Analysis of Assessment Cycle of Migration Data from OROS to SAP Hana using Activity based Costing Method in Telecommunication Industry

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Abstract: Indonesia had one of the biggest company in the telecommunication sector, it was PT ABC. The company certainly requires accurate and fast data for all divisions, especially the financial division. PT ABC wants everything to be integrated and automated. Therefore, the SAP application was used to integrate data in the company and also the OROS application to calculate profitability analysis. PT ABC only uses the OROS application to calculate profitability analysis, while the data to calculate it was in SAP. The OROS application had also begun to be abandoned because one of its weaknesses was that OROS was not real-time application and was not integrated directly into SAP, so it was considered ineffective and inefficient for the company. Overcoming the problem above, the researchers will analyze the assessment cycle data in OROS to be migrated to SAP HANA using the method of costing Activity-Based Costing to match the data cycle in OROS and SAP HANA, so that it can be used to generate reports to the Profitability Analysis (CO-PA).

1 INTRODUCTION

Enterprise Resources Planning (ERP) is a software used by an organization or company to manage daily activities in business, for example, accounting, project management, procurement, risk management and compliance, and some supply chain operations. ERP systems can be integrated with many business processes and allow data flow between them (Oracle, 2019). SAP is a corporate application software can be used to manage ERP to help organizations integrate business data and corporate partners. SAP offers a business platform basic data (Savchuk and Kirsta, 2019). SAP HANA is cloud-based software that be the first provider application offered by SAP (King, 2014). PT. ABC is one of the largest telecommunications companies in Indonesia, which is currently going live SAP HANA and still using OROS application to calculate data for profitability analysis only.

OROS Modeler itself has started to not be used for companies, besides OROS Modeler is an application that is not real-time, OROS Modeler applications are also less user-friendly. OROS has also changed its name to SAS CPM (Greiner, 2019). The era that has been completely advanced, encourages PT ABC to immediately go live SAP HANA and leave OROS Modeler. SAP HANA can create several business data platforms that will later be run on a cloud base directly and in a modern way to scale costs more effectively. (SAP, 2019). The benefits of using SAP HANA, it will help us manage data in one platform in memory, so we can take the action. It’s also speed up the pace of innovation and run directly in this new digital economy(SAP, 2019).

Migrating data from OROS to SAP HANA requires a lot of preparation. We must first understand the concepts of OROS and SAP HANA. We need to map components and data from OROS that are needed later in migrating data to SAP HANA. Using Activity-Based Costing in SAP HANA can help the entire process of migrating OROS data to SAP HANA because the OROS application also applies an activity-based costing method. Even so, it still needs to be adjusted in SAP HANA, whether all data in the OROS application are suitable and can be used or not.

An assessment cycle is needed in this analysis as the allocation of company allocation. This assessment cycle is a challenge for researchers to match whether the allocation data from OROS with those in SAP HANA are correct or not. The researcher will also create an architecture for the assessment cycle as possibilities for data flow that will appear when mapping OROS data flow.
2 LITERATURE REVIEW

2.1 OROS

The basis of the Oros model is its three modules, there are Resources, Activities and Cost Objects. The Resource Module contains company resources. Resources are released as a result of the activities carried out. The activities carried out are contained in the Activity Module. Products, services, customers, and so on, are built into the Cost Object Module to determine the dimensions used for profitability analysis. (SAP, 2001)

Each module consists of a hierarchy that is determined by the logistics center, accounts, and cost grouping elements. The center contains the center and other accounts. Account contains cost elements. The center not only helps to determine the hierarchical relationship between objects in the module, but also allows the cost to roll-up. Scrolling creates a collection of costs. Accounts are usually grouped into centers based on resources, activities, or cost objects. (SAP, 2001)

2.2 ERP (Enterprise Resource Planning)

Enterprise Resource Planning system (ERP) is a bundled software solution that integrates all systems, for all core business processes and data into one repository. ERP is required in the integration and integration of all core businesses into one central database that is required to be able to take business inputs (resources) in the form of materials, people and equipment, and transform these inputs into goods and services for customers (Lee et al., 2017).

