

**RECOGNISING THE VALUE OF PEOPLE- WHY THE HUMAN FACTOR IS
IMPORTANT AND WHAT YOU CAN GAIN FROM MANAGING IT
EFFECTIVELY.**

**Mike Smith and Tane O'Rorke,
OPRA Limited**

INTRODUCTION

Why are you in business? There are many reasons that you could be in business. You could be in business for the sheer love of hard work, the strong desire to contribute to society or because you are passionate about the risks, the highs and the lows associated with the world of business. These are all legitimate reasons, although the majority of us are in business to earn money.

There is a simple maxim that pervades the industrial and organisational psychological literature. It asserts that if you want to maximise the amount of money your business is able to generate then you need to manage people as optimally as possible. There are very few businesses where you can make money without managing people well.

A recent example of a business that has made recognising the value of its people a priority and that is subsequently reaping the benefits of that practise is the Warehouse. Rising to prominence in the list of this country's most successful enterprises, the management team of the Warehouse has an excellent reputation for managing people effectively with practises such as share ownership. A company with a similar reputation who is also enjoying great market share is Hubbard's muesli. Rumour has it that Mr Hubbard regularly takes his employees on trips around the Pacific Islands and the company is known for its superb treatment of its workers.

This presentation seeks to enhance your ability to recognise the value of the people in your workplace- your employees. It seeks to explain and outline why the human factor is so important and what you stand to gain

from managing it effectively. In order to accomplish this we will:

- Focus on a classical piece of research which illustrates the importance of recognising people in the workplace
- Focus on a pragmatic procedure for measuring the financial benefit to an organisation of the impact of different human resource initiatives
- Focus on the competency approach to enhancing performance
- Focus on the use of a well known structured job analysis to manage your people better

Before discussing these topics in more detail, it will be worthwhile clarifying the topic of our discussion. The title is 'Recognising the Value of People'. What exactly are we referring to here? A brief overview of the Oxford (1996) definition of the key words in the title makes for interesting reading:

- *Recognising*- Identify as already known, realise or discover the nature of, admit, acknowledge the existence, validity, character or claims of, show appreciation of.
- *Value*- The worth, desirability or utility of a thing (or person).

- *People*- No definition is required here, suffice to say that we are referring explicitly to the people in our workplace and more specifically to the people who we are responsible for.

Placing all these together we are faced with a very interesting and challenging topic of discussion. One that will require some type of response from those of us who are responsible for people in the place of work. It reads, 'realising, acknowledging, and showing appreciation of the worth, and utility of those people in our workplace, particularly those for whom we are responsible for'. What are the benefits of adopting this type of statement in our strategic objectives? What can we stand to gain from taking such an approach on board? These are the questions that we will attempt to address today.

THE IMPORTANCE OF PEOPLE TO BUSINESS

One of the classical studies in psychology has illustrated the importance of recognising the value of people in the workplace. The 'Hawthorne studies' were conducted

over a twelve-year period at the Hawthorne Works of the Western Electrical Company and have been recognised by many as making a significant contribution to the formative development of industrial psychology. Although lacking in experimental elegance and scientific sophistication and being the subject of a number of criticisms, the work provides us with a useful example of the benefits that can be obtained and the challenges involved when we take the time to recognise the value of people.

Prior to the research conducted in the Hawthorne plant the general way of managing people was to treat them like chess pieces. You tell them where to move and they perform accordingly. The methodology was enhanced if that's the word by Frederick Taylor in the early part of this century who coined the phrase Scientific management. He promoted scientific design of work methods and procedures so as to maximise efficiency, systematic selection of employees who could be trained to use those work methods and procedures, and co-operation between management and workers in sharing the responsibility for designing and accomplishing work. It may have been

the aim to be scientific but when dealing with people there is also an element of art. This was highlighted in the work of Mayo and his colleagues in the Hawthorne studies.

Elton Mayo professor of industrial research at Harvard University and leading experimenter in the studies conducted five separate areas of investigation in an attempt to improve the efficiency and productivity of the Hawthorne factory. The five studies included experiments on the effects of illumination, an identification of the factors that could effect performance in the relay assembly test room, a mass interviewing program, the influence of social groups, and the utility of personnel counselling (Blum and Naylor 1968). The research was the first of its kind to break from the then current approach of 'scientific management' which viewed the worker as a necessary evil in the workplace and assumed that all workers valued money more than any other reward (Landy 1989). This philosophy asserted that all you needed to do to enhance performance was to pay people more.

