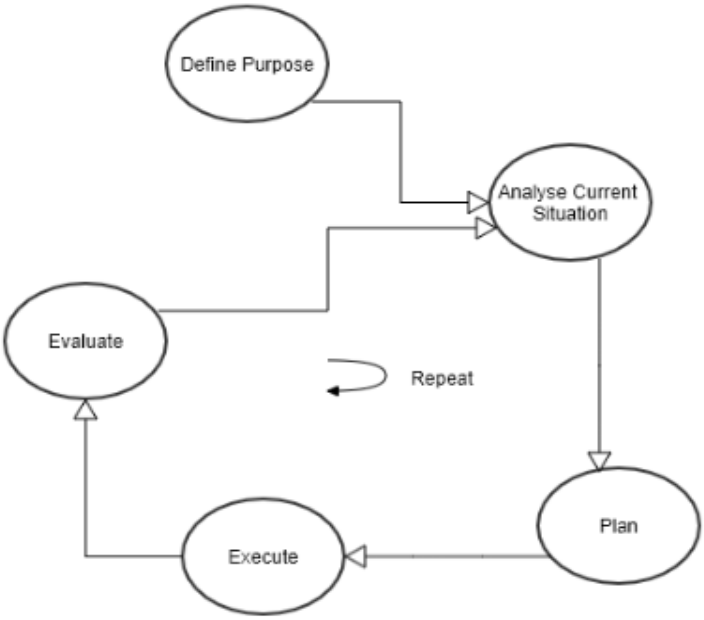

Figure 4 : Plan Do Check Act

1.9 Scope

The scope and focus of this thesis is mainly project documentation during the different stages of the project. Mainly being what the structure and content be like, when the project crosses each of these departments, Sales, Project team and Support. The process itself is not the main agenda here.

Structuring of the project documentations that are provided to the customer and the documents regarding the technical details of the systems and data structures provided by the customer are not in scope of this thesis. It can happen that the content of documents mentioned in the out of scope section, becomes part of the documents in scope. But the focus here is not to improve or restructure the technical documents. The study limits the scope to existing projects and doesn't consider all scenarios of future projects which might have a different context and needs different methodology of project transition.

1.10 Terminology

iPAAS – Integration Platform as a Service
PDCA – Plan Check Do Act (Deming Cycle)
OPDCA – Observe Plan Check Do Act
PS – Professional Services
SLA – Service Level Agreement

PMBOK – Project Management Book of Knowledge
PLC – Project Life Cycle
CSI – Continual Service Improvement
PMB – Performance Measurement Baseline
KM – Knowledge Management

1.11 Structure of Thesis

- Introduction

  The first section is Introduction which describes the target organization, Youredi Oy and the research problem. It briefly describes the project management and project transition process that is followed at present. Research methodologies used for this study and scope of this research are the other topics that are mentioned in the introduction.

- Theoretical Framework

  The second section of this study is theoretical framework. This section, briefs through the different theories that is required to take this project forward. The topics revolve around project management, service management, agile development and documentation, and project transition concepts that support and form the basis of this thesis. Understanding of these theories are essential to guide this project in the right direction and utilize it along with the methodologies that will be used to conduct the study.

- Research Methodology

  This chapter discuss about the research methodologies used for this study. Based on the qualitative approach, why interviews with different stakeholders needs to be conducted will be discussed. The current situation of the documentation used in the company will be analysed. This section also explains on the interview questions were framed and the researcher came up with the questions based on the existing situation and need for standardizing it.

- Evaluation

  In this chapter the details of the interview conducted is described. The comments received for the current process and document structures are analysed. The re-

searcher collects the input received from the interview and evaluates the present situations.

- Project Transition Proposal

  In this section, final proposal for the process and documentation is provided based on the reviews and comments on the same from the previous section. This proposal is final based on this study and current situation of the organization. The process and documentation methods might change as the organization grows and according to the demands in the future.

- Recommendations

  In this section, the researcher emphasis some more improvements that could be made to the documentation template used at present. Here the researcher also mentions about teams and responsibility matrix usage so that each team can take this into practice.

- Development Areas

  Under development areas, the researcher puts forwards some of the suggestions related to change management and knowledge transfer that was received from the interviews.

2 Theoretical Framework

The theoretical framework contains main theories and concepts supporting this study. The theories discussed here are important to review and gain better understanding of project management and project handover. For this study it is important to understand Agile Documentation which is used alongside implementing projects using agile methodology.

2.1 Project Management

“Project management is the application of knowledge, techniques, tools, and skills, to project activities to meet project requirements. Project management processes are accomplished using initiating, planning, executing, controlling, and closing. A project includes the scope, quality, schedule, budget, resources, and risk. For a project there are several stakeholders with differing needs, expectations and identified requirements. These factors of a project are interdependent because change in any one of them will affect one of the others (PMBOK Guide, 2008)”. For example, unavailability of required number of skilled resources affect schedule and quality of the project. The project team is responsible for assessing such situations and act accordingly to meet the demands to deliver the project successfully.

2.2 Project Life Cycle

Understanding project management ensures that the project is carried out in alignment with the goals of the enterprise. “A project has several phases along with the start and end phase. The collection of these phases through which a project is accomplished, is called project life cycle (Snyder, 2013)”. All projects must go through these phases regardless of the complexity; hence the lifecycle structure will be the same.

“Project phases are often confused with Project Process Groups. The project process groups for any project are Initiating, Planning, Executing, Monitoring and Controlling, and Closing. A project phase might have to go through these project process group when implementing a project. For example, an IT project might that have phases such as requirements gathering, design or detailed design, build, test and deployment (Snyder, 2013)”. These phases are completed in a sequence and in some of these phases, there would be a need go through the process groups iteratively. Figure 5 represents the Initiating of a project and how a project phase passes through project process group before ending that phase and after ending all phases the project is closed.

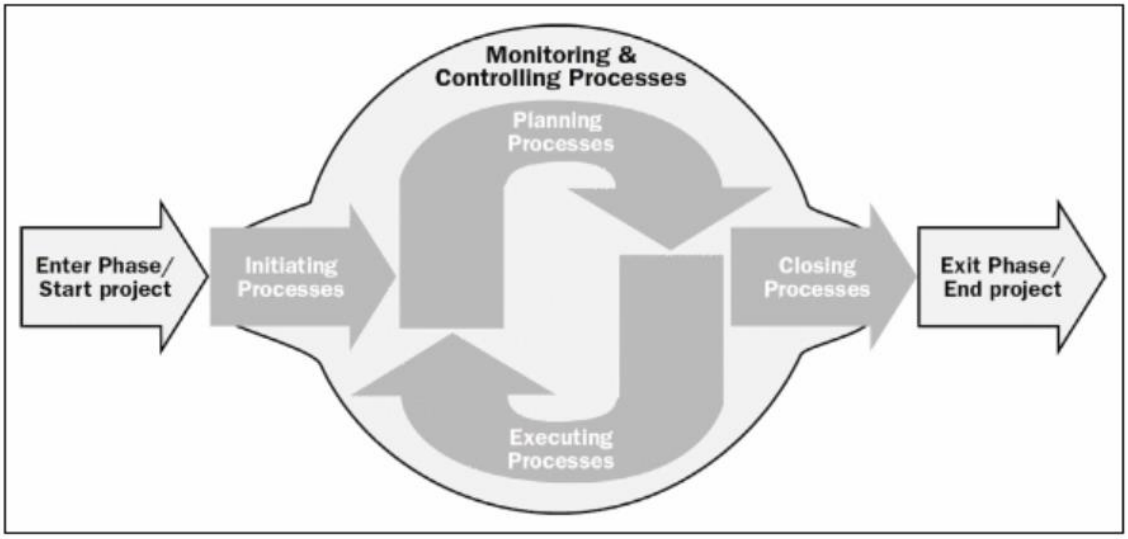

Figure 5: Project Management Process Group (Snyder, 2013)

Figure 6 below, is a presentation of how Cost and Resource levels are affected along with time, as the project goes through its life cycle. Initiation and Closing of the project have shown a dip in cost and resource requirement. Implementing a project which involves major part of the work consumes more time, resources, and covers majority costs.

