

Breaking New Ground with Return to Work: An “On Demand” job matching database

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ABSTRACT

In 2006, BMA began the process of analysing all employee jobs and tasks from a functional demands perspective to generate an ‘on demand’ database of job requirements. The foundation of the project was to utilise this Job Task Analysis information to improve the development of effective suitable duties plans and better manage the return to work process for sustainable positive outcomes.

The JobFit System was chosen by BMA to deliver this objective. The JobFit System houses the database of Job Task Analyses and is used to objectively compare the capability of an injured worker to the job demands to assist in determining their safe ability to return to their usual role or identify alternative productive and meaningful suitable duties.

The steps and challenges involved in implementing this project will be presented. The importance of involving all stakeholders for successful uptake and the strategies employed to facilitate this will be highlighted. Lessons learned and opportunities for the future will be discussed.

The process of using a standardised electronic system to objectively compare a worker’s capability to the job demands is ‘breaking new ground’ in the occupational rehabilitation arena.

INTRODUCTION

Task analysis is a core component of a business’s health and safety management system. A Job Task Analysis describes the functional demands of a job which may include the postural tolerances associated with the role (e.g. frequency of bending forward), the material handling components of a role (i.e. how much is lifted or carried, at what height and how often) and a description of the steps involved in doing the task. Other particulars that may be included are human factors information (e.g. confined space work), personal protective equipment required (e.g. hearing protection), environmental exposures (e.g. uneven ground) and occupational hygiene exposure risks (e.g. heat, noise and dust).

Within BMA, there are numerous drivers for utilising task analysis data. The drivers which are internal to the business are the BHP Billiton standards and guidelines and those external drivers are regulatory standards. These will now be briefly discussed.

BMA Safety Performance

BMA has an overriding commitment to health, safety, environmental responsibility and sustainable development [1]. Accordingly, the focus remains on Zero Harm and safe

production. A great deal of emphasis has been placed on the implementation of the BHP Billiton Fatal Risk Control Protocols within BMA, to try and eliminate the risk of fatalities. However, there is still a need to reduce and better manage the sprain/strain type injuries that are common not only to BMA (comprising approximately 40% of all injuries), but to the coal mining industry as a whole. In order to reduce these injuries, the risks associated with the functional demands of the task and the environment in which they are performed, must be assessed and managed. A task analysis is an ideal way to identify these risks and potential risk reduction strategies.

BHP Billiton and BMA Requirements

BMA is required to comply with the BHP Billiton HSEC Management Standards, one of which focuses on the area of health and hygiene. A number of guidelines fall out of the management standards which dictate the use of task analyses in a range of areas including health surveillance, medical assessment, occupational rehabilitation and ergonomic assessment. Subsequently, task analysis has been incorporated into a number of business processes and laid out in the BMA 5 Year Business Plan.

Queensland Coal Mining Safety and Health Regulation (2001)

Task analysis is a commonly used tool to assist in managing employee health and wellbeing as outlined in the Fitness for Work provisions under the current Coal Mining Safety and Health Regulation. Task analysis may be used in a site's management of other physical and psychological impairment (section 42) and during the health assessment process (section 46).

Queensland Workers' Compensation & Rehabilitation Regulation (2003)

Task analysis is frequently used in Occupational Rehabilitation. In order to ensure a safe return to work for injured workers, a site Rehabilitation and Return to Work Coordinator (RRTWC) must have a good understanding of the tasks required of workers. This is one area where task analysis data can be so valuable. It assists the RRTWC in identifying appropriate and meaningful suitable duties for an injured worker that is consistent with medical advice provided. This is in alignment with the workers' compensation and rehabilitation legislative requirements.

Whilst the use of task analysis has many applications, BMA is initially focussed on the use of task analysis data to improve the rehabilitation outcomes and durable return to work of injured workers.

In the latter half of 2005, BMA introduced the JobFit System – an 'on demand' database of functional job requirements, which electronically houses the task analysis data for BMA.

The steps and challenges involved in implementing this project will be presented. The importance of involving all stakeholders for successful uptake and the strategies employed to facilitate this will be highlighted. Lessons learned and opportunities for the future will also be discussed.

