TITLE: "CREATING A SKILLS INVENTORY"

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Since 1971: *"Software for the finest computer - the Mind"*

"Abbot: Let's see, we have Who on first, What's on second, I Don't Know is on third."

"Costello: That's what I'm trying to find out."

INTRODUCTION

As I visit corporate clients, I am always amazed to see how out of touch IT managers are in terms of knowing the talents and abilities of their staff. Such ignorance makes it difficult to properly assign staff to project assignments. Consequently, there is a tendency for companies to hire too many outside consultants or purchase training programs unnecessarily. Why? Because most IT organization refuse to take the time to develop and maintain a simple "Skills Inventory" which catalogs and rates the skills of their human resources. You cannot capitalize on the talents of your staff if you do not know what they are.

WHAT IS A SKILL?

A skill is a developed aptitude or ability for performing a certain task. It represents specific knowledge or talents as developed by education and/or experience. Skills relate to the type of work we do and the tools and techniques we use. We can define skills as vaguely or as precisely as we so desire, but the real value of a Skills Inventory lies in precision. The following are categories of skills we have developed for IT organizations:

Basic Business Skills: e.g., Conducting a meeting, Interviewing, Speaking/presentations, Writing, E-Mail, Word Processing, etc.

Business Functions: knowledge of a specific corporate function, e.g., Marketing, Sales, Manufacturing, Inventory, etc.

Degrees & Certifications: e.g., Associates Degree, Bachelors, Masters, Doctoral, and trade certifications.

Languages: foreign - e.g., French, German, Italian, Japanese, Spanish, etc. Programming - e.g., Basic, C, COBOL, Java, Pascal, etc.

Methodology: Listing the Phases and Activities of in-house methodologies, such as the "PRIDE" Methodologies for IRM.

Standards: corporate policies, writing standards, design and development, etc.

Tools & techniques: programming techniques (e.g., OOP), data base design, DBMS, CASE tools, program generators, workbenches, Office Suites, Graphics Packages, etc.

Some companies also use a Skills Inventory to track the talents of machine resources. Some have found it of value to inventory such things on a computer as languages supported, memory, program utilities, compilers, backup programs, and various other attributes about the operating system. This is useful for tracking hardware resources and determining when it is necessary to upgrade equipment.

Knowing a resource's skill is one thing, knowing its level of proficiency is another.

WHAT IS A PROFICIENCY?

Skills and proficiencies are not synonymous, although they are complementary.   Proficiency refers to the degree of knowledge or experience someone or something (a machine) possesses for performing the task.

Proficiency is normally based on some sort of scale, such as 1 (low) to 9 (high). In many organizations, the establishment of any proficiency rating is a highly sensitive subject as it is believed it is used for job performance review. In this situation, most people will use an "average" proficiency rating (5). Unfortunately, this will not help in analyzing the strengths and weaknesses of our human and machine resources.

After the list of skills has been prepared, they should be developed into a survey for each resource. Although the survey could be circulated, it is recommended human resources be interviewed individually to clarify intent and responses. Here, the resource is not asked how well they know a specific skill (good or bad). Instead, they are asked to qualify their response. For example:

(continued from page 1)

FOR EACH SKILL, THE RESOURCE ...   (PROFICIENCY RATING)

A. Could qualify as an INSTRUCTOR or EXPERT in this area (9)
B. Could act as an ASSISTANT INSTRUCTOR   (6)
C. Has had formal training or experience (STUDENT)   (3)
D. Is aware of the CONCEPT or OBJECT   (1)

This approach is much less intimidating to employees and tends to produce honest results. From this, a Skills Inventory can be developed to show the skills and proficiencies of each resource. Also, an average resource proficiency rating can be calculated for each skill which may indicate the need for additional training.

Determining the proficiency of machine skills can be far less painstaking. Depending on the equipment, an operator or product manual can usually describe the capabilities of the equipment.

CREATING THE SKILLS INVENTORY

There are many ways to create and maintain a Skills Inventory; e.g., a simple card catalog/index, commercial software, or even a simple data base package as found on most of today's PC's can be used. For a basic Skills Inventory, only two reports are needed:

1. Resource Profile - describing the skills of a single resource (see Figure 1)

2. Skill Description - describing all of the resources with a specific skill (see Figure 2). Please note the "Average Proficiency" figure at the bottom of the report; this is important figure for determining overall proficiency.

