

## How To Reduce Challenges And Increase Stability Of Project Scoping In Project Planning

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### Abstract

*Project's successful implementation and delivery can be called when projects are delivered on time, within budget and meeting all specifications. However, as per replicated survey of IT software, 50% of the IT projects fail in Project Management process and planning due to improper requirement analysis and wrong interpretation of requirements. The main intention of this paper is to recommend a standard procedure to firms about project scope management, to define scope, specify requirements and determine tasks to accomplish project outputs. A brief case study is been presented to showcase the possibility of how project can be scoped critically to add value to project outputs and outcomes. Findings reveal that this process would minimize the failures of requirements outcomes that tend to be vaguely stated without thorough explanation. It would result in improving firms performance by establishing requirements stability and controlling project scope changes.*

**Keywords:** Project scope, Project requirements, Project tasks, Project outputs, Stakeholders

### Introduction

Several IT projects undergo schedule and cost overrun resulting from poorly analyzed project requirements. This affects firms performance in delivering project value. After detailed examination of exiting project scoping by practitioners and researchers, there was gap revealed in quality of requirements gathered before initiation of project called as 'Scope'<sup>1</sup>. Subsequently, it impacts further planning contents of schedule, resource and cost management as project scope acts foundation of all. In project, most of the errors originated from the poorly analyzed requirements completed before final design of product. Incomplete, misinterpreted and poor writings of requirements are the key reason for failures of project. Requirements uncertainty and instability resulted from interpersonal conflicts among stakeholders. 'Scope Creep' in a form of uncontrollable changes, affected requirements of scope activities. Development of project requirements comes from humans such as customers, end users, project manager, team members, project owner, line managers and other stakeholders that are deemed important. Techniques such as interviews, group brainstorming sessions, workshops, surveys, questionnaire and observation are used consisting of

small groups to collect in-depth information of diverse requirements. The objective of delivering consistent procedure for external projects successfully is impacted. Even it gives rise to unstructured programme leading to downfall of holistic and extensive process of managing projects leading to resource wastage. Thus, companies project board should decide to renew previous scope planning procedure, referring historical database of failed projects, to overcome limitations and devise newly structured scope management.

### Standard Empirical Process to Develop Work Breakdown Structure (WBS)

To begin with project scoping, process comprises of two crucial parts for answering questions "What" to define and specify project outputs. And, other is "How" to recognize tasks to accomplish those objectives. To gather diverse and potential requirements, appropriate tools are to be selected for accessing large number of requirement contributors. Work Breakdown Structure (WBS) technique act as the basis for breaking high-level complex project outputs into smaller and manageable project activities, to create project outputs.

There are three types of WBS structure that can be preferred during project work, exhibited in the Table 1

<sup>1</sup> Scope involves process of getting critical information to meet stakeholders requirements.

**Table 1. Different structures of WBS**

Structures of WBS	WBS structure description
<b>1.Deliverable-oriented</b>	Creates and prioritize main deliverables
<b>2.Phase-oriented</b>	Comprises of the key phases for developing outputs
<b>3.Functional-oriented</b>	Create outputs on the basis of functions to be performed

(Source: Chih, 2018)

Table 2 below is listing terminologies used while structuring WBS

**Table 2. Terminologies of WBS structure**

Terminologies of WBS	WBS terminologies description
<b>1. Name of the project</b>	States the final project name to be executed
<b>2. Outputs/Deliverables</b>	Tangible artefacts name to be produced at the end
<b>3. Sub-level deliverables</b>	Complex project deliverables can be further broken down into sub-levels if required
<b>4. Works</b>	Term used to create deliverables as a part of basic activities
<b>5. Sub-level works</b>	Also called as work-packages and simple basic ground level activities
<b>6. WBS tasks or Work Packages</b>	Termed as the components of lowest level inWBS

Table 3 depicts steps that can be followed for the creation of WBS structure

**Table 3. Procedure involved in creating WBS structure**

Stepwise description denoting process to construct WBS
<b>Stage 1: Project name which is to be delivered is written at top (level 1)</b>
<b>Stage 2: Write down the names of important project deliverables after level 1, essential for the completion of the project at level 2</b>
<b>Stage 3: Break down intricate project deliverables at level 3 into sub-deliverables to generate major deliverables at level 2</b>
<b>Stage 4: Identify basic tasks at level 4 to create and carry out work to get deliverable and sub-deliverables directly</b>

**Stage 5: To reach the manageable work packages level, break down work into sublevels to whom schedule and resources can be allocated and even cost could be estimated**

The Figure 1 drawn below is the pictorial view of above Table 3 to develop WBS structure

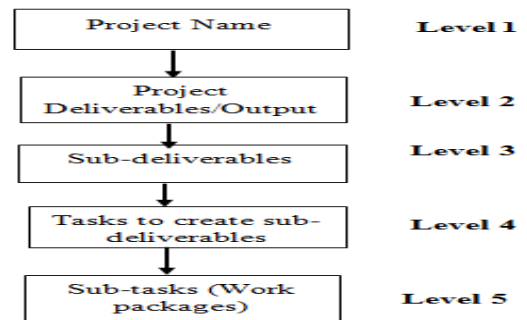


Figure 1. Pictorial view of the steps required to create WBS structure

Table 4 interpret common terms used in the WBS structure and their meaning is elucidated.