NEEDS ANALYSIS

As discussed above, BMA recognised the need to have Job Task Analysis imbedded in core health and safety processes within the organisation to meet internal guidelines and external regulatory requirements. In the first instance it was recognised that the use of Job Task Analysis information would assist in improving the development of effective suitable duties plans and better manage the return to work process for sustainable positive outcomes.

In addition to the regulatory requirement above, the Job Demands database needed to be able to maintain records in accordance with the National Privacy Principles. It needed to be secure and it needed to be auditable.

BMA are leaders in innovation and strive for industry best-practice. Combined with the healthcare industry's goal for evidence-based practice, a standardised and industry-accepted protocol for task data collection was also required.

The JobFit System was chosen to deliver this objective.

PROJECT DEFINITION

The rationale for choosing the JobFit System was fourfold:

1. A "One BMA" standardised approach to task analysis was needed.
Over the years, many sites had utilised the services of therapists (including occupational therapists and physiotherapists) to put together task analyses for the purposes of occupational rehabilitation and return to work. Most of the analyses conducted were in hard copy form and became out of date over time as the equipment or work practice changed. Quite often this information disappeared or was deleted when key people involved left the business. It was identified that there was a need to consolidate and build upon this previously collected data and to adopt a systems based approach that would outlast any one individual. It was also identified that a standardised approach to task analysis was needed for the business.
2. The JobFit System was seen to be a cost effective solution.
Licences for the software were already held by three BMA sites. In addition, an electronic repository for the task analysis data would enable the sharing of task analysis data across sites and allow the data to be easily and routinely updated thus contributing to economies of scale and a reduction in duplication of effort.
3. The JobFit System was a patented software solution that had been developed for, and tested within, the mining industry.
The JobFit System software provided the necessary security, stability and audit trails to maintain the integrity of the data, yet still remained accessible to our team and customisable to our needs.
4. The JobFit System software was backed by an established team of trained and certified health professionals in key locations who could conduct the task analysis and support the integration of the JobFit System into BMA.

It was decided that the way forward for BMA was to employ the JobFit System and build a database containing the functional job requirements for each site.

DATABASE BUILD

The database build could have been done in one of two ways - organically, or as a project. To build the database organically would have reduced upfront costs, however would have significantly lengthened the total time and introduced additional delays with bringing providers to site at short notice. The 'project approach' allowed for a staged rollout, apportionment of costs, planned timeframes to fit in with site activity, and appropriate allocation of personnel.

The JobFit System database is a list of tasks that are combined in different combinations to form jobs. The first step in the database build process was to map out the organisational structure and identify a 'starting list' of tasks associated with each job.

Each task is then analysed through observation and / or interview. Additional research for equipment specifications was also carried out.

The JobFit System standardised functional task analysis includes:

1. Task overview: step-by-step description of how the task is done, equipment used, duration and frequency
2. Postural tolerances: 43 measures of key movement patterns in each of the body and the frequency in which they occur
3. Material handling requirements: 21 measures of lifting and carrying requirements including the loads, heights and frequencies
4. Additional information: including environment, PPE, and human factors; photos and video were also captured as able

Once the task data was analysed it was entered into the JobFit System software and attached to the relevant jobs. The software then automatically combined the tasks to provide the overall demands for each job. In the future, as task demands change as a result of changes in equipment and / or processes and are modified in the database, job records will automatically be updated. This will ensure that persons using the JobFit System for rehabilitation will always be using the most up-to-date and complete information available. This will significantly reduce administrative effort and the likelihood of error.

These steps were first taken at a pilot underground and open-cut site. Once their databases were built, a gap analysis was conducted at the remaining sites. This was primarily conducted through guided interview with experienced workers. On many occasions, the tasks were conducted in the same manner at different sites, in which case only minor modifications to the data were required. In other instances, there were gross differences, in which case completely new task analyses were conducted.