This life cycle diagram does not cover what happens after project closure. Documentation and knowledge transfer are not covered here. But these two processes consume resources and time. The lack of importance to these processes theoretically, affects when it comes to considering its importance in real time and hence affecting the operations and maintenance phase of the project.

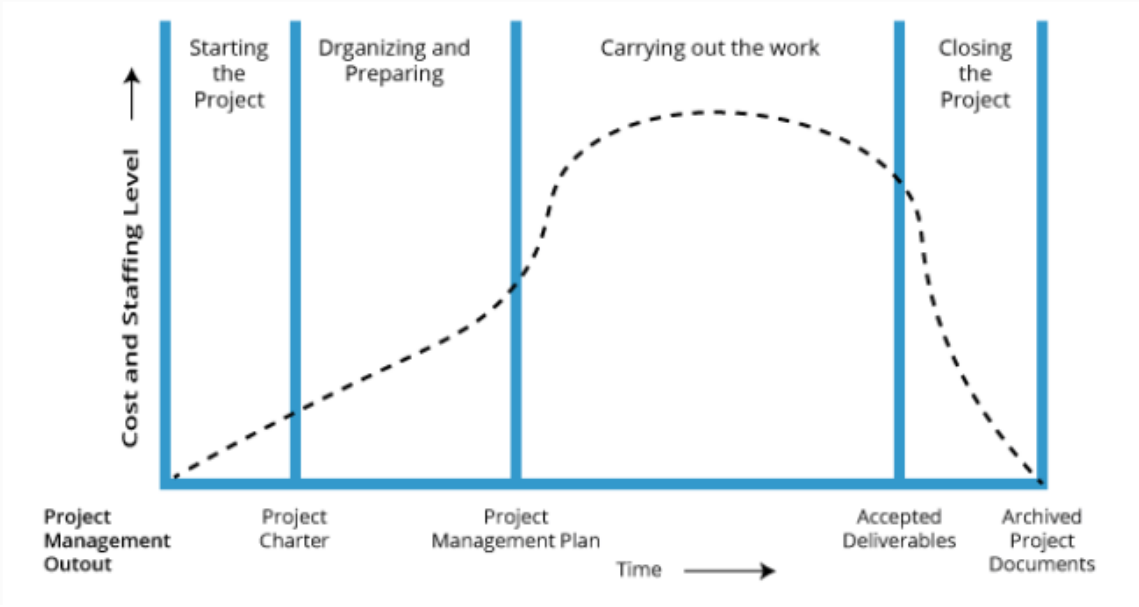

Figure 6: Cost and Resourcing against Time, for Project Life Cycle (PMBOK Guide, 2008)

2.3 Project Transition

Projects go through transitions from the time it is planned till it's executed. Once the plan is approved, the team should establish a Performance Measurement Baseline (PMB). It is summation of the plan. It will cover the constraints such as are we on schedule, on budget and is the project progressing as planned. Projects change as they move forward and sometimes the change is driven from within the project or change comes from stakeholders or customers based on their changing needs or requirements. To handle the changes properly, there should be a change management system.

"The first stage of project is plan approval. This is essential to avoid miscommunication about objectives and deliverables, and help stakeholders be aligned on these factors along with costs and risks of a project (S. Dobson., 2015)".

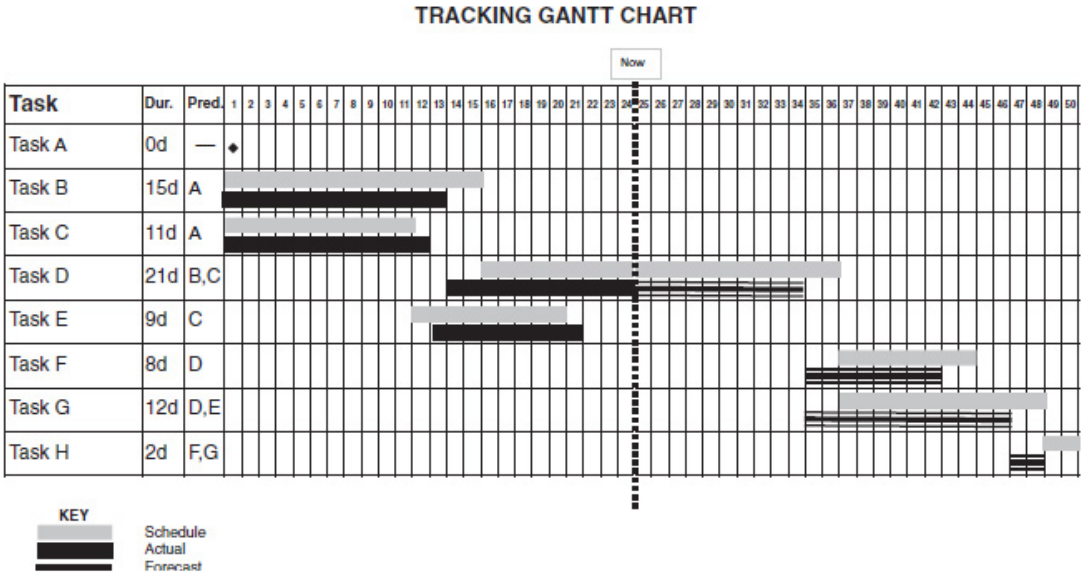

Figure 7: Tracking Gantt Chart (Sansbury et al., n.d.)

Figure 7 represents a tracking Gantt chart which serves as a schedule baseline. There are two bars in the Gantt chart. The light grey bar in the above chart represents the schedule and underneath it is a dark grey bar which represents the actual start, finish, and duration of the completed activities. The striped bar represents forecasts based on results to date and the dotted lines represents where we are in the project.

The Gantt chart help us to see the transition of the project and maintain it through all its phases and changes if needed. Revisiting the schedule to see if the project is on track as expected is a good practice to analyse the project status.

2.4 Project Closing

Project Closing is an essential process that needs to be followed once all the deliverables are delivered and customers are satisfied with the result of the whole project. For this study, we are briefly discussing the importance of documentation as part of project closing. Lessons learnt is an important part of the closing process and necessary paperwork needs to be done. While documenting the lessons learnt, it is important that all the stakeholders involved in the project should be included. Even if a project is not completed and called off somewhere in between, still there should be documentation done on the lesson learnt. Project planning has an important role when it comes to project closing. Most of the project managers ignore the project closing part and consider submitting the deliverables as the ultimatum and neglect the documentation and other processes included in the project closing phase. Such negligence could lead to bad support and maintenance of the project.

2.5 Service Management

“A Service essentially means delivering value to the customers, by facilitating outcomes that customers want to achieve without ownership of specific costs and risks. Service management is a set of specialized organizational capabilities for providing value to customers in the form of services. It enables a service provider in understanding the services they provide, ensure that the customers are satisfied with the outcomes of their service, the value it brings to their customers and, understand the cost and risks associated in providing their service(Sansbury et al., n.d.)”.

Service Transition

Service Transition is one of the phases in Service management which is required to bridge the gap when a project is moving to its live state. It ensures that operational requirements are fully considered and catered before the project goes live. This includes documentation and training for the end users and support specialists. This phases also stress on the removal of services that are no longer required or dormant when considering that project. “The purpose of service transition is to reduce the variations in the predicted and actual performance the service provided. It is essential to reduce or minimize risks from change and ensure that the service is performing as expected. Service Transition helps an organization to be more agile with the capability to respond rapidly and with more certainty of success. In fact, effective service transition is an essential part of good governance and everyone is more aligned in terms of what to expect from their services (Sansbury et al., n.d.)”.

Service Operation

”Service Operation is the phase in service management which generates most of the costs. It focuses on providing effective and efficient operational services in order to deliver required business outcomes which brings value to the customer. This is the phase in which the value of a service delivered is actually measured (Sansbury et al., n.d.)”.