The Hawthorne studies put an end to this myth by indicating that human

workers are far more complex creatures whose performance appeared to be at least partly influenced by more abstract factors such as emotion and social contact. Amongst other things the findings of the research indicated that numerous factors external to the worker influenced their productivity and efficiency in the workplace, factors that were completely outside of the workers control. It also became glaringly obvious that employee attitudes and perceptions were incredibly important for maintaining a productive and efficient workplace. Since the Hawthorne studies much research has been accumulated investigating the importance of employee job satisfaction, motivation and perceptions in the workplace (Roe 1999). The work also suggested that the way workers perceive reality is often more important than what is in fact reality.

Interestingly, it also became apparent that employee productivity increased for no other apparent reason than the fact that management appeared to be taking an interest in them. In other words, the mere fact that management were perceived to be interested in their employees by initiating workplace improvements in lighting and

counselling and the like, led to an increase in worker efficiency. More recently, the concepts of organisational justice and organisational commitment have indicated that such a phenomenon not only exists in, but is prevalent throughout the world of work (Cropanzano & Greenberg 1997).

As a result of the Hawthorne studies, a significant shift in research interest occurred. Instead of focussing entirely on factors such as illumination, pay rates, company policy, and environmental factors, research began to assess interpersonal communication, work motivation, and worker perceptions and variables in the social environment (Landy 1989). Such factors have since been the focus of significant amounts of research in industrial and organisational psychology in an attempt to better understand the importance of the worker in the workplace and how they can be most optimally managed.

It may come as a surprise to some of us here but a statistical process has been devised that enables us to measure the financial impacts of human resource initiatives. The process of utility analysis has been evolving over the last fifty years and through it we can

assess what we stand to gain in bottom line terms if we are prepared to recognise the value of our workers.

UTILITY ANALYSIS

How do we identify how human resource initiatives can contribute to improving the performance of our organisation? How do we evaluate the success of these initiatives? One way that we can do this is through utility analysis. Utility analysis is a way of measuring the financial benefit to an organisation of the impact of a human resource (HR) practise. Normally this is not done and as such the benefits or potential benefits are not fully recognised. There is usually an obvious cost when we want to add a new HR practise or procedure or change an existing one. The financial return on the procedure or implementation however is often less obvious. Utility analysis enables us to uncover just this.

The procedure of utility analysis has been most often used in the literature to evaluate selection procedures, but it has also been used to evaluate training courses, assessment centres and performance management systems.

The procedure involves somewhat complex statistical analysis but we will be assuming that you have very little statistical knowledge and as such will present the procedure in 'laymans' terms as much as possible.

Firstly, we will build the utility analysis formula step by step to explain the need for each part of it. We will then provide an example to illustrate the usefulness and application of the procedure. For the purposes of this presentation we will refer to the process in relation to personnel selection.

The first step in understanding the utility analysis process is to understand the importance of validity. When we talk about validity we are referring to how well a predictor (or selection tool/method) predicts that which it was designed or chosen to predict (Landy 1989). This is sometimes referred to as predictive or criterion related validity. Validity is expressed as a fraction where '1' equals a perfect correlation. If a predictor had a correlation of 1 then we could assume that an individual's score on the predictor would be an exact, true and direct indication of their performance on the criterion such as job performance.

So basically, when you want to improve the success of your selection process you should choose the selection procedure with the highest validity. This should mean that those who do best on the selection procedure will do best on the job. This may be all you need to do to improve the benefit associated with selection- study the literature and implement the most valid practises. This however does not tell us what the financial benefit associated with implementing the new selection procedure is. For that we need a bit more information.

As a slight deviation, we would like to take this opportunity to report the most recent results of a meta-analysis on the validity and utility of selection methods based on 85 years of research findings (Schmidt & Hunter 1998). The following is the rank order in terms of predictive validity or predictive power of the eight most valid methods of conducting personnel selection.