Only JobFit System certified Services Partners were used for the task analysis and data entry. The team included a physiotherapist and two occupational therapists. The physiotherapist and one of the occupational therapists also held Masters Degrees in ergonomics. Workers from middle management to the front line were heavily involved in the task analysis process including the initial analyses, calibration of site data and confirmation of the final task and job records. The project plan was coordinated by Fiona Rosenberg (BMA) with the assistance of Jenny Legge (JobFit Systems International).

The JobFit System task database build was quite a lengthy process, spanning almost two years. However, BMA now has a complete database of over 1000 tasks for over 600 employee jobs. This has been the largest analysis of its kind ever undertaken in the Australian coal mining industry.

Interestingly, there were some significant differences in the task methods across different sites and even between crews on the same site. Differences were around equipment used and the methodology employed for the tasks. Having a single repository of information will facilitate the sharing of knowledge and innovation within the company so that a greater number of workers will benefit and risks will be reduced.

Once the database was ready to use, it was imperative to ensure stakeholder buy-in.

STAKEHOLDER BUY-IN

In order to gain support prior to the implementation of the JobFit System into core BMA processes, it was necessary to engage with different levels of the organisation. Discussions were held with the site Health Advisers (who also are the Rehabilitation and Return to Work Coordinators), as they would be the key users of the system. The site Health and Safety Managers and the site General Managers were also engaged as the decision makers within the business.

Once the aforementioned parties were in agreement regarding the introduction and intended use of the JobFit System, other key groups were approached. Communications were held with the Workers' Compensation Self-Insurance Unit and also with members from Human Resources, where applicable. Although these parties would not be dealing with the system

itself, they would inevitably come across the outputs of the JobFit System (e.g. forms and reports) and so would need to understand how the system operated.

The remainder of the workforce gained an understanding of the JobFit System through their participation in the task analysis and through mass communication forums such as BMAG.

The main concerns for the key users of the JobFit System were associated with the perceived increased time and resources that would need to be dedicated to the setup and administration of the system. These concerns were alleviated with the following information:

Time Concerns:

- The JobFit System would effectively reduce the amount of time spent searching for suitable duties compatible with medical restrictions so that rehab plans could be established quicker and with more confidence and workers could return to work earlier and safer
- Only a gap analysis for the task database setup was required at most sites based on the pilot site task analysis data thus significantly reducing the load for most of the sites
- Only periodic review of task analysis data is required or when a task is new or modified so minimal maintenance was required

Resource Concerns:

- Task analysis is required to be completed by a JobFit System Certified Assessor and thus was conducted by an external 3rd party
- End user training would be provided in-house

After key stakeholders within the organisation had bought into and supported the proposed implementation of the JobFit System, it was then fundamental to engage with external parties (i.e. medical and allied health professionals) who are routinely involved in the rehabilitation and return to work of injured workers.

It was decided that BMA would host a dinner in each of the relevant townships (i.e. Blackwater, Emerald, Dysart & Moranbah) and invite the general practitioners (including the doctors that attended the hospitals) as well as the allied health professionals that assist BMA sites with their injury management. Site RRTWCs, Health and Safety Managers and site General Managers were also invited to attend this dinner. The objective of the functions was to introduce the medical and health practitioners to the JobFit System and to demonstrate how BMA would be incorporating it into their rehabilitation and return to work processes. An overview of the rehabilitation process using the JobFit System was presented by either the BMA JobFit System Coordinator or a representative from JobFit Systems International (see Figure 1 below).

The forms and the reports that are generated by the JobFit System were also presented. Although the dinners only went ahead in two of the townships, BMA representatives were able to engage with medical staff at their individual practices and gave them a similar presentation. During both forums, the opportunity for questions was given. Commonly asked questions were related to additional paperwork, costs and accuracy of information. Health providers were reassured that all the task data had been collected using standardised processes, the JobFit System form would replace the current worker capabilities statement and as no additional time was required, and in fact was predicted to require less, then no additional costs were expected.

Following on from presentations, it was recommended that sites continue to maintain contact with their key medical and health providers to foster and strengthen the relationship in order to assist in achieving sustainable positive outcomes for injured workers. Many of the treating therapists servicing BMA's sites were already JobFit System Services Partners which provided the advantage of immediate buy-in to the process and an understanding of the

systems and processes. This team of health professionals have been a great support to the BMA team.