Continual Service Improvement

The purpose of CSI is to deliver business value by ensuring that the services they have implemented continues to deliver the desired business benefits. CSI advocates the use of Deming cycle (PDCA) to measure improvements. Following are the objectives of CSI:

- Review and analyse where improvements could be made at any point of the lifecycle.
- Analyse achievements against targets.
- Improve service quality, efficiency, and effectiveness of service management process.
- To support CSI activities, efficient management methods need to be applied.

CSI is applicable to all stages of service lifecycle and should be everyone’s objective (Sansbury et al., n.d.).

2.6 Knowledge Management

Knowledge management is important for an organization spread the available knowledge from previous works and experiences of the employees, across the organization efficiently and effectively. It is a process of structuring and defining this available knowledge to enable the learning culture of an organization. By saying previous works, it refers to the history of the organization, case studies of successes and failures, knowledge gained from partners, suppliers, policies of different departments of the organization etc. When it comes to experiences of employees, it means there are employees always coming in and resigning from the organization. It will be a good practice if the employees share the knowledge, they have in their field of expertise which is relevant to the company. In this way, other people can make use of this knowledge even if the person leaves the company. If such knowledge sharing or transfer does not happen, then it is always a matter of double work for the existing employees working on the same concept. This results in waste of resources and time over a reusable thing if the knowledge was transferred and managed properly.

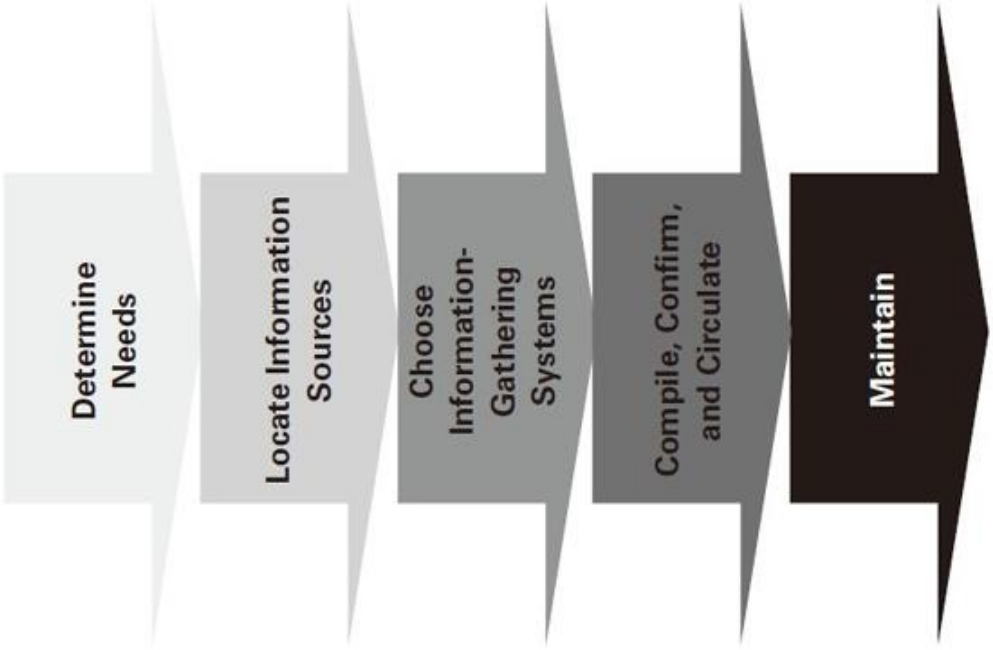

Figure 8: Five Steps of Knowledge Management (Atwood, 2009)

Figure 8 depicts the basic five steps that will help in enabling knowledge management in an organization. The steps are described briefly below:

”Determine Needs: Why the organization needs to implement KM? What is the situation in the organization in terms of KM? What does the organization aim to achieve through this process of KM? These are some of the questions that the KM initiator should fetch answers for, while trying to establish KM in an organization (Atwood, 2009)”.

”Locate Information Sources: As one of the initial steps, it is good to identify the sources of knowledge within the organization. Subject matter experts, existing documentations, presentations etc are some of the sources of knowledge. KM initiator could collect the knowledge from sources and specialists can validate on what is currently the most relevant information, that needs to be managed by the organization (Atwood, 2009)”.

”Chose Information Gathering Systems: Once the knowledge is identified, it is time to think on how to gather and store this knowledge. Different methods could be used for this purpose based on what fits the organization best (Atwood, 2009)”.

”Compile, Confirm and Circulate: Now that the knowledge is gathered, consolidated and stored in whatever form it is best to do so, it can be shared with experts in each area, in the organization. Once the experts confirm the accuracy of the information, it can be published for everyone to use (Atwood, 2009)”.

”Maintain: It is very important to maintain this knowledge that has been gather and stored, in order to ensure success. The knowledge should be updated and revised as and when required. Maintaining this knowledge base is a continuous process which ensures that there are no major gaps when it comes to knowledge sharing across organization(Atwood, 2009)”.

2.7 Agile and Business Benefits

Being agile, benefits business by building what customer wants and hence bringing value to the customer. When the customer is delighted, they buy more of the product and service you provide. When it comes to engaging and empowering employees of an organization, they should feel the ownership of work and make their decisions in keeping up their services to the customers. If agile is implemented correctly in an organization, then it will be aligned with the principles and values for both customers and employees (Moreira, 2013).

Continues Customer engagement is a key factor while adopting agile methodology. Customers are not interested in the project plan, task completion or status reports. These intangibles doesn’t bring in any value to them. The service or product they buy is what they are interested in and how it progresses in terms of functionality and adoption to the business needs. ”Providing continues service and actively building the product for achieving the needs throughout the project life cycle, is what we call continues engagement(Moreira, 2013)”.

Figure 9 describes how the agile methodology adopts to the customer’s changing needs from time to time and changing market conditions. ”The figure also compares agile to waterfall and shows the significant gap between what is expected by the customer and what was delivered to them. It shows how agile way of development engages with the customer and continuously improve the service and functionality requirements according to their needs. When the final product is delivered to the customer, there could be a narrow gap between the requirement and deliverable, but not as wide as that of waterfall (Moreira, 2013)”.

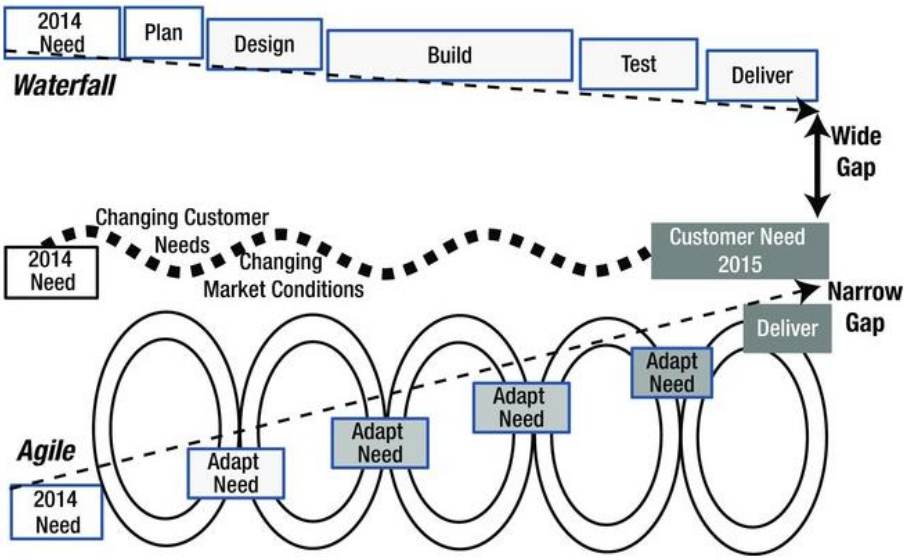

Figure 9: Agile adapts to changing customer needs **(Moreira, 2013)**

2.8 Agile Documentation

In the traditional way of project documentation, the specifications like requirements and design specs needs to be documented. It is more of a static way of documentation. The agile documentation refers to single source information, meaning it should be concise and simple, and more of a dynamic way of documentation. “A formal documentation is developed only towards the end of the project, and this is considered as a best practice. Short documentation is considered more precise than the larger ones, which may have relatively more errors. Information should not be repeated in multiple places and it is a good practice to use references rather than actual information within agile documentation. The overlap of information should be very minimal, and documents should be compact enough to satisfy the project goals (Canty, 2015)”.