Personnel Measure	Validity
Work sample tests	0.54
General Mental Ability tests	0.51
Employment interview (structured)	0.51
Job knowledge tests	0.48
Job tryout procedure	0.44
Integrity tests	0.41
Employment interview (unstructured)	0.38
Conscientiousness tests	0.31

In addition to this, the research indicates that the three combinations with the highest multivariate validity and utility for job performance are: general mental ability (GMA) plus a

work sample test (mean validity of .63), GMA plus an integrity test (mean validity of .65), and GMA plus a structured interview (mean validity of .63).

Back to utility analysis and gauging the financial benefits associated with using valid selection methods. Our objective in a selection process is to pick the person or people who will be the best performers on the job. Organisations assume that it should be possible to measure job performance in dollars. If you are a profit making company, you assume hiring a new team member will result in a financial benefit to the organisation greater than the costs associated with employing that person, otherwise why would you hire them? So the criterion, measure of success or our objective is job performance, measured in dollar terms.

In order to carry on with our utility analysis, we must assume that job performance is normally distributed among all possible candidates. The measure of difference between candidates is a statistical concept known as standard deviation (SD). The SD is the measure of spread of the distribution or the degree to which individuals deviate from the norm or average measure. In 1979 Schmidt and Hunter made a significant breakthrough in the application of utility analysis to industrial problems when they developed their global

estimation technique for estimating the SD of job performance. In this procedure you ask subject matter experts or people familiar with the position to estimate the value to the organisation of an average staff member, the value of a high performing employee and the value of a low performing employee.

After a significant amount of research, Schmidt and Hunter and their colleagues found that on average the value of one standard deviation of job performance was 40% of the average staff member's salary. So you can use the 40% of salary rule of thumb as a conservative figure for the value of one standard deviation of job performance measured in dollar terms.

We have already said that if the predictor has some validity, then a higher score on the predictor means that there is some correlation with higher job performance. Both the scores on the predictor and job performance can be assumed to be normally distributed, so we have two normal distributions. We have just seen how we can calculate one standard deviation of job performance. We now need to translate predictor scores into standard scores. A standard

score is the distance of each raw score from the mean in standard deviation units.

This is complex to calculate so luckily there is an easy way to do this. As long as you select from the top down, that is to say you pick the best candidate first, then the second best next etc, you should be fine. The important thing is to choose the best method of selection. Standard score tables are available to calculate the standard score. All we need to know is our selection ratio (the number of applicants compared to the number of jobs) and then we can work it out. For example, if you have ten applicants and you hire one person, your selection ratio is 1 in 10. Using the tables to calculate, the standard score is 1.76.

$$(0.63) \times (40\% \text{ of } \$35000) \times (1.76) = \$15,523.20$$

Thus we could estimate that the company would stand to gain an additional benefit from using a general mental ability test combined with a work sample test of about \$15,000.00 per person. This is the incremental benefit, so if you assume that the average benefit per person is currently what it costs in salary (\$35000.00), the

We have now identified the factors that enable us to calculate the average financial gain of hiring one person through the new selection procedure. We simply need to multiply the validity of the method by the standard deviation of job performance by the standard score.

For example, if we wanted to implement a general mental ability test and a work sample test to select a machine operator with an average salary of \$35000, and we needed two people and we have twenty applicants (a 1 in 10 selection ratio), we could calculate the financial benefit per person as being:

overall return from hiring someone using the new method is about \$50,000.00.

To find the total utility of using this selection method to hire our machine operators we need to add two additional factors to the formula. We need to multiply the marginal utility by

the number of successful candidates, so in our example the figure will be multiplied by two (the number for people we will actually employ). Also, this value only covers the benefit

$$(\$15,000.00) \times (2) \times (3) = \$90,000.00$$

So \$90,000.00 is the total financial gain the organisation can expect for introducing this selection method to choose this group of staff.

What is missing from this equation? Well, it will probably cost you money to undertake a formal job analyses and place your candidates through the work sample and mental ability tests so there are developmental and processing costs associated with the procedure. There may also be the assessor's time involved in the selection process and possibly machine down-time while the machine is being used for the work sample test which will need to be accounted for. These costs must be deducted from the benefit to get a fair indication of the result.