Figure 1: General ERP Model.

Figure 1 explain the general ERP Model that combine and integrate all core business function(s) into one central database.

2.3 SAP HANA

SAP HANA was introduced in 2015 as a cloud-based ERP that can support a platform in memory to increase speed and comparative data analysis with an older version, which requires a longer implementation time (Lee et al., 2017).

SAP HANA has basic data which is a core component of the SAP HANA road map to support all SAP and non-SAP business processes from an application perspective and data management perspective to be more efficient. Positioned to act as a platform (Lee et al., 2013).

SAP HANA has benefits, one of the benefits of using SAP HANA is reducing complexity, can be accessed anywhere because SAP HANA is cloud-based, and real results (SAP, 2019). Business data platform that processes transactions and analysis in SAP HANA will work at the same time on all data types, with integrated advance analytics and multi-model data processing engines that can be used to develop next-generation applications for smart companies (SAP, 2019).

2.3.1 SAP Controlling

SAP CO (Control) is a module that contains information that will be taken into consideration for management decision-making and usually in toplevel positions in companies such as supervisors. This module can facilitate coordination, facilitate and optimize all processes in an organization. This involves recording the consumption of the factors of production and services provided by an organization. The point is Controlling is used for internal company (Sapbrainsonline, 2019).

Sub modules of the SAP CO module are:
1. Cost Element Accounting
2. Cost Center Accounting
3. Internal Orders
4. Activity-Based Costing (ABC)
5. Product Cost Controlling
6. Profitability Analysis
7. Overhead Cost Controlling
8. Profit Accounting Center.

2.3.2 Activity-Based Costing (ABC)

ABC is a method that assumes that activities will produce cost objects (products, services, customers) and some product cost incurred will create demand for activities (SAP, 2001).
This ABC system recognizes that a business must understand the factors that drive an activity (activity), the costs incurred by the activity, and how those activities are linked to the cost object. First, ABC will place costs on activities that have actually resulted in these costs. After that, the costs of activities are only charged to products that do require the activity (SAP, 2001).

2.4 Company Code and Chart of Account

A chart of account is a list of accounts used by companies (Projects, 2019). There are three types of account charts: Account operations charts, country specific account charts, group account charts. The Chart of Account that deals with and posts all regular business transaction processes is an Operational Chart. The remaining account charts are used for different business scenarios. At the request of the client, we can specify another account chart (Projects, 2019).

The definition of a company code is the smallest independent organizational unit that has its own accounting book and is obliged to prepare legitimate individual financial statements, such as balance sheets and income statements. The definition of the company code is mandatory (Portal, 2017).

2.5 Cost Center

Cost center is a location where the cost adds up in organisation indirectly adds to profit. Typical examples include marketing, customer service, research and development.

Cost centers are responsibility for all areas costs within organization and used to capture actual costs of an organization (“What is a Cost Center in SAP — How to Create Cost Centers in SAP,” 2018).

2.6 Cost Element

The cost element is a carrier of costs associated with collecting costs and summarizing costs in controlling and posting to the reconciliation ledgers of financial accounting to control from one controller object to another (Projects, 2019). Cost accounting elements are useful for posting across companies, in all areas of business posting to financial accounting when companies follow the concept of crosscompany cost accounting codes. There are two types of Cost Element, Primary and Secondary Cost Element.

In the financial module, another way to call the ledger account is the primary cost element. To transform a ledger account into a primary cost element, we must specify the category of the primary cost element that determines the nature of the element in control.

The secondary cost element is exclusively made to control. By category, secondary elements can be used for other purposes that are more specific to be made. There are several types of secondary cost elements, including:
1. Internal order settlement
2. Overhead rate
3. Assessment
4. Internal activity allocation.

2.6.1 Assessment

The assessment cycle consists of segmentation, each of which has a unique relationship between receivers, senders, and assessment rules. This can be defined on the CO-PA (Westney, 1997).