**Table 4. WBS presentation terms description**

Terms used in WBS structure	Terms description
<b>1. ID /Identifier</b>	Consistent coding scheme has to be followed throughout project planning in the form Identifier, this will be mentioned before the name of project, deliverables and the lower-level work packages. Identifier are denoted as "WBS ID" (Chih, 2017). e.g. 2.1, 2.2, 2.3, 2.3.1 etc
<b>2. Deliverables layout to be followed in writings</b>	Noun is used to present and recognize project deliverables e.g. Design, Paint, Clean up etc
<b>3. Written format for Work Packages</b>	Short and succinct verb phrases are used while writing in order to differentiate deliverables and work-packages e.g. Choose a colour, Paint walls, Prepare room etc

Figure 2 manifests a graphical view accounting from high level project name at the top to low level detailed work tasks highlighted in black.

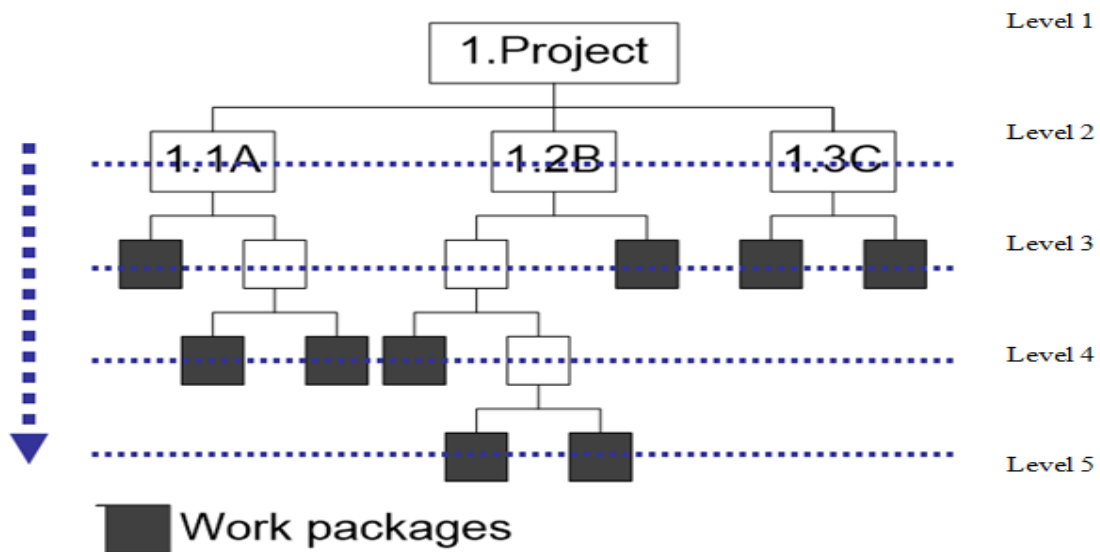


Figure 2. The Graphical view of WBS (Source: (Chih, 2017))

**Case Study**

A deliverable-oriented WBS exhibited in Figure 2 is framed for a new project named as "Starting a New Marketing Business", constituting of three levels with "Work Packages" as the lowest level component. Identifier and coding scheme was kept consistent throughout the project plan. "Noun" was used to represent deliverables and "Verb phrase" to express work packages and its multiple tasks.