Now, we have the complete utility analysis formula including all the components we need to assess the financial impact of implementing a

associated with the method for one year. So if we anticipate that these two people will stay for three years we need to multiply the result by three.

human resource practise such as selection. The components include:

- Expected tenure of the successful candidates
- Multiplied by the number of people hired
- Multiplied by the validity coefficient of the selection procedure
- Multiplied by the standard deviation of the performance of employees
- Multiplied by the average standard score on the selection procedure
- Minus the developmental and procedural costs associated with the selection procedure

A good question at this point is where we can get the data necessary to fulfil the above components and so complete our utility analysis? The expected tenure, the number of people you need and the cost associated with the

selection procedure could (and should) all come from your own human resource information system or records. If you do not have these developed already, you should develop them to ensure that you are able to gain all you can from recognising the value of your workers. It is suggested that you get the validity and standard deviation figure from the research as these have been developed through years of extensive, well validated research. The average standard score comes from the standard score tables.

The following is an example of a utility analysis that was conducted by Cronshaw and Alexander (1985) of the clerical/administrative job group in the Canadian forces. The selection process that was used was a composite of scores on verbal and numerical ability tests. The average tenure was 18 years and the forces needed 470 new staff a year. The standard deviation of job performance in dollars was \$10,680.00. The validity of the method was 0.52 for general mental ability and job proficiency in clerical jobs. The selection ration was 33%, standard score was 1.1 and the total cost of implementing the selection procedure was \$900,000.00. Based on this information, Cronshaw and Alexander

calculated the gain for using the new procedure to be a staggering \$50,781,801.00. This is an example of some of the huge financial gains that can be achieved when we begin to recognise the value of people in our workplace and act in ways that are consistent with that recognition.

COMPETENCY APPROACHES

Competencies are the building blocks for most of the Human Resource Function. They are the factors that distinguish good performance from poor performance in a job such as communication, dealing with people etc. They are vital for the selection, assessment, monitoring, and training of staff. They are also crucial for the development of compensation systems. Research in the area of competencies has been going on for years and has been the centre of much controversy, particularly over the number and nature of competencies that exist in management jobs. What I propose to do in this paper is to illustrate the importance of competencies by illustrating the process of identifying and implementing competencies through an example

From the recent work on competencies it is possible to come to a number of conclusions. Firstly, there is a considerable overlap in models of core managerial competencies. For example, most competency models include a dimension of dealing with subordinates which involves motivating, rewarding, delegating and developing. Each also encompasses familiar interpersonal skills such as managing conflict and building a team. Most models also emphasise the problem solving aspect of managerial jobs.

Secondly, the research on competencies fails to identify specific behaviours. There is a tendency for some work to use inexact trait labels and global behavioural descriptions, which have long been complained of by psychologists (Campbell, Dunnette, Lawler, & Weick, 1970). However, despite some overlap and cases of unspecific description, recent work has seen considerably more precise behavioural specification of managerial competencies. For example, for Powers (1987) the crucial point was not possessing a competency but its use. An individual manager's skill in a competency

therefore involves three dimensions, its existence as an underlying characteristic, its expression, and the experience of others of its use in the managerial environment.

Thirdly, far too much competency work has rested solely on opinion, anecdote and speculation. In contrast, several of the recent models (eg. Yukl, 1989 McCall, Lombardo & Morrison, 1988) have been supported by some preliminary empirical evidence and refinement based on that evidence is ongoing.

How to develop a practical competency based system-Application of the Postion Analysis Questionnaire (PAQ)

A few years ago I completed an organisational development process for a large Brewery, which was useful for assessing training needs, performance assessment for reward, and was used as the basis for a career development program. In fact, it was used as the basis of the whole Human Resource Management function, which is of course what competencies production is all about. The nice thing about this process, I'm about to

describe, is that it worked, and that it was a system that produced all the things that we hope for from competency application. As such, the following description provides a useful example of how competencies can be developed and how they can be used to fulfil a variety of human resource initiatives and further enhance the gains that can be achieved from recognising the value of our workers.

The start of the whole process began with a job analysis using the Position Analysis Questionnaire (PAQ). The PAQ is a job analysis instrument that assesses job content using workers as major sources of information. It was developed by McCormick and his colleagues over the past several decades (McCormick, Jeanneret, & Mecham, 1972). The approach used in the PAQ is worker oriented as opposed to job oriented. Worker oriented approaches are far better for training because they establish more generalised descriptions of behaviour and are not so tied to the technological aspects of a job. For this reason they are also able to provide information useful in structuring training programs and giving feedback to workers in performance assessment exercises. These performance assessment

exercises can then, in turn, be used to establish the individual training needs for workers.