Method of Assessment is a cost budget without prioritizing the primary cost element. In this method, the allocation will be done through the secondary cost element. The difference between the distribution and the assessment method is the assessment method which is more directed to the periodic reporting method and the renewal method (Projects, 2019). In the assessment, we will do cost allocation. The focus is on moving data from one cost center to another cost center or even to a business process.
Definition of data migration itself, researchers take refer to the relevant literature from the field data migration. Data migration is a technical process from aggregation and/or separation of information entities from embedding system to match information exchange requirements include adjusting data formats as needed. If the company does not have an approach model for their data migration activities, they cannot guarantee that data migration will be successful and that is the risk (Lüssem and Harrach, 2013).

2.7 Profitability Analysis (CO-PA)

CO-PA is used to analyze the profitability of a company according to existing market segments, categorized by products, customers, orders or a combination of all of these, or strategic business units, such as sales organizations or business areas, which relate to the profit or margin contribution of a company.

2 types of profitability analysis are: cost-based and account base. Cost-Based Profitability Analysis is a form of profitability that focuses on analysis groups costs and revenues based on value fields and cost-based valuation approaches, both of which you can set yourself. This guarantees you access at any time to a complete short-term profitability report. Account Based Profitability Analysis is a form of profitability analysis that is regulated in an account and uses an account based valuation approach. The distinguishing characteristic of this form is the use of cost and revenue elements. It gives you a profitability report that is permanently reconciled with financial accounting.

3 METHODOLOGY

3.1 SAP Activate Methodology

The SAP activate methodology is a simple, modular and agile framework for implementation or conversion to SAP S/4HANA. We can use it ourselves, with SAP Partners or with SAP Direct. It was built on its predecessor ASAP Methodology and SAP Launch Methodology (Kraljić and Kraljić, 2018). There are 6 stages in Activity Methodology, which are discover, prepare, explore, realize, deploy and run.

3.2 Research Method

In this paper will focus on implementing 3 phases from SAP Activate Methodology, start from Discover, Prepare, and Explore to see fit/gap analysis in the new design/method.
method of costing Activity-Based Costing to match
the data cycle in OROS and SAP HANA, so that it can
be used to generate reports to the Profitability Analy-
sis (CO-PA) and for SAP Activate Methodology, re-
searchers only focus untilalize stage because they are
still analyzing data from OROS to SAP HANA. The
researchers also focuses on finding relation from the
processes that exist in OROS and SAP HANA. To be
able to continue the process up to phase run, the re-
searchers must fully understand how to migrate data
from OROS to SAP HANA and determine what is
needed by SAP HANA in inputting data.

4 ANALYSIS AND DISCUSSION

4.1 Analysis

4.1.1 Discover

In this Discover, researcher define the environment
system in OROS. Researchers analyze activity based
costing business processes and identify mass data that
must be input one by one. Books, journals, and liter-
ature study used to discover related knowledge along
the implementation process such as methodology and
basic knowledge.

OROS Modeler is a fairly simple application con-
cept that only have 3 core components which are Re-
source, Activity and Cost Object but to implementing
application of OROS Modeler itself can be difficult.
The path of the data must be correct.

As shown in the above figure, the possible assign-
ment paths in OROS Modeler, are:
A - From a Resource account to another Resource
account
B - From a Resource account to an Activity account
C - From a Resource account to a Cost Object
account
D - From an Activity account to another Activity
account
E - From an Activity account to a Cost Object
account
F - From a Cost Object account to another Cost
Object account.

Data flow from OROS Modeler can be very com-
plex and difficult to track provenance. We need to
map objects from OROS from resources to cost ob-
jects. In addition, in OROS there are also Cost
drivers that are used to charge activity costs to output that are
structurally different from those used in conventional
cost systems or causal factors that explain overhead
consumption. Cost drivers are the basis used to charge
fees collected on a collection of costs for the product.

Figure 6: SAP Activate-Based Costing

From the picture above explains that in SAP
HANA, there are a few similarities like OROS Mod-
eler. SAP HANA has 3 main components, namely
Cost center (resource), Process (Activities) and CO-
PA (as a product). For Cost Object in OROS is a
product, but another thing in SAP HANA. In SAP
HANA, Cost object is a container for company costs
and there are various types of cost objects in SAP,
which are internal orders, cost centers, Work Break-
down Structure (WBS), production orders, maintain
processes and business processes. Business process
itself is a cost object for activity based costing.

