



Right people, right place, right time – **Felicity Landon** finds out why ports are turning to software to manage labour

THE USE OF terminal operating systems to optimise fixed assets such as equipment and facilities is a 'given' in the ports sector these days – but far less focus has been applied to the use of software for optimising the labour pool. Yet a port operator can reduce its labour costs by 5%-10% by flexing labour supply in line with peaks and troughs in demand from shipping schedules and landside operations, says Ray Lee, managing director of employee relations consultancy Portside Solutions.

"A workforce management system is critical because it is a tool to help manage the largest variable cost in the port: labour," he says. "It is an interesting subject and there are lot of ports buying into this. After all, it makes sense to be as efficient as possible."

Workforce management, put simply, is about deploying resources at least cost – but in a far more sophisticated and fairer way than having workers standing outside the dock gates hoping to be picked for that day's work.

"Optimisation, operational efficiency, productivity, integration, automation, forecasting, scheduling, reducing costs, increasing utilisation, balancing supply and demand – each of these are words that are often associated with workforce management," says Stephen Cahoon, acting deputy director (maritime and logistics management) at the Australian Maritime College's national centre for ports and shipping.

Those positives can materialise as increasing internal and external customer service and satisfaction, reduced payroll expenses, administrative time savings and also convenience, he says. "For example, rather than port employees calling their supervisor to notify they will be on sick leave, an automated system via an app on tablet technology can allow access to an employee self-service system where the sick leave can be notified, changes made to the work schedule, and the supervisor automatically notified, who can then determine whether the sick leave will impact on the department's productivity."

RIGHT TOOLS

Having the right people with the right skills and knowledge in the right place at the right time to perform the right activities has been the work of the HR department or operational managers for many years, but now the term workforce management has taken on a software focus, says Dr Cahoon.

"So a question is whether workforce management is human resource management

Optimising the team



CHAOS REIGNS: poor labour management can lead to underperformance

(HRM) in new clothes or is it really adding a new specialisation to HRM?"

He defines it as HRM moving towards what is known in research as 'hard HRM', which is more performance-oriented, and away from the 'soft HRM', or commitment-oriented approach where the emphasis is on employee empowerment and consultation and mutual benefits.

"We may be seeing a greater focus on 'hard HRM' and workforce management as economic pressures are increasing with tighter margins and higher payroll costs and thus more attention on how efficiencies can be drawn from the large workforce expense."

It doesn't sound like a solution dreamt up to make trade unions happy – after all, as one consultant puts it, the ideal shift pattern would be one man for one minute, so every minute is fully utilised. "If you have 500 men for 12 hours, there is going to be a lot of wastage. There will always be union resistance to anything that brings change and if you are going to implement a new or more flexible system, you have to have an agreement with the workforce and the union. It is no good saying 'we intend to roster in four-hour shifts' if you are tied to an agreement for 12-hour shifts anyway."

BALANCING ACT

In the end, he says, everyone talks about productivity – how many moves per crane. "But it isn't about that. The customer will think it is about moves per crane but for the port it is about profitability and finding the balance between the two, i.e. the highest crane rate at the least cost."

Ray Lee
Portside Solutions



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Sydney-based Portside Solutions recently signed a partnership agreement with Australian workforce management solutions specialist ComOps, in which it sells and implements the workforce optimisation solution, Microster, into container ports across Europe, the Middle East and the Americas.

Before setting up his company, Ray Lee was previously director of operations for DP World ANZ region, and Microster was used as the preferred solution for all the group's Australian terminals.

He believes there can be benefits on both sides from implementing a workforce management system, "although you do certainly need to negotiate with the unions".

"We went through that process with the Maritime Union of Australia – at the beginning

there was a fair bit of resistance from the union, but now it is implemented for some time, it would be difficult if you wanted to take it away. It gives employees a bit of control via the kiosk and online service – they can book time off and swap shifts within reason, depending on the parameters set.”

All ports would prefer to have full control of their workforce, he adds: “That said, it is not always possible. In many ports, the union still controls the workforce, particularly in terms of labour allocation and skills placement, a common model in the Americas.

“This model used to apply to Australian ports until the 1990s, when it was changed. This change process resulted in a number of benefits to both employees and employer. Employers now have a fixed workforce supplemented with a dedicated casual component. Employees enjoy fixed rostering that allows them to have a say in when they work; meaning a degree of flexibility providing that the skill set and roster needs are met for the particular shift.”

FOUR ELEMENTS

There are four key elements in a rostering system, says Mr Lee: inputs, outputs, process and the feedback loop. Regardless of the rostering method



HELPING HAND: working out the best shift for a project cargo might need the human touch

used, there are a number of factors critical to roster development – including demand, equity, staff satisfaction, budgetary considerations, legal and industrial requirements, and workplace health and safety considerations.

Implementing a system like Microster “isn’t as convoluted as you might think”, he says. “We send in one person from Portside Solutions and Microster sends in one person. We need to look at how the port operates and get the parameters

How to deal with the stalled knowledge transfer

KNOWLEDGE MANAGEMENT AND how knowledge – especially tacit knowledge – can be captured and easily transferred to other staff is an area that receives little coverage in workforce management, according to Dr Stephen Cahoon at the Australian Maritime College.