”Project documentation serves as a reference for analysis of historical data and helps organizations continuously improve project management processes and develop standards (Anantatmula and Anantatmula, 2008)”. ”The documentation will also help to identify lessons learnt and to modify project management systems that will lead to project management maturity. However, these requirements for the IT consulting projects are applicable to a limited extent (Anantatmula and Anantatmula, 2008)”.

Document Late

As part of agile strategy, the practice of ‘document late’ is considered best practice as we document only what we built. User and support documentation are done towards end of

the lifecycle to ensure quality. Critical information is noted throughout the development process, so that it could be consolidated while documenting towards end of the project.

Avoid Overlapping

Small and precise documents could help to avoid overlapping of documents and information getting scattered everywhere. Creating Wikis sort of documentation to create different single pages for each topic is a good approach to avoid overlapping documents. “In documentation, one size does not fit all and hence each document should be focused on a task or topic or technology. Each of these documents have a target user. It is good to identify the target user and their needs, and identify the minimal information required in the documentation (ReQtest, 2020)”.

Target users

A good documentation is the proof of good communication. The agile documentation supports the different target users in understanding how the system or process have evolved over time. “The purpose of agile documents is also to help the support and operations team with easy to understand and concise information. Knowledge transfer through documentation is possible, only when effective communication had taken place with all stake holders throughout the project (ReQtest, 2020)”.

Documentation a Requirement

According to agile philosophy, documentation should be treated like any other project requirement. ”Documentation is a task that should be estimated and prioritized like any other task on the task list, that should be addressed. Investing on documentation should be a business decision rather than a technical one. Like any other task, documentation has its stakeholders and it should bring value to these stakeholders (Ambler, 2020)”.

Best Practices

Some of the best practices according to (Ambler, 2020) are as follows:

1. Keep documentation simple enough, with least overlaps.
2. Keep information in most appropriate place and display publicly when required.
3. Documents should serve a purpose and focus on the needs of the requester.
4. Update documents only when there is change. Recognize the need for documentation or changes to the existing documentations.

3 Research Methodology

Youredi has documentation for every project implemented, but standardised structure is missing in case of project documentation. The situation is similar in case of sales documents. To understand what the best way would be to structure these documents and what are the processes that needs to be followed for an effective handover, the researcher chooses to use qualitative research methodology. According to this, interviews will be conducted with different stakeholders involved in project implementations.

3.1 Interviews

Interviews are conducted with the goal to get insights from the experienced stakeholders about the current situation and how they would like to see improvements in document structure and handover process. Their experience with the completed and on-going projects will help in identifying what is lacking when it comes to project handover from one team to another. The questions put forward to stakeholders of different team would be more focused on the result expected by that team in terms of document, handover and maintaining the process.

For this study, the informal way of interview does not seem beneficial as it can drive the discussion off topic. The interviews are done using a more guided as well as open ended approach so that the focus remains on the topic and areas that are covered according to the study. The open-ended approach will help in collecting more information from the interviewee, related to this topic from his or her experiences, which will useful during the analysis of the data.

Interview starts off with interviewee's background on what he or she has been doing related to the topic in this organization. What are their thoughts about this topic and what has been their experience so far with project of their choice and otherwise? The questions will be framed to capture similar points about the topic, which help the researcher to collect relevant data and further help in analysing the current situation on how things are done and what improvements are required for the present process.

The interview questions are based on the following themes:

Project background: The questions focused on how the project was started and some brief intro to the project details. Discussed the involvement of sales in handing over the process to PS.

Project documentation: This is the main topic of his study and the questions were about documentation by sales to PS and from PS to support. What should be included, what is not needed and what could be improved were discussed.

Service Transition: Depending on the project, some are small and some of them are large and has several implementations and they are onboarded in different phases. Communication with customer and knowledge transfer between different teams were discussed.

Handover process: How should the handover be done at the organization, what could be improved from the current process and documentation, were the points discussed.

Project closing: This topic covers, how the project was closed, and the details transferred to the support team. Overall experience with the project regarding the cost, execution time and customer responses were the points covered.

3.1.1 Sales

As Youredi is a young company, the sales team has not been involved much with the project handover process. The team shares details on what has been done so far, what is expected and some insights into their previous experiences outside Youredi.

Based on the above themes following are the input from the interview with Sales team. The focus was on improving the documentation and handover process from Sales to PS. This also included the active involvement of sales in the initial phase of the project when it comes to giving clarifications on what has been agreed with the customer.

Interviewer: "How is project launch done in Youredi? Was there internal kickoff for the recent projects? Were the Minutes of the Meeting documented?"

Interviewee: "So far sales have participated only in very few handovers. The process was much more detailed in the previous work life. Youredi is a small and young company so it would take time to reach a position where things are done in more detailed level."

"Sales did not participate in the kickoff meeting officially and no minutes of the meeting were documented. Project Manager and the sales team had discussions on what was the requirements from the customer and

what has been agreed with them. It should have been done such a way that Sales should also be part of internal kickoff."

Interviewer: "How effective is the transition from Sales to PS for a project? Does PS still come back to sales for clarifications?"

Interviewee: "All the details related to a project is uploaded to Visma Severa tool. Most of the people in PS does not know about that. There is a communication gap there. In this case PS comes back to Sales on clarification on technical details regarding what has been agreed with the customer or what was mentioned in the proposal. Clearly a process on knowledge transfer on what to find where is missing."

Interviewer: "Is there documentation or standard template related to project requirements, so that PS can refer to it as and when required? What improvements do you see in this area?"

Interviewee: "As of now there is no separate document from Sales to PS for a project to get started.

There should be a template that Sales team should fill up before the kick-off meeting. PS should develop this template. It should be a template which contains all the information which could be used by PS to start the project. This should be filled by Sales beforehand and reviewed by PS. This way PS can make sure that they have all the information required to work on this project."

Interviewer: "Has there been feedback from PS on the document Sales share with them? What do you think should be part of this knowledge sharing document or what could be the improvements to this process?"

Interviewee: "Sales does not receive feedback from PS that often or say no feedback so far on the documentations. Currently there is a template which Sales team uses with the customer. This has technical specifications along with other Sales related specifications. The technical details from this and all the needed information to start a project should be included in this."

Interviewer: "What has been your overall feeling regarding the process of Project handover from Sales to PS so far?"

Interviewee: "Right now, the things are working, but we need to standardize it so that, as we grow, we can keep things in order. It would be good for Sales team to understand the different cases and challenges that specialist in PS

handle. Sales would like to get feedback from PS and discuss quarterly or half yearly, what has gone good so far and which projects could have been done in a better way."

3.1.2 Professional Services

Interviewees were asked to choose one of their projects to provide answers for the questions. The interviewees were encouraged to give their inputs based on their experience with current and yester year projects as well. They shared their experiences on the handover process during their projects and how they did document those. Since every project is different in Youredi and everyone here has worked on different projects, the results are not generalized on project basis, but on how things are executed.

The first question to the interviewees were based on their experience with launch of a project and how the requirements were discussed internally in a kick-off meeting.

Interviewer: "How was the project launched? Was there internal kickoff? Were the Minutes of the meeting documented?"

Interviewee 1: "There was only kickoff meeting with customer before starting actual project and they mentioned their expectations and no internal kickoff meeting. The requirements were documented, but not the minutes of the meeting."