An optional third report can also be prepared, a "Resource/Skill Matrix" which gives a more global view of resources-to-skills (see Figure 3).

FIGURE 1

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------------------------------------------------------------------
                        RESOURCE PROFILE
------------------------------------------------------------------
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        *************************************************
        *  RESOURCE:  RE-01557  SHINE, JOSEPH          *
        *************************************************


        ALT ID-         274-65-8876
        LAST EVALUATED- 03/20/2004
        TYPE-           HUMAN, INTERNAL
        DATE HIRED-     12/01/2002


        SKILLS-                                    PROFICIENCY


        SD-00001  ASSEMBLER PROGRAMMING LANGUAGE      3
        SD-00002  BASIC PROGRAMMING LANGUAGE          9
        SD-00003  COBOL PROGRAMMING LANGUAGE          6
        SD-00020  C++ PROGRAMMING LANGUAGE            9
        SD-00100  HYPER TEXT MARKUP LANGUAGE          9
        SD-00115  JAVASCRIPT LANGUAGE                 9
        SD-00251  ADOBE PAGEMAKER                     6
        SD-00258  MICROFOCUS COBOL                    6
        SD-00276  MICROSOFT OFFICE                    9
        SD-00288  LOTUS APPROACH                      9
        SD-00305  "PRIDE"-ISEM, PHASE 3               3
        SD-00310  "PRIDE"-ISEM, PHASE 4-II            6
        SD-00316  "PRIDE"-ISEM, PHASE 5               9
        SD-00320  "PRIDE"-ISEM, PHASE 6               6

                * * * END OF OUTPUT * * *
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(continued from page 2)

By analyzing these reports, it may become obvious there is a lack of talent for a particular skill or set of skills. Consequently, this may trigger the need for either some training to develop the skill or recruiting new resources with such talent, or both.

If the Skills Inventory has been implemented with computer software, be sure there are some adequate search facilities to quickly reference a particular skill or resource. Also be sure data entry is simple and clean. One last caveat if creating a computerized Skills Inventory, be sure it does not interfere or overlap with anything a Human Resources department might be doing. Ideally, there should be an interface between the two.

REVIEW

Whether human or machine related, skills and proficiencies will change over time; they will not stagnate. Because of this, they should be reviewed on a routine basis to keep them up to date. Maintenance of the Skills Inventory should be delegated to a qualified person who can safeguard such records.

OTHER USES

Up to now, we have described a Skills Inventory in its most fundamental form. However, if done properly, it can be used as a tactical corporate tool, such as providing assistance when performing an "Organizational Analysis." Under this scenario, skills can be related to business functions (such as Marketing, Administration, Manufacturing, etc.). As such, assigned proficiencies should denote the minimum level required to perform the function. When compared to the average skill proficiency of resources implementing the function, it may be discovered that a function may not be adequately fulfilled. For example, a Sales function may require skills such as "Contract Preparation," "Product Presentation," etc. If we examine the personnel ultimately implementing the function, we may find they either have the wrong skill set, or are not as proficient as they need to be.

To implement something like this, we need something a little more sophisticated than the basic Skills Inventory described above. Instead, we need an enterprise-wide mechanism to track such things as business functions, organizational entities (jobs/titles/positions). For this, you