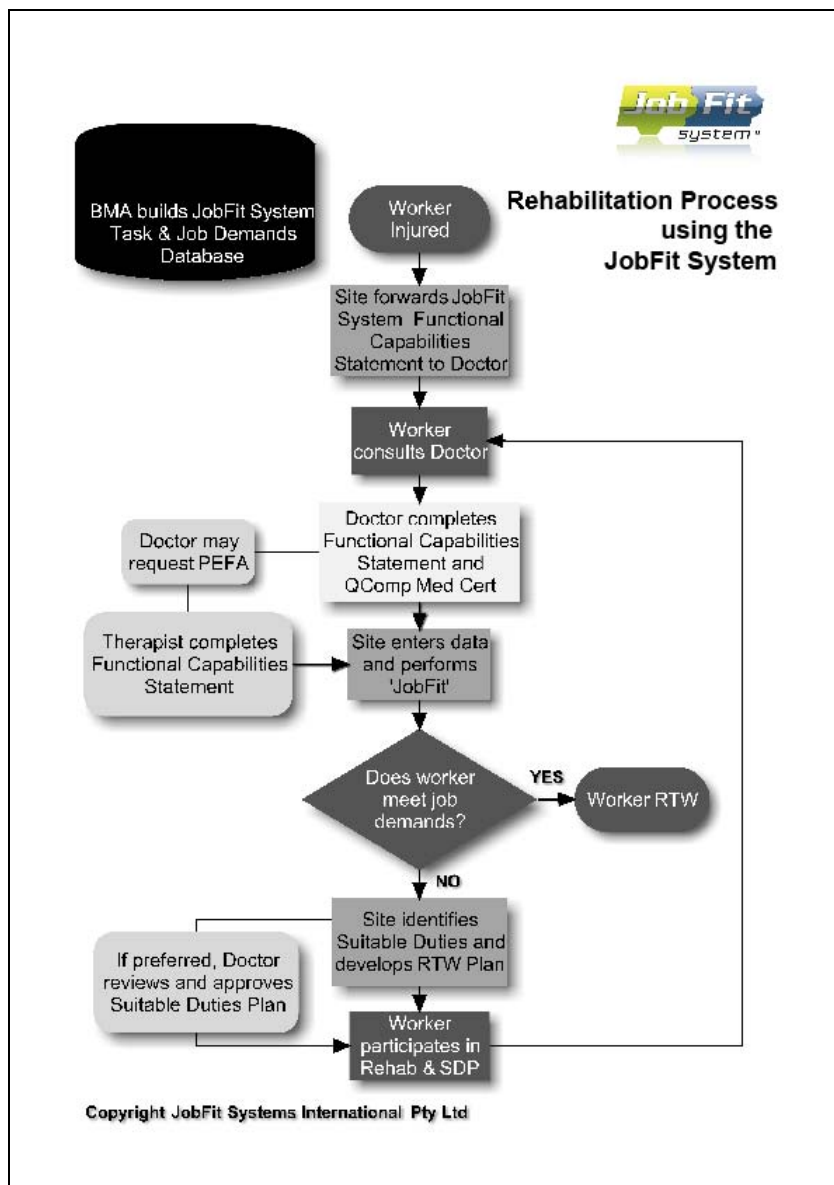


Figure 1. Flowchart highlighting the Rehabilitation System using the JobFit System.

During the implementation of the JobFit System into BMA, many challenges were faced. These will now be highlighted, including the lessons learnt along the way.

CHALLENGES

Due to the enormity of the project and the timeframe in which the task analysis phase spanned, many issues were encountered.

1. Staff turnover

A common issue in this current employment market is staff turnover. During the pilot site phase of the project, key personnel within the health and safety departments that were helping to coordinate the task analyses, left the business. This created difficulties in the continuity of the therapists being able to come to site to analyse tasks and the work environment and talking to key people involved in doing the tasks. Subsequently, the time allocated to this phase of the project was drawn out. This could have been overcome by not limiting the coordination of activities to just one person, but instead, having two or three 'champions' (from department other than health and safety) to assist in the organisation of the database build. Initiatives such as the JobFit System project need to be reliant on systems and processes rather than being dependent upon a sole individual.