Interviewee 2: "Customer kickoff had taken place, but no internal kickoff. Only received signed agreement from sales to start progressing on the project ASAP. There was a purchase order form which had details on scope of the project. The tasks and implementation details were agreed on call with the customer and these details were not documented anywhere."

Interviewee 3: "I joined the project later and not aware of the Internal kickoff. Started off with the project tasks based on the existing documentation done by other team members who were working in this project for long."

Interviewee 4: "For this project, the customer was in hurry to start building the solution quickly, so there was no formal internal kickoff. It was a new solution and constantly changing like a trial and error way as it was something new for the customer as well as for Youredi."

Interviewee 5: "I would like to discuss one of the recent projects. There has been background information transferred from Sales along with the customer to PS. The project manager and sales were involved in meeting with customer and project plan has been discussed and shared with team and customer. Most of the projects in Youredi, after initial implementation are operating in Continuous Service mode. So far, the documenting and sharing of project plan depended on the size of the customer. The newest projects have internal kickoff and so did this project."

Interviewee 6: "There was one handover from Sales to PS and at that point the scope was not very clear. A formal internal kickoff did not happen due to the nature of this project."

The second question was regarding the creating and using project plan within the team while executing projects.

Interviewer: "How is the project plan documented? Who all is it shared with? How often do you refer to the documentation created by sales team?"

Interviewee 1: "I was the only one working in the project and agreed with the customer on the deadlines based on their requirements and did an estimation for the work to be done. Milestones were set based on the implementations. There was no documentation from Sales team or project plan shared with anyone."

Interviewee 2: "It was very vague to understand what needs to be done and there were no documents provided by sales. All the stakeholder details were documented, but no detailed project plan or the tasks."

Interviewee 3: "As far as I know there are not any documentation from Sales to refer to. There are project plans and resource planning shared between team members and customer on weekly basis or if not whenever required. Deadlines of tasks are agreed with the customer."

Interviewee 4: "When we look at projects that started recently, technical people are joining the sales meetings with customers to clear their concerns and provide them a better understanding of the technical details required for

the project. In the project I mentioned here, no project plan was used whereas with the recent projects, there are project plans being made."

Interviewee 5: "The project plan is not documented, but some milestones in Trello tool. For some customers, they just want to get some business requirements to be done and does not care much about detailed project plan whereas others involved in setting deliverables and timelines. In some cases, projects might be sold to customer as a small sized project. Timelines for the so-called small projects can vary depending on the challenges faced while implementing the requirements. Something sold as easy cases might not be easy while implementing."

Interviewee 6: "A proper project plan could not be decided as the scope was very narrow. The customer responses were delayed and their communication with their third-party vendors were also not very effective."

The third topic of discussion was around updating documentation and how efficient is the documentation of change management.

Interviewer: "How often is the documentation updated? What are the better ways to document change management of integration processes build in Youredi platform?"

Interviewee 1: "The processes done for this project was documented. All technical details were in this one document with two parts, one for integration other for infrastructure. At that point, confluence tool was not used. The documentation was done in tool recommended by customer. Same document was updated few times, but there was no record of how many versions of the document was made."

Interviewee 2: "After the project execution, the documentation was done. Documentation consisted of details on activities needed for maintenance and what would be required for onboarding new implementations. Additional features were documented and shared with customer. i.e. more technical details and not project management relevant. Change management should be light weight. May be use tools like Trello for that purpose."

Interviewee 3: "When I joined the project, the documentation was already available and there were not much of updating of the documents required. I think that the latest changes should be at the beginning of the change management log as once suggested by support team."

Interviewee 4: "With the kind of integration projects done at Youredi, the waterfall model does not work out. There are many specifications and technical details, which we might not be aware of at the beginning of the project. So, the document needs to be kept up to date with the information received. It is a living document. Even after the processes are taken into production, still the documentation lives on as there will be changes, updates etc."

Interviewee 5: "At the beginning of a project we tend to create generic description of solution and have overall architecture of the solution. The change management log part of the documentation is something that is kept up to date unlike other part of the documentation."

Interviewee 6: "The documentation is updated whenever there is a change or technical implementation. It is not very effective if we repeat documentation, so just concentrate on documenting why the process was done the way it was. It would be good if there was option to mention the change comments in the platform but that is a backlog with the development team. Now documenting it in confluence is an interim solution for change management."

The fourth question was improvement ideas for documentation in PS. Discussed how documentation has helped support so far.

Interviewer: "How could we better the documentation in PS? Has there been situation where the documents have been reused from one project to another? Despite having documentation, does support still need to come back to PS for resolving issues."

Interviewee 1: "Project documentation has not been reused between different customer projects. There is a chance that the latest version of this document could be used, for one of the upcoming projects for the same customer. Nowadays, every change is documented in confluence. In my opinion, support and ops team should have to review processes when there is production deployment. Till now there has not been any. There are some

steps documented in confluence for this reviewing a process but not followed so far for any projects."

"Previously, for some projects support cases or issues were directed to personal mailbox which is not a good approach. Support should have an email id and phone number. Proper transition from PS to production needs to be done when a project goes to production. There is no steps defined for such handover process."

"Documenting technical changes should be part of the platform instead of having separate system to document even the minor changes."

Interviewee 2: "Though the documentation of one project cannot be used for another in Youredi, some project management details were reused between customers. The depth of project management activities depends on the customer and size of the project. When project is active, it can be managed in tools like Trello and then document them in Confluence. Sometimes it is not easy to come up with a detailed project plan in the very beginning of the project as quite often timelines are unknown to us and customer also does not have clear idea on when they would need something completed. There should be a clear process on what should be documented in the beginning of the project and what could be documented towards the end of the project."

"Regarding changes in processes in the platform, there should be option to make several changes and then save and commit as one. Why the change was committed could be explained in confluence along with the version number."

Interviewee 3: "*It would be better if the version control of the processes developed in platform was linked to the change documentation. More explanation on what was done against each version would have made it easier to understand why the change was done."*

"Generic error handling documentation could have been handy for newcomers and people starting fresh with Youredi platform."

Interviewee 4: "Change management is better these days. The discussed case has been documented well in confluence. But would prefer more automated way, technical change management within platform. Document details on why the change has been done. Now the changes done are in the platform, and documentation is done in confluence."

“There is a basic template which has a structure about the basic details on what should be included is available. All the Integration projects are different, so re-using between projects is not a feasible thing. It varies case to case, so as of today it is different.”

Interviewee 5: “It would be better, if the change management is documented within the tool along with the version control like any of the integration tools. This feature is yet to developed in platform. In Confluence there is change management table, but this is double work.”

“The document structure is generic and good enough and can be used for all projects. Gliffy diagrams for every project is good enough so that the reader gets a bigger picture of the whole project.”

Interviewee 6: “The documented contents cannot be reused between projects as never the same. Every project is customized based on the requirements put forward by the customer. Same elements from current template can be used for all projects.”

The fifth topic was about project closure steps and handover to support. Discussed feedback from support team on the documentation done by PS so far.

Interviewer: “How was the project closure for the discussed project or in general with integration projects at Youredi? Has there been handover meetings from time to time as while onboarding new implementations for the client? Has there been feedback from Support team regarding documentation, for better usage?”

Interviewee 1: “Have not done a proper handover in the projects implemented so far. The project I referred here had milestones and deliverables and once that was reached, that was end of the project. Another project has been going on for past 2 years have no deadlines. The customer is slow to respond to anything, and project lives its own life.”
“I feel minimum level handover and review should be done for every project. Error logging should be documented, and support should know whom to contact with the received tickets.”
“In ninety nine percent cases Support comes back to PS for resolving issues. Exceptions expected are not documented that well, is one reason

that support had to ask PS. The exception, its situation and action required (e.g.: contact customer, resend file) is not documented. This could be listed down during implementations and used later by support. Of course, there are difficult scenarios where support would need PS help to resolve it."