The questionnaire covers six major divisions of work behaviour. They are: Information Input, Mediation Processes, Work Output, Interpersonal Activities, Work Situation, and Job Context. Information Input focuses on how the worker receives information concerning the job. Does it, for example, come from dials and gauges or does it come written or verbally. Mediation processes in a job include things like the nature and level of the decision making in the work, the nature and level of judgement and reasoning used and memory requirements in jobs. Work Output deals with how work is accomplished and deals with things like the body activities used in the task such as the coordination of hands and feet and the level of manipulative skill required to carry out the task. Interpersonal activities focus on who the worker communicates with in the task, the nature of the communication and provides a gauge of the extent of formal, informal, required, and social communications in the job. Work Situation deals with the physical and social environment in the job, for

example high noise and low lighting environments are queried. Job Context deals with issues such as method of payment and the nature of work hours such as whether the job involves shift work or not.

The PAQ was also useful in that it encourages communication. One of the things undervalued about a job analysis process, especially a worker oriented one, is the opportunity the workers get to present their views of what is involved in a job. Conducting a PAQ involves an interview of up to three hours, where the analyst is using the worker as a means of gaining knowledge about a particular job. Workers have the opportunity using this methodology to talk to people about their work and get an appreciation of how it fits into other work in the organisation. This is the start of the organisational development process and of the attempt to enhance communication. The job analysis provides evidence for participants that the assessment of training needs is being conducted from a knowledge of the content of jobs and, if you like, gives the process credibility.

After the initial scoring of the PAQ, a validation process occurs, which

amounts to getting agreement amongst a representative group of workers concerning the scores established in the initial interview. This can be done in a number of ways. In the case of DB Central a ratification committee was formed which consisted of the Brewery Manager, the analyst, a union representative, and a floating number of staff. The latter were people who knew the work under consideration well. So, for example, when say an electrician's job was being considered there would be a number of electricians and probably other maintenance staff on the committee.

The ratification process is extremely important and part of the organisational development and competencies process. It forms another link in the communication chain because workers gain further feedback from participants about how the PAQ is being used and what the ultimate aims of the process are. After agreement had been reached the PAQ's were scored. In the case of DB Central, because it was necessary to make some changes quickly the content of some jobs changed a little, which necessitated reanalysing them. While in the short term this did not matter because the PAQ was used to

set up a performance assessment process for the jobs as measured. It was decided that it would be appropriate to re-ratify all jobs in the brewery for the purposes of establishing the accuracy of the output for the brewery for one moment in time.

Deriving the Performance Assessment Ratings

To establish training needs of an individual it is necessary to assess the performance of a person on the job. Critical incidents were derived as part of the job PAQ analysis procedure based on Flanagan and Burn's (1955) approach to the gathering of job analysis data of this type. The advantage of critical incidents is that it produces behavioural statements that can be used for the assessment of critical competencies for jobs.

The critical factor for success in a performance assessment system is the participation of workers. In this process this is achieved through two forms being designed. They both essentially ask the same questions, but one is completed by the person whom that individual reports to and the other is completed by the worker

themselves. Room is made available for both participants to write comments about the level of competency that has been attained.

A meeting is then organised in which the two assessments are compared. This meeting also has the major aim of reconciling any differences and coming up with an agreed final version of the assessment. A further aim of the meeting is to discuss the training needs of individuals. Any differences are reconciled and the results reported back and suitable training for development found for the person concerned. Training used ranges from in house courses, training provided by consultants and courses provided by tertiary institutions.

The results of the process

A procedure for training staff and a framework for a human resources system based on simple competencies was established.. This resulted in highest productivity of all the Group's breweries and contributed to its market leadership in the region.

Other benefits of the process

As well as a means to derive the

performance assessment and the training needs of the brewery the PAQ procedure also provided a number of other benefits. Firstly since the procedure is a standardised job analysis method it provides the ability to convert completed analyses to job evaluation scores to aid the compensation process. It can also provide brief job descriptions for the purpose of informing job applicants, or anyone interested, of the content of jobs. A number of other interesting types of information can be obtained from the PAQ. This includes establishing job evaluation or compensation levels for positions, investigation the relative level of prestige associated with a position which can be used for recruitment and career counselling and it provides information on the expected scores on cognitive tests for the job analysed.