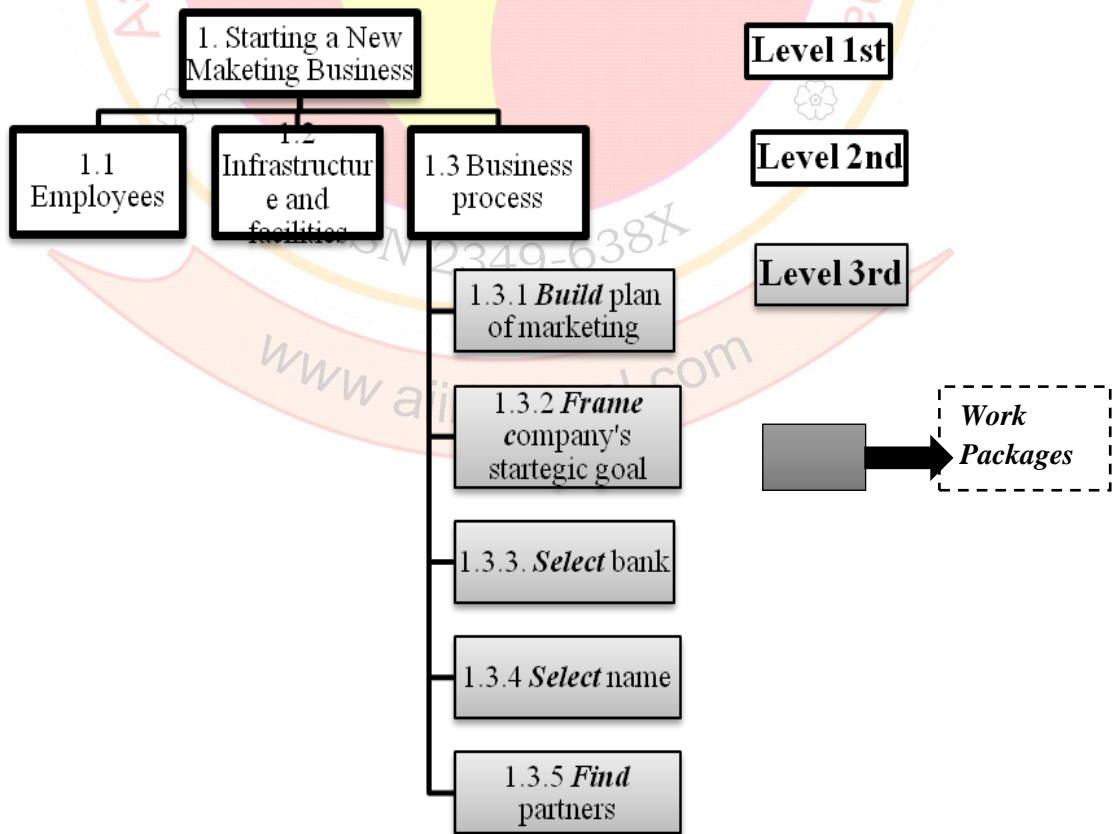


Figure 3. The Work Breakdown Structure (WBS)



After that, “Work Package Dictionary” a tabular view for WBS details was represented as graphical view of Figure 2 doesn't provide all necessary and sufficient information of Work

Packages. Dictionary constitutes of key elements and information such as Identifier's, defined terms, entities responsible and specific deadlines for lower-level work packages.

**Table 5. Work Package Dictionary**

Identifier	Work Package	WBS Description
1	<b>Starting a New Marketing Business</b>	
1.1	<b>Employees</b>	
1.2	<b>Infrastructure and facilities</b>	
1.3	<b>Business process</b>	
1.3.1	Develop marketing plan	<b>Work Package block consists of information in relation to work criteria of performance, outputs achieved for this stage, responsible person and its accountability, resources allocation ad scheduled duration etc (Rojas, Raj, Chavan, Singh, &amp; Polepalli, 2017). Sample for writing work package description block is displayed in 1.3.2 below.</b>
1.3.2	Develop Company vision statement	Final output is vision statement. Performance criteria is to be short, insightful and understandable. Person accountable are top management personnel. Steps involved in this work are: 1) Framing possible vision statements 2)Selecting appropriate vision statement fulfilling criteria through an initial screening 3) Final discussion for approval
1.3.3	Select Bank	.....
1.3.4	Select Name	.....
1.3.5	Find Partners	.....

**Findings and Conclusion**

Mainly internal stakeholders CEO, Project owner and Project manager should start renewing design of scope plan. It is expected to be completed within time along with the documentation and reporting of on-going tasks. Firstly, its applicability is verified on one of client's previously failed project of 'Starting a New Marketing business' to evaluate benefits of new scoping process and identify gap created. The previous common traps that occurred during project requirement development before implementing this discussed process were conflicting

needs between project owners and end users. Also, it affected functions and usability of requirements. It was unable to breakdown WBS elements due to lack of subject knowledge. In contrast, developed process offered many benefits in the stages followed for above project WBS, clearly reflecting focus on future schedule, resource and cost management. It provided level of details including 2-week rule of reporting period, 8/80 rule for review cycle and status of work packages. In addition, procedure framed increased reliability of the developed WBS including completeness, manageability and clarity. To

summarize, it escalated operational efficiency and profitability of project in execution phase. It can be concluded that development of WBS is a group and team effort, project manager leads the process and develop project deliverables whereas project teams frame details for those respective deliverables. It's a cyclic process going through rounds and revision before final WBS structure is ready. "Project scoping is the heart of project planning " and the relevance of WBS in project scoping and its main considerations are inclined towards achieving target outputs.

**References**

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