Interviewee 2: "During the time of the mentioned project, there was no official support team. As we grow, there should be a checklist for handover to support, the tasks need to be completed during or before handover to support. More formal way to report errors to support and more easy or standardized way for support to start troubleshooting the errors should be introduced. We should utilize tools like Kibana to track messages so that there is detailed info or content on the messages which would help support to resolve issues. Tracking down error messages from platform transfer log is nearly impossible."

"Support needs help from PS depending on the projects level of complexity or say different kind of integration than usual. This might mean documentation is not structured or comprehensive enough. Support is like first line of support and certain issues they would need to escalate to second level, which is already PS. This usually happens for complex customer cases. There has been good feedback on the documentation done so far."

Interviewee 3: "When implementations went to production, there was no official handover, I used slack to indicate support team that process is deployed to production. In case some of the cases, support needed help from PS to take care of certain complex processes. Overall, the feedback received from documentation was good. In this project case, the error logging was done by support."

Interviewee 4: "In the project we are discussing, there was handovers from time to time. Support has been informed on what has taken into production. Support still comes to PS, as all the possible scenarios couldn't be documented, so in case of new issues, support asks for the solution. The feedback from Support has been to do more documentation as it's some-

times not comprehensive enough. Some errors were documented, but most the errors were logged or documented by Support."

Interviewee 5: "Handover requires booking a meeting and taking time to explain what has been done. I had done it a couple of times as a personal meeting. I had documented some complex processes in Slack for reference of the support. This has been done during production deployments. The documentation could have been in Confluence where it stays and not in slack where messages might drown when the chat continues. Support comes back to PS for issue resolution when there are complex cases to be resolved. Received good feedback so far that things are well documented. Regarding error logs, still its unclear whether it should be done by support team or PS."

Interviewee 6: "The project that we are discussing is an ongoing project. There have been few handovers to the support based on what has been implemented so far. But I feel there should be handover from time to time so that everything is up to date and everyone is constantly reminded about the project situation."

The last discussion was about how well was the projects discussed executed and how well was the knowledge sharing between each team.

Interviewer: "How was your overall feeling about the execution of this project? Was it on time, within budget and how was the overall customer responses?"

Interviewee 1: "It was a well-executed project. The implementations were quite fast, and time for testing were longer and executing minor changes during that phase. The project was on time even though customer had troubles to agree on certain things internally at their end. At that time support team was not there, so no handovers, the implementor and support specialist happen to be same person."

Interviewee 2: "Customer never complained on cost, so it was on budget and on schedule or well before of deadline. Further training was provided to customer to onboard new implementations, but project was kind of wrapped

up as the customer main organization wanted it to be wrapped up. But what was implemented was a success."

Interviewee 3: "There was enough time for implementations. Customer was flexible and received support from team members on completing the tasks. Handover should be more formal and should be done from time to time when project goes live."

Interviewee 4: "This project was a good project overall, in terms of learning and understanding a new industry. The biggest challenge was customer not understanding their own processes. Project Management from customer side was not very effective. Revenue wise the project was good."

Interviewee 5: "In some cases, there is no defined scheduled for projects. Customers might not be responsive, and some cases have fixed timelines. Some have timelines and when customer is not that active the timelines will extend. We cannot generalize projects based on what is done so far. The third parties also cause delays. These things are outside the control of Youredi. Periodic meetings with customers could make things better. The idea should be to conduct the meeting even if its 5 min, at least once a week. Sending emails might not help most of the time. For new projects we are planning to have such meetings. It is usually better to have face to face meeting but sometimes customers prefer calls, if they can avoid face to face meeting. With customers, we need to agree, to have their continuous cooperation, so that projects are done faster and efficiently."

Interviewee 6: "It has all the challenges that we could expect from a project. The project scope was very narrow and unresponsive customer made things difficult in the beginning. There were many counter parts and customer has very poor communication with these third parties. Who is doing what was not clear and lack of project management from the counter parts was hindering the project from moving forward. In between there was change of resources at the customer's side. There was also change in the technical setup and this was unaware to one of the third party and getting everyone to the same page was difficult."

3.1.3 Support

Interviewer: "Have you attended project internal kickoff? Have you felt that it would be good to be part of internal kickoff?"

Interviewee: "I have not attended any internal kickoff meeting so far. I think it is not needed at this point, as I just need to know what has been done by PS and need not know all the details from beginning. Now it is not necessary, but may be in the future, it might be needed when the company, teams and projects grow."

Interviewer: "How often do you have handover meetings based on the production deployments?"

Interviewee: "Based on production deployments, handover meeting take place like maybe once a month. Based on the project sizes, some big ones did not have enough handover meetings or are not in sync with production deployments."

Interviewer: "How well are the projects documented by PS? How often do you refer to these documentations? Do you feel they are updated from time to time?"

Interviewee: "Now the documentation has improved compared to the past. Some old projects had poor documentation. Most of the documentation were a mess, but now it has improved. Documentation is referred at the beginning of the support process. Having image representation of overall process helps a lot to understand the data flow better. For support, the overall picture, contact persons, expected errors are good to know points. PS can keep everything up to date."

Interviewer: "How could we better the documentation in PS? Better ways to document change management? Despite having documentation, does support still need to go back to PS for resolving issues."

Interviewee: "It would be good to have overall picture of the project or process to get idea on how the integration flow. Some old documentation has all the alerts documented which might not be necessary. In case of getting help from PS to resolve issues, some processes are so complex and explaining whole process flow would be difficult, so the support must escalate the issue resolution task to PS."

Interviewer: “Who does error log? Is there better way to do error log?”

Interviewee: “If there are known errors, then PS logs it before handing over to support. When there are new errors, then support takes care of the issues and logs the details to the Error log table.”

Interviewer: “How is your overall feeling about the project documentation structure and content? How well has the support been able to benefit from it?”

Interviewee: “Overall, the documentation is good now compared to some old project documentations. Same template should be followed for all projects. It is good to have the overall architecture and process flow diagrams which would give a better view or bigger picture of the project. After that, the processes can be described.”

4 Evaluation

Interviews with each specialist from different teams and those who handled different projects gave so much insight into the current and yester year situations at Youredi regarding the project handover and documentation. The current handover documentation structure was defined by CTO of Youredi. To understand how and why he came up with this structure, a discussion was held up with him. Based on this discussion, the detail of why we have the current document structure will be listed in this section. The findings from the interview on the current situations of the handover process and documentation will also be discussed in this section.

4.1 Project Handover Process

Sales to PS

The project handover process at Youredi was one aspect that was covered in the interviews. Most of the previous projects have almost no handover from Sales to PS, whereas the new projects are trying to incorporate the handover session before the starting of the project. Findings regarding this process is listed in the table below.

Project Initiation	• Internal kick-off meetings took place only for few projects. New projects are taking this into practice.
Project Pre-Requisites	• No check list of what details should be transferred from Sales to PS.
Communication	• Sometimes complete scope of project is not known and no proper handover especially for old projects. • PS would require clarification from Sales, from time to time. This could be due to lack of handover process.
Documentation	• In some previous projects, no documentation from Sales. Now documents related to project sales are available on Severa.

Table 1: Current Situation Sales to PS

PS to Support

Handover from PS to Support is one of the crucial steps whether it is closing of project or if the project goes to a continuous service mode. This handover process is also not structured enough or let us say some of them follow it in a structured way from time to time and others might not. This could also be due to nature of the project. The idea is that everyone should try to follow it in a uniform way.

Project Documentation	The new projects use the current documentation template, whereas the old projects did not have proper documentation before handover.
Updating Documents	No version control in the tool, so documentation needs to be updated with every change in process.
Handover	No checklist defined for handover between PS and support team.
Communication	No handover meeting held for every production deployment, in case of projects in Continuous Service mode.
Project Closing	No official process is defined for project closing or putting a project to continuous service mode and handing over to support.