Using the PAQ to manage your people better

The procedure just described can very easily be adapted to meet the needs of the forestry industry. The PAQ was recently employed by LIRO for the purposes of analysing the Waratah harvesting position and developing a selection procedure for identifying

those individuals who will make successful operators. Eight key competencies were identified throughout the procedure. These included: log making ability, mechanical ability, computer knowledge, ability to position the machine and logs, ability to drive the machine base, an awareness of safety, personality characteristics that include being flexible and being able to cope with stress and the ability to participate as part of a team.

These competencies can now be used to develop a selection procedure to identify and select those individuals who are most likely to make successful operators. The benefits associated with this type of procedure include reduced learning time, machine breakdowns and down-time, reduced accident rates (Sluss 1992) and an increase in productivity (Schmidt & Hunter 1998). Turnover rates could also be expected to drop as more suitable individuals are selected for the machines. We believe that the utilisation of job analyses methods, standardised selection and training program's, performance assessment frameworks and other human resource initiatives is a step in the right direction for achieving the benefits

associated with recognising the value of people in the workplace.

SUMMARY

Throughout the course of this presentation we have attempted to illustrate some of the benefits that can be obtained from recognising or 'admitting' the value of those people in the workplace for whom we have responsibility for. To accomplish this we described the 'Hawthorne studies', a classical piece of research that indicated that worker performance was directly influenced by managerial initiatives to recognise their value in the workplace. We provided an overview of the utility analysis procedure with which we are able to calculate the financial benefits associated with recognising the importance of people at work. We then briefly discussed the importance of competencies and how the PAQ can be used to manage people more effectively.

REFERENCES

- Blum, M. L., & Naylor, J. C. (1968). *The Hawthorne studies*. Extracted from *Industrial Psychology*, by Blum, M. L., & Naylor, J. C. Harper Row: New York pp 306-327.
- Campbell, J.P., Dunnette, M., Lawler, E.E., & Weick, K.E. Jr (1970) *Managerial Behaviour, Performance and Effectiveness*. New York: McGraw Hill.
- Cronshaw, S. F., & Alexander, R. A. (1985). One answer to the demand for accountability: Selection utility as an investment decision. *Organizational Behaviour and Human Decision Research*, 35, 102-118.
- Cropanzano, R., & Greenberg, J. (1997). Progress in organizational justice: Tunneling through the maze. *International Review of International and Organizational Psychology*, 12, 317-372.
- Flanagan, J.C. & Burns, R.K. (1955) The employee performance record: A new appraisal and development tool. *Harvard Business Review*, 33, 95-102
- Landy F, J. (1989). *Psychology of Work Behaviour*. (4th ed), California: Brooks/Cole.
- McCall, M.W. Lombardo, M.M. & Morrison, A.M. (1988) *The Lessons of Experience: How successful Executives Develop on the Job*. Lexington, MA: Lexington Books.
- McCormick, E.J, Jeanneret, P. & Mecham, R.C. (1972). A study of job characteristics of job dimensions as based on the position analysis questionnaires [Monograph] *Journal of Applied Psychology*, 36, 347-368.
- Oxford Modern English Dictionary (1996)*. Oxford: Oxford University Press.
- Powers, E.A. (1987). Enhancing managerial competence: The American Management Association competency programme. *Journal of Management Development*, 6, 7-18.
- Roe, R. A. (1999). Work performance: A multiple regulation perspective. *International Review of Industrial and Organizational Psychology*, 14, 231-337.
- Schmidt, F, L, B., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years

of research findings. *Psychological Bulletin*, 124, 262-274.

Sluss, R. (1992). *Managerial and operational characteristics of 'safety successful' logging contractors*. Industrial Forestry Operations Research Cooperative.

Taylor, F.W. (1911) *The principles of scientific management*. New York:Harper and Brothers.

Yukl, G.A. (1989) *Leadership in Organisations* (2nd Edition). Englewood Cliffs, NJ: Prentice-Hall.