“This is becoming an important issue as the baby boomer demographic is moving towards retirement and taking with them their corporate knowledge. Changing this tacit knowledge into explicit knowledge is a current and future challenge that should be part of the Human Resource Information System – which really is the umbrella under which sits workforce management.

“A greater realisation yet has to occur in ports that human capital is an important resource which is not owned by the port – instead it is only rented mostly during work hours.”

When the global economy revives, the “once much-heralded war for talent” will again arise, says Dr Cahoon. “Ports will find

that not only is there a skills shortage but also a knowledge shortage as a result of the retiring baby boomers. The focus once again will return to staff retention, and it is then that the precious human capital will determine if the systems that have been developed via workforce management have left them feeling like just a number or if their employer really cares about their role and importance to the port.”

If workforce management is used from a policy perspective in relation to employees, it should involve ensuring inclusive and equitable workforce practices, he says. “It also involves open and transparent communication about how flexible time and leave will be managed.”

Portside Solutions’ Ray Lee says the workforce management system, as a decision support tool, should not tell the port operator how to do it, but advise what the cost and service impacts will be of running various options on teams/gangs and cranes, for



BRAIN CHAIN: ports need to ensure that knowledge is passed from more to less experienced workers

example. “It is very important to include the human factors into the workforce management software, such as availability, leave, preferences, fatigue management,

etc. It is imperative that all employees be scheduled in such a way that they are not fatigued or working shifts that are not suited to their skills or experience.”

right – that might take one or two weeks. Implementation will take three to four months, depending on the size of the terminal.”

Staff levels must be determined, along with planning horizons, competency structures, regulatory requirements and other constraints.

A key point on the employee side is that a good rostering system eliminates favouritism in terms of allocating specific areas or overtime.

In determining the size of workforce required to meet the demand, shifts are created anonymously so there is no direct link to the employee that will be eventually assigned to the shift, says Mr Lee. At later stages, each employee gives a list of preferences and attempts are made to fulfil them as well as possible. The employees’ preferences are often considered in the days-off scheduling and staff rostering phases.

HUMAN INTERVENTION

Having said that, detailed job allocation within a shift is still best left with the supervisor, says Mr Lee. “He may have six gangs allocated – he still has the right to allocate particular gangs to particular ships and points of work.

Workforce management is more than just software, which sometimes may be looked upon as the silver bullet to solve workforce problems, says Dr Cahoon at the Australian Maritime College.

“Workforce management is about firstly having the correct culture and business processes in place. The decision in terms of software purchase and type may depend on a cost/benefit analysis that may, for instance, depend on the size and

Dr Stephen Cahoon
Australian
Maritime College



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complexities of the workforce and whether all the modules in the software package are required.

“Regardless of whether a software system is to be installed, the internal systems still need to be established. Similarly, the decision may be that it is more cost-effective to outsource at least some of the activities rather than conduct in-house or vice versa.”

A key element of introducing any new major software is ensuring staff are properly trained in the use of the software, to ensure the port gets the most from it and that staff understand how to interact with the new employee service centre, he adds. “There may also be the ongoing cost of receiving software updates, which is why an important consideration is that ongoing staff training for the software is included in the contract.”

Humans are still coming to terms with interacting with machines, says Dr Cahoon, but this will become easier as the machines become more intuitive and adopt more human-like voices and actions. “Many of us still would frown when interacting with a call centre with the seemingly endless options of pushing the right button to move towards reaching a real person to speak with. As a customer, we may put up with that – but this may be entirely different if having to go through the same process as an employer trying to engage with the organisation’s systems.”

Workforce software can also help with benchmarking and forecasting, he says – but he also warns: “As workforce management software programs become further integrated with business systems, an issue will become information overload, as an ever-increasing array of data and information and reports are produced. Determining what are the really useful and required reports may become increasingly problematic; just because a range of reports can be easily created does not necessarily mean they will be of value.”

PS



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YOU WORK OUT your schedule and detailed workforce requirements based on ship arrival times, cranes deployed, number of gang hours required, even how many containers require twist-locking and how many don’t – and then everything changes.

How does the software cope with that and how fast can the solution be updated? “Ports always face challenges to the planned schedule due to vessel delays and equipment breakdowns, etc.,” says Ray Lee at Portside Solutions. “These disruptions to the planned operation can be managed with Microster – which enables the port operator to run scenarios on what cranes and teams to assign. It will assist the port operator in seeing the real-time labour cost impact of bringing in casual/contract labour

versus the use of permanent teams on overtime, as an example.

“Port operators will decide how they want to handle off-schedule vessels or disruptions using their TOS berth planner. We can integrate Microster with the TOS to show the operator the cost impact from a labour standpoint running various scenarios.”

Microster has a specific module to help automate the allocation of agency/casual/contractor workers, he adds. “We have developed an Interactive Voice Response (IVR) system for contractors in Australian ports that automates the calling of contractors to fill shifts over the next 24 hours.”

Once the orders for contractors are filled by the port operator, the IVR will dial workers based on a series of user-defined assignment



ON COURSE: software comes into its own when dealing with unplanned changes

rules such as minimum rest between shifts and maximum hours in a time period. The worker enters their pin code and accepts or rejects the shift, via a keypad entry on their phone. They can also

use internet, iPad and SMS applications to accept or reject orders. “This halves the amount of time it requires to allocate agency staff and reduces a lot of database look-ups and phone calls,” he says.