## RESEARCH ARTICLE

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# **Skill Gap Analysis for Improved Skills and Quality Deliverables**

Mallikarjun Koripadu\*, K. Venkata Subbiah\*\*

\*(Research Scholar in Mechanical Engineering, Andhra University, Visakhapatnam)

\*\* (Department of Mechanical Engineering, Andhra University, Visakhapatnam)

## ABSTRACT

With a growing pressure in identifying the skilled resources in Clinical Data Management (CDM) world of clinical research organizations, to provide the quality deliverables most of the CDM organizations are planning to improve the skills within the organization. In changing CDM landscape the ability to build, manage and leverage the skills of clinical data managers is very critical and important. Within CDM to proactively identify, analyze and address skill gaps for all the roles involved. In addition to domain skills, the evolving role of a clinical data manager demands diverse skill sets such as project management, six sigma, analytical, decision making, communication etc. This article proposes a methodology of skill gap analysis (SGA) management as one of the potential solutions to the big skill challenge that CDM is gearing up for bridging the gap of skills. This would in turn strength the CDM capability, scalability, consistency across geographies along with improved productivity and quality of deliverables

Keywords – Skill gap analysis, CDM, Lean

#### I. INTRODUCTION

CRO companies provides the clinical trial depicted in the figure 1 and other research support services for the pharmaceutical, biotechnology and medical device industries as well as government institutions and universities. Few CROs manage almost all aspects of a clinical trial from site selection and patient enrollment through final regulatory approval from the Food and Drug Administration and European Medicines Agency. Although a trial sponsor may transfer all trial functions to a third-party CRO, the sponsor remains responsible for the integrity of the trial data.



Fig 1: Clinical trial in a nutshell

Operations team to be ready with all the relevant activities, it is important that the team is equipped with right skill as all the CROs and CDM world are the knowledge based service industries. Creating the pool of knowledge and retaining them with the right skill sets and also making sure these resources can be utilized across CDM, but not just the particular domain. Hence, it is important to build a skill gap assessment tool which will help the operations to assess the teams for the required skills and have the right training plan to build the pool of great skill sets in the organizations.

## II. SKILL GAP ANALYSIS (ILUO) TOOL

For the CRO and other knowledge process organizations (KPO) it is imperative to have the required skill sets and as part of project created a Skill Gap Analysis (SGA) tool for team to capture the skill levels in various business skills. The skill levels are defined as I - No Knowledge, L - Trained(Classroom training only)/Awareness(Only handbook knowledge), U - Hand's On(Trained, but requires supervision), O - Proficient Expert(Mentor/Coach Level). Identify the required skills and categorized into Business Line, Application/Technology, Process Knowledge and finally Soft Skills.

The attached screen shot in the figure 2 provides the categorization of skill sets under each skill category with the clear color code. This SGA tool is designed in a simple excel based with the formulas in each cell.



In the SGA each resource is assigned the skill on the scale of blank to O for each skill set to assess the skill level and also computed the percentage of skill as a whole.

Skill level and percentage of skill against the expected is computed as follows:

Skill of each resource on the skill sets = Scale of blank to  $O \rightarrow (i)$ 

Sum of the skill available for each resource = (No of Skills with, "I")\*1)+ (No of Skills with, "L")\*2)+(No of Skills with, "U")\*4)+(No of Skills with, "O")\*5)  $\rightarrow$ (ii)

Required skill for each skills set = Scale of blank cell to  $O \rightarrow$ (iii)

Sum of required skills= (No of Skills with, "I")\*1)+ (No of Skills with, "L")\*2)+(No of Skills with, "U")\*4)+(No of Skills with, "O")\*5)  $\rightarrow$ (iv)

Percentage of skills for each resource = Resource ii/ iv  $\rightarrow$  (v)

Once the data is available conducted the analysis on the how many are in what range of skills. The range is 0% - 40%, 41% - 75% and >75% and the analysis is depicted as follows with the pie chart where the complete team is falling in these ranges.



Fig 3: Skill ranges and team skill distribution before Based on the above findings that 32% of the employees fall under >75%, 8% of the team falls <40% and hence this is required to build a well structured training plan. Below is the attached training plan template and mentee-mentor concept has been designed to improve the skills sets by identifying a subject matter experts (SMEs) the respective skills. These SMEs are assigned to each mentee as a mentor, so that the time spent by the team members in clarifying the doubts are reduced, this is because each the trainee is supposed to reach out the assigned SME or mentor only. Due to which the time saved and quality improved. The plan is designed as below for each individual who fall under <75% of the skill as a template and not provided details due to confidentiality.



Fig 4: Training plan template



Fig 5: Mentee – Mentor plan

Post the implementation of the training plan with the mentee mentor concept for the period of 3 months the skills sets have been changes as below.



Fig 6: Skill ranges and team skill distribution after

From the above analysis it is evident that the skill sets, there has been a great change and improvement in skills which led to the productivity improvement and the deliverables were shared with client with an improved quality

#### **III.** CONCLUSION

A skills gap analysis can really benefit an organization by providing a critical overview of the workforce allowing managers to determine if their employees have the necessary skills to meet organizational objectives. If employees do not have these skills, an organization can use the skills gap analysis to prioritize training resources so that they are tailored to specific job roles rather as opposed to generic training days that are not suitable for all the individuals participating. Hence, from this paper it is explained and implemented the SGA in the CRO and seen the results in improved skills and productivity. This can be applied in any type of organizations

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