2. Communication

In order to achieve a JobFit System standardised functional task analysis, the therapists needed to engage with a number of different people. They needed to directly observe workers performing tasks, interview workers to expand on the observations made, speak with supervisors to fill any blanks (as necessary) and liaise with technical and warehouse personnel to determine equipment/tool specifications such as dimensions and weights. To facilitate this process, the therapists needed to be open and transparent and ensure every individual involved understood the project being undertaken at their site.

3. Stakeholder buy-in

Although it has been previously discussed, stakeholder buy-in was so integral to the implementation that it is worth mentioning again, particularly in regards to the management of occupational rehabilitation. In order to have sustainable positive outcomes for injured workers, it is vital to engage with those key parties that are involved in the rehabilitation and return to work process. Treating doctors and medical specialists, physiotherapists, occupational therapists and other rehabilitation professionals, workers' compensation claim advisers and site RRTWCs all need to understand the benefits and value the use of task analysis data to assist in the management of injured workers. Regular communications and meetings with the key treatment providers will facilitate this as well as integration of the information into other projects and initiatives such as manual handling training and ergonomic risk assessments.

4. Competing priorities

In any organisation, there are always competing priorities when trying to implement a new program or system into a business. This was certainly the case during the implementation of the JobFit System. A real focus for BMA over the past 12 months has been to fully integrate the BHP Billiton Fatal Risk Control Protocols. These protocols are a core business driver to eliminate the risk of fatalities and so, accordingly, took time and resources away from the implementation of the JobFit System at BMA. This raised a very important lesson in the execution of the JobFit System – it is necessary to understand the impact of other priorities within a business and subsequently have realistic timeframes for implementing new initiatives. Flexibility in the planning of especially the database build stage is fundamental to keeping the project going.

5. Project leader

It was decided that the JobFit System would be rolled across to all the BMA sites. As a result, a project leader was identified to coordinate the overall implementation of the JobFit System. This position was also responsible in training the site key users (i.e. the RRTWCs) and providing end user support.

ANTICIPATED BENEFITS AND OPPORTUNITIES

Now that BMA has a complete database of employee functional job demands, the information can be used to assist with the identification of suitable duties for injured workers. It is anticipated the following benefits (for both workers and supervisors) will be realised:

- Decreased costs of lost productivity, replacement wages and performance-based workers' compensation premiums through quick access to information and the early return to productive and meaningful suitable duties
- Decreased risk of re-injury or aggravation which may prolong the rehabilitation process by appropriate selection of suitable duties matched to the worker's current capacities thus increasing the likelihood of a durable return to work
- Objective information to demonstrate to the worker, the insurer, the employer and the healthcare provider the availability of suitable duties for targeted rehabilitation programs
- Highlight any 'red-flags' that may interfere with the return to work process so that the appropriate management can be implemented for successful outcomes
- Assists in the management of complex rehabilitation cases by monitoring progress, identifying trends and highlighting areas of need
- Redesign of work practices and equipment to address worker capabilities will not only make tasks safer for injured workers but also for the incumbent workforce
- Facilitate sharing of task information between sites to realise the benefits of innovation in equipment design and work methods.

CONCLUSION

Task analysis is a fundamental requirement of a successful rehabilitation program. Fast access to accurate and complete task data has been recognised by BMA as being a necessary tool for the successful management of their injured workers. The JobFit System was introduced to house this data and allow it to be readily accessible and easily updated.

The evolution from the initial needs analysis and project definition right through to the database build and stakeholder buy-in described above has been a lengthy process and has involved many internal and external personnel. BMA now has a complete database of the functional demands of all employee jobs within the organisation which can be used to both prevent and manage injuries in the workplace.

The adoption of the JobFit System has allowed a standardised approach to task analysis and the development of suitable duties programs for injured workers across the business. The process of using a standardised electronic system to objectively compare a worker's capability to the job demands is 'breaking new ground' in occupational rehabilitation.

REFERENCES

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