FIGURE 2

```
----------------------------------------------------------------
                       SKILL DESCRIPTION
----------------------------------------------------------------
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        **************************************************
        *   SKILL:  SD-00132  COST/BENEFIT ANALYSIS     *
        **************************************************


    RESOURCES                                 PROF   LAST EVAL


    RE-00232   CARLEY, SIMON                     6    02/03/2004
    RE-00255   IGNATOWSKI, JAMES                 9    01/01/2005
    RE-00359   NARDO, ELAINE                     6    01/01/2005
    RE-00376   BANTA, TONY                       3    12/01/2004
    RE-00412   REGER, ALEX                       6    01/01/2005
    RE-00413   DEPALMA, LOUIS                    1    09/01/2004
    RE-00420   WHEELER, BOBBY                    3    01/01/2005
    RE-00423   GRAVAS, LATKA                     1    03/03/2005


    AVERAGE PROFICIENCY                        4.4


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will need an "IRM Repository" to catalog and cross-reference such objects as well as other information resources.

For information on how to create an IRM Repository, please see:

http://www.phmainstreet.com/mba/pride/spir.htm

BENEFIT$

A simple Skills Inventory is easy to implement, yet offers tremendous assistance in terms of:

* Selecting suitable personnel for project assignments.
* Determining the need for additional training or recruiting new people.
* Evaluating the need to upgrade hardware.
* Career path planning - this is particularly useful when a resource masters one part of a methodology, and is ready to graduate to another.

* Interfaces with Human Resource Management.
* Holds future potential for performing such service as an "Organizational Analysis."

Try it, you will either be pleasantly surprised to know the talents your staff possesses, or come to the realization your staff needs help. Either way, you will be taking a pro-active approach to managing your department.

END

"PRIDE" Special Subject Bulletins can be found at the "PRIDE Methodologies for IRM Discussion Group" at:

http://groups.yahoo.com/group/mbapride/

You are welcome to join this group if you are so inclined.

"PRIDE" is the registered trademark of M. Bryce & Associates (MBA) and can be found on the Internet at:

http://www.phmainstreet.com/mba/pride/pride.htm

FIGURE 3

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----------------------------------------------------------------------------------------------------
 OD-90390                         R E S O U R C E / S K I L L   M A T R I X               "PRIDE"-EEM
----------------------------------------------------------------------------------------------------
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   RESOURCES  >  RE-00002  RE-00004  RE-00018  RE-00021  RE-00025  RE-00036  RE-00043  RE-00049  RE-00063  RE-00067
                 JONES,    SMITH,    DEMARCO,  CONDU,    FRANCIS,  THORNTON, SIMPSON,  WELCH,    CONSTANTI KREESE,
   SKILLS        ROBERT    GEORGE    JOHN      CONNIE    BETTY     FRED      R.J.      LUCILLE   NE, K.K.  JOSH
     V
              --------------------------------------------------------------------------------------------------
 SD-00001      !     !        !        !        !        !        !        !        !        !        !
 ASSEMBLER PROGR !   !        !        !        !   3    !        !   6    !   6    !   3    !   6    !
 AMMING LANGUAGE !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00002      !     !        !        !        !        !        !        !        !        !        !
 BASIC PROGRAMMI !   !        !        !        !   3    !        !   9    !   1    !        !   3    !
 NG LANGUAGE    !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00003      !     !        !        !        !        !        !        !        !        !        !
 COBOL PROGRAMMI !   !        !   3    !        !   6    !        !   9    !   1    !   3    !   9    !
 NG LANGUAGE    !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00004      !     !        !        !        !        !        !        !        !        !        !
 MICROSOFT PROGR !   !        !   3    !        !   6    !        !   9    !   6    !   6    !   9    !
 AMMRS WORKBENCH !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00006      !     !        !        !        !        !        !        !        !        !        !
 JAVA PROGRAMMIN !   !        !        !        !   9    !   6    !        !        !        !   9    !
 G LANGUAGE     !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00009      !     !        !        !        !        !        !        !        !        !        !
 FILING SKILL   !   !        !        !        !        !   6    !        !        !        !        !
                !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00011      !     !        !        !        !        !        !        !        !        !        !
 FORTRAN PROGRAM !   !        !        !        !   1    !        !   3    !   6    !        !   6    !
 MING LANGUAGE  !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00014      !     !        !        !        !        !        !        !        !        !        !
 RPG PROGRAMMING !   !        !        !        !   9    !        !   1    !   6    !   6    !   9    !
 LANGUAGE       !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00015      !     !        !        !        !        !        !        !        !        !        !
 PASCAL PROGRAMM !   !        !        !        !        !        !   3    !   1    !   1    !   3    !
 ING LANGUAGE   !   !        !        !        !        !        !        !        !        !        !
              --------------------------------------------------------------------------------------------------
 SD-00018      !     !        !        !        !        !        !        !        !        !        !
 PL/1 PROGRAMMIN !   !        !        !   1    !        !        !        !        !        !   9    !
 G LANGUAGE     !   !        !        !        !        !        !        !        !        !        !
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