Table 2: Current Situation PS to Support

4.2 Documentation Structure

The next topic covered in the interviews was the documentation structure. The structure adopted right now is quite concise and it has covered most of the points that needs to be documented in terms of project implementation. From the experience with projects at Youredi, the interviewees agree that the documentation template that we use right now is well formed and they can include the necessary project details using this format. To understand why and how this template was formed, discussion was held with the CTO and following are his insights on the structure. Project Scope, Acceptance Criteria, Resources and Project Plan are the components in the structure which defines the basic details of the project on high level and taken it use while managing the project. Process Description,

Error handling, Change Management in the template has details on what has been implemented and is mainly for the Support and Operations team to take into use once the project is live and the handover is done.

Figure 10: **YourEdi Project Documentation structure**

Project Scope: In the document template ‘Scope’ is the first thing as it is very important to evaluate what has been sold and later evaluate the success of the project based on the scope. This includes the customer requirements, high level description of messages, protocols and counterparts that are identified in this initial phase. Any limitations or restrictions identified could also be mentioned in the scope.

Acceptance Criteria: The acceptance criteria define how the project is going to be tested and what needs to be completed before the project goes live. The important part is ‘who will test what’, and the scenarios and responsibilities must be agreed with the customer.

Resources: In this section, it is important to list down all the internal and external stakeholders associated with the project. Who is responsible for what and who

should be contacted in case of certain tasks? The figure below is a sample on how the details can be listed in a table.

Role	Company	Name	Email	Phone	Responsibilities
Project Manager	Youredi	Mr Manager	mxyz@youredi.com	+3584********	Youredi project management
Project Manager	Customer A	Mr C Manager	Cxyz@abc.com	+3584********	Company C project management

Figure 11: Project Roles and Responsibilities

Project Plan: In Youredi we are dealing with agile projects and most of them customized based on the customer requirements. To proactively communicate internally and externally, a project plan is required. There should be a track of what is communicated internally and to the customer. In case the project is large and goes to Continuous Service mode, then split it into mini projects and progress the communication part by part. The project plan in these cases should be up-dated based on the progress of the project. This can also help in considering a plan to the future for the project. A basic structure of the table to document the plan is shown in Figure 12 below.

Phase/Milestone	Due Date	Status	Responsible	Effort Estimate	Description
Scoping	Week 1	Completed	M Manager	2 wd	Complete the detailed process description and document requirements
Implementation	Week 4	In Progress - On time	X Integration Specialist	15 wd	Implement the agreed integration
Testing	Week 5	Not started	T Tester	3 wd	Internal testing and customer acceptance testing
Go-live	Week 6	Not started	M Manager	1 wd	Handover to Youredi support

Figure 12: Project Plan

Process Description: A process description should be more about ‘WHY’ the process was done, what is the logic and why it has been structured, the way it is. There is

no need to deep dive into the technical details as it can be understood from the platform. This means do not repeat documentation. Generic description of all the processes and some background information on the purpose of the implementation would be enough in the process description section.

Change Management: There should be constant communication to the customer on what is being done and do we have the resource availability based on the demand. If the communication is not consistent, the it could take the customers by surprise when resource allocation and prices are discussed. Keeping change management log up to date with e the production go live is very essential to keep track of what has been done. Change management log should be managed for information security reasons and after going live, so that there is proof of what was done and who requested for the change, who approved it. In continuous service mode, continuous handover to the support should be a priority. Figure 13 represents the current structure of the change management log.

ID	Date Requested	Date Implemented	Requester	Implemented By	Description / Attachments	Unique identifier for modified process/component
1	20200505	20200507	Requester1	Implementer1	Change in mapping	Integration Process X1
2	20200506	20200511	Requester1	Implementer2	Change in workflow	Integration Process X2

Figure 13: Change Management Log

Error Handling: The error handling log is where we need to specify what errors are expected and who will act when the issues arise. Some of these should be agreed with the customer. If some other error which was unexpected happens, then the issue should be resolved and documented, and this should be one of the high priorities. It would be good to record Alerts on different error with different severity. If this is not recorded, it will be hard to trace back when some connections are down, and we will not be aware of it for days. Hence it is important to list down the anticipated errors. The Figure 14 represents structure of the Error handling Log.

ID	Process	Error	Resolution
1	Integration Process X1	Internal Server Error (500)	Check the endpoint connection
2	Integration Process X2	Error Fetching Data (403)	Retry the process. Otherwise verify with customer
3	Integration Process X3	Service Unavailable (503)	Check with customer is service was available during the time of error

Figure 14: Error handling Log

5 Project Transition Proposal

The project transition proposal is defined based on opinions and suggestions received from interviewees on the handover process and documentation. This section consolidates what could be improved and added to the handover process that is practiced in the organization. The suggestions mentioned here are based on the current situation and size of the teams involved in each of these handovers.

5.1 Handover from Sales to PS

The 'Handover from Sales to PS' section lists the steps to be followed when the project is passed over from Sales team to professional services team. In addition, there needs to be technical specification document which is required and passed on through this process. The Sales team was formed recently at Youredi, so it is important that they follow the suggested process as the company is growing and defining processes will help keep track of handovers and related tasks.

Figure 15: Handover process proposal from Sales to PS

- Every project should have handover meeting from Sales to PS initiated by the Sales Manager and Project Manager. All the possible stakeholders should be attending this meeting.

- Define the prerequisites of the handover meeting. A template should be defined so that, all details of the project is transferred from Sales to PS, to start implementing the project. This template needs to be designed by the PS team, and the Sales team should fill this before the Internal Kick-off. Since the template is going to be used for the implementation of the project all the technical specifications should be mentioned in this checklist. A sample of specification table is shown in the below figure.

Customer System	Counterpart	Number of Integrations	Message Type	File formats	No of Transactions	Protocol
CS1	C1	10	EDI	CSV	10000 approx.	AS2
CS2	C2	5	EDI	CSV	30000 approx.	AS2

Figure 16: Sales to PS technical specification list

- Define any further actions required after the meeting. Minutes of the meeting needs to be documented, to keep track of the knowledge transferred between the teams.

- All the documents related to the project should be in a common place and accessible to everyone.

5.2 Handover from PS to Support

The ‘Handover from PS to Support’ section defines the processes that are expected to be followed when a project is in Go Live phase and is deployed to production. The next step after going live is to transfer the project over to support team. The integrations projects done at Youredi can have changes even after it is deployed to production. It is important that the PS team log the changes and expected errors. This is one of the crucial requirements while handing over to support. This section explains how the handover process should be executed and tracked and suggests a checklist for handover process.

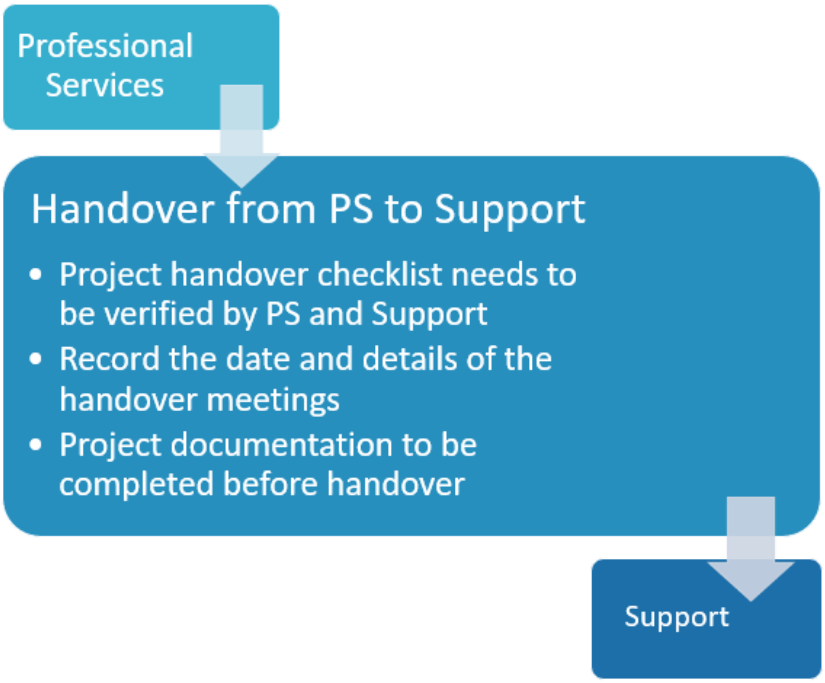

Figure 17: Handover process proposal from PS to Support

- Based on the project implementation go live, there should be handover meetings conducted from time to time for projects in continuous service mode. Date and process name should be recorded in a table to keep track of what was handed over and when. The Figure18 below represents a sample recording of the handover meeting. This could be added as continuation to the Project Plan table currently used in Youredi documentation, which was shown in Figure12.