In Figure 7, the data migration process starts from
the OROS application. At OROS, the main compo-
nents that can be matched with Activity-Based Cost-
ing in SAP are predetermined. After that, Record the
data that we need in SAP such as Cost Centers, Cost
Elements and others. At SAP HANA, we will view
whether Cost Center data, Cost Elements, and other
data are the same as data that has been entered by
companies in SAP. If yes, we continue to check the
suitability of the data in SAP. If not, we need to create
new data in SAP. After that, just create an Account
Chart to classify the parent account. After this stage,
we will begin to make an assessment cycle using the
KSU1 transaction code. When finished, do a Test Run
on the KSU5 transaction code to see there is an error.
If there is a warning, check the error and fix it. If not,
run it and the process is complete. This research will
stop until we can run the assessment cycle because
here is the final purpose of this paper.
4.1.2 Prepare

The second phases focus on initiated and planned. After knowing the components in OROS and SA, we need to create an architect for the assessment cycle to facilitate the migration of data to SAP HANA.

The picture in figure 8 is the architect’s assessment cycle in SAP HANA which may appear when migrating data from OROS to SAP HANA. When migrating data from a Cost Center to a Cost center or a Cost Center to a Business Process, you can use the KSU1 in transaction code (TCODE). Before making a cycle at KSU1, we need to prepare several things such as Chart of Accounts, determine senders and receivers, make assessment CELe, group cost centers or cost elements if needed, and determine the cycle names.

This stage is also needed in migrating data from the Cost Center to the Business Process. The difference is when the Cost Center goes to the Business Process, the receiver is the Business Process. Business Process can also be in groups if needed.

In the cycle of making this, we use secondary cost elements. The secondary cost element is a tool for conducting assessments. Secondary cost elements are posts that occur between controller objects in CO. The secondary cost element is basically an account that only exists in the CO module (internal company), not in FI (external company). When costs are moved (e.g., from one cost center to another using valuations, or from cost centers to production orders), no posts are made on P&L FI. Instead, a secondary cost element is used to track the post in the CO document.

4.1.3 Explore

In Explore phase, researchers will use fit/gap analysis to identify the solution and extensions that best meet the company’s requirements and needs. The solution for company is mapping data flow in OROS and migrating all data to SAP HANA with assessment in activity based costing.
4.1.4 Realize

In this phase, the SAP application will be configured and extend the system based on prioritized requirements captured in explore phase. Structured testing and data migration activities help ensure quality. Researchers conducted an experiment in migrating data finance in SAP HANA using activity-based costing method and assessment cycle. Researchers do a cost allocation from the base salary account which will be allocated to RCV_Gaji as cost center group and will stop at T663H01 Cost Center.
5 CONCLUSIONS

PT ABC is transitioning to SAP HANA from SAP R/3. Choosing SAP HANA is the right choice because SAP HANA has many advantages than SAP R/3. SAP HANA has capabilities include database services, advanced analytics processing, app development, data access, administration, and openness. The benefits to use SAP HANA, it helps us manage data in a single in-memory platform, so we can take action at the moment. Accelerate the pace of innovation and run live in this new digital economy. Activity Based Costing also the right choice to make cost allocation because all business processes at PT ABC based on Activity. Consultants or workers who are familiar with the OROS and SAP HANA applications are needed, so that it can facilitate the process of migrating data from OROS to SAP HANA. In this study, researchers successfully migrated data and were able to allocate finance base salary data using the assessment cycle. The weakness of this assessment cycle is that there is a lot of data and must be mapped one by one, it takes a long time, and we must understand very well the cycle that we made. The strength of this assessment cycle is that we can see the cost allocations and where the cost allocation came from.

For future research, using LSMW might help to automate the data in SAP HANA and also use the ABAP program for data adjustments.

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