Project/ Sub Project	Process	Handover Date
P1	Integration Process 1	20200403
P2	Integration Process 2	20200428

Figure 18: Track Handover meeting

- Define a checklist for the handover from PS to support team. This will make sure that all the necessary details regarding the project is handed over to support. Fig-

ure 19 represents a sample of the points that could be included in the Handover checklist.

Figure 19: Support Handover checklist

- The project documentation should be completed before project handover. The handover process needs to be standardised and followed consistently with every project.
- Documentation and handover should be part of the project plan so that is followed and executed as per the plan, as and when required.

6 Recommendations

Under recommendations, the researcher would like to highlight further best practices for documentation as well as for the processes. The documentation template contains all the necessary components, but it requires rearrangement to use it efficiently. ‘Project Documentation Hierarchy’ explains the restructuring of the documentation template to make it more readable. The ‘Roles and Responsibility’ section defines who does what in the team in terms of executing the previously mentioned processes and executing handover over process across teams.

6.1 Project Documentation Hierarchy

The current documentation structure is well formed and serves the purpose of capturing most of the aspects for the kind of projects that are done in Youredi. The projects that are implemented here require mostly light weight project management. The document structure used now have minimal project management factors that are practiced and documented. All most all the new projects are following the documentation template and capturing all possible details for project implementation. The structural changes proposed here might not be required for small projects which are just one-time implementation. In case of large projects which are implemented as smaller projects this document structure change would be handy. Structure changes emphasis on keeping Change Management and Error handling in separate pages so that it more readable and structured for support team. Keeping these two components under a separate subpage would make it more understandable for anyone looking for change management log and error handling for that sub project.

In Figure 20, we can see that the Project Main Document, is where the project management details from the documentation structure could be used along with the overall architecture of the project. When a large project goes into continuous service mode, every new set of integrations could be a sub project. In the page indicating sub project, project management details and technical specifications related to that Sub Project could be documented. The change management log and support log relevant to that sub project could stay on another subpage or child page represented as Support Document, under the Sub Project page. In this way the content becomes easier to fetch and this could also be in alignment with the integration project structure that we develop on the Youredi platform.

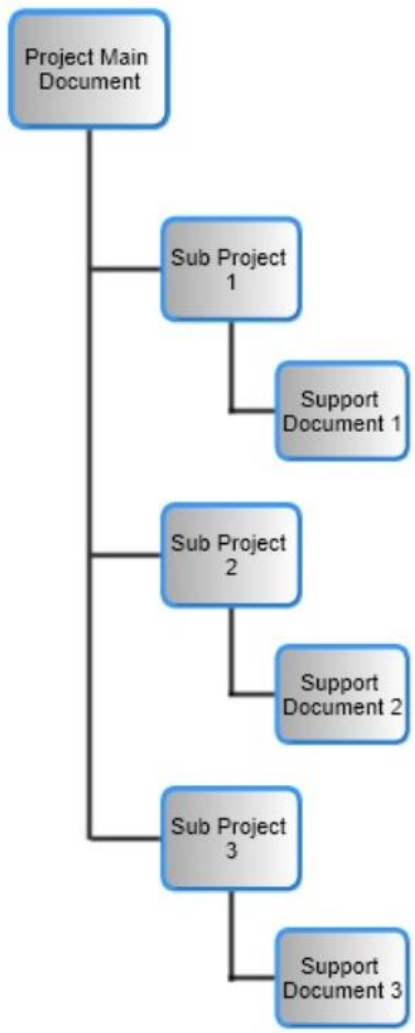

Figure 20: Project Document Hierarchical Structure

6.2 Roles and Responsibility Matrix

The below table consolidates all the roles of the team members and their responsibilities during each phase of the project. The list of tasks under the responsibilities include collecting the required documents and executing the necessary task before going into the next phase of the project and handing it over to the next team. Defining the roles and responsibility will give more visibility to the team members what they are supposed to do at each phase. Referring to this table, the team members can make sure if they have completed the tasks and ready for the next phase and handover.

Roles	Sales Phase	Project Acceptance Phase	Project Phase	Project Go Live
Sales Manager (Sales)	• Lead the sales process. • Gather information from internal stakeholders.	• Internal kick-off with project team. • Completing the template designed by PS for gathering technical specifics. • Agreeing with the project team on what is going to be built and handover the required documents.	• Follow up with Project team that they are on schedule with progress of the project.	• Follow up with Project and support team and collect inputs for further leads with the project.
Integration Architects/ Integration Specialists (Professional Services)	• Help sales with work estimation and proposal.	• Agreeing with Sales on the project specifics using the template filled by Sales. • Collecting all the necessary details regarding project from Sales. • Plan on the architecture and implementation design.	• Building the Solution and testing. • Documenting the necessary details of project and processes being built.	• Deploying the project to production after acceptance testing. • Handing over the project to support team. • Completing the required documents for reference of support team.
Support Specialists (Support)	• Introduce support possibilities to help with proposal.	• Understand the general whereabouts of the project.	• Support and Project team collaboration if required.	• Acceptance for project to production. • 1st Line of support handled by support team

				and in case of complex issues, report to project team.

Table 3: Roles and Responsibility Matrix

7 Development Areas

During the interviews with the team members, there were two topics that was discussed with reference to change management and knowledge transfer. The idea of change management log in the documentation is to record the version and the comments on why the change was done to an integration process. The proposal is to manage this in the platform. In case of knowledge transfer, all the teams doesn't have a visibility on how a project team faced the challenges with its projects. To reduce that knowledge gap, the knowledge transfer between teams was proposed.

7.1 Change Management in Youredi Platform

One of the major feedbacks during the interviews was that the reason for changing a process should be tracked in the platform itself. Now the situation is after changing a process the process version changes and no comments are recorded in the platform. Instead the reason on why it was done is tracked under project documentation in Confluence tool. This is not a very accurate method and not in compliance with agile documentation. The documentation should be about the business requirements and not about what was done in the process. This would mean repeating documentation, which is not a best practice.

Hence the suggestion is for further development in the Youredi platform, to develop a feature to Save and Commit process changes separately. The commit can trigger an option to comment the reason for change.

7.2 Knowledge Sharing

The other topic discussed was about Knowledge sharing between different teams. One project team does not know the use cases and challenges faced by the other project teams. Similarly, the sales and support teams does not know the different cases and scenarios that the professional services team has been building. Sharing the project knowledge between teams, will help the sales to identify different cases in the market and do up sales with the existing projects. For the support team, it would be good to know these details so that they can act efficiently when there is an issue.

The suggestion for knowledge transfer is to conduct these sessions quarterly with members of all the teams.

8 Summary

Project handover and documentation are part of the whole framework of project management. These should be part of the project plan and verified during the required phases of the project.

When an organization is small or mid sized, it is a good time to think about the best practices so that as they grow, this would serve as the base and it would be easy to implement further developments.

Communication is the key to successful execution of project. Project handover and documentation are part of communication where the project knowledge is transferred from one team to the other. In case of incomplete communication, the project won't be successful and sustainable. This will fail the project expectations.

Team members should be aware of their responsibilities. This will help them to recoganize if their tasks are completed on time and is ready to be transferred to the next team for taking the project forward with its next phase. Collaboration between teams is an essential factor that will help in identifying what is required and what has been completed.

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