Best-Practice Taylorism: ‘Yankee Speed-Up’ in Australian Grocery Distribution

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Contrary to prevailing visions of workplace reform as a harmonious and beneficial process, this paper examines the case of the Australian grocery distribution industry and recent changes in work organization imported from the United States. Unlike the consensual ‘team-based’ approaches that have been advocated within recent management literature, ‘international best practice’ in this industry equates to a system of labour management based upon low trust and direct control. The paper highlights the variability of workplace reform and the continued centrality of management control over the labour process.

You’re being monitored all the time, y’know; even though you’re doing your best it’s not good enough for them (management)...If you’re over in the drinks aisle and you’re picking seven or eight hundred cartons of drinks every day it’s not good enough, and you’re even picking twelve hundred a day and it’s still not good enough, y’know? What can you do?...No matter what you do, it’s not good enough. How much do I have to do to keep up with this thing?!

Question: How many warehouse workers does it take to move a mountain of groceries? Answer: One.2

During the first week of May 1994 more than 800 storemen and packers at the Franklins Chullora warehouse in Sydney’s western suburbs went on strike. The stoppage lasted four days before a back-to-work settlement was brokered between the National Union of Workers, the New South Wales Labor Council and Franklins in the state Industrial Commission. However, in that short time the stoppage achieved widespread media coverage both for the violence that accompanied police attempts to break up picket lines of striking workers and for the issue that had prompted the conflict; the company’s attempts to introduce a computerized ‘time and motion’ work monitoring system.3

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1. Interview, Sydney warehouse employee, 11 June 1995.
2. International Brotherhood of Teamsters information flyer used in publicity and organizing campaigns.
Much of the debate over Australia’s economic competitiveness has assumed that the adoption of so-called ‘international best practice’ will ensure significant productivity improvement in addition to a more harmonious workplace environment. The central theme of ‘best practice’ reform involves a search for leading international examples of management practice, ‘benchmarking’ of key performance indicators and an attempt to mimic or improve on such examples. Cited by government, employers and trade unions, the implementation of ‘best practice’ forms of management and labour relations will, it is argued, not only result in improved productivity and profitability but also achieve this in a socially responsible manner. In terms of labour management, like the earlier post-Fordist literature, ‘best practice’ advocates have stressed techniques that promote a ‘high trust’ workplace culture and seek to win the loyalty of the workforce through increased employee involvement in workplace decision making. This has included an emphasis on greater employee participation, flatter management hierarchies, the establishment of team-based work organization, ‘innovative’ human resource policies, and trade union consultation. These measures are aligned to more general organizational measures such as continuous improvement in cost, quality and timeliness, a commitment to change, strategic planning, technological innovation, and performance measurement and ‘benchmarking’.

However, while the ‘best practice’ literature stresses a model of harmonious industrial relations in which both management and workers share the benefits of productivity improvement, this paper argues that the concept of ‘best practice’ can result in a variety of workplace changes, some of which have deeply deleterious effects for both workers and trade unions. As has been the case historically, ‘best practice’ management essentially involves a search by employers for better ways to maximize productivity and profit. In the attainment of these goals, employers may adopt a variety of labour management strategies that deviate significantly from the ‘high trust’ model of contemporary ‘best practice’. Indeed, there appears to be no reason why employers might not adopt a more traditional authoritarian or coercive ‘low trust’ path to ‘best practice’ in which employee obedience is

demanded rather than sought, and non-compliance is punished through strict disciplinary codes and the threat of dismissal. This may be particularly apparent where new technologies provide employers with the opportunity to increase productivity by much more closely controlling the labour process.7

The focus of this paper is the recent introduction of the work measurement and monitoring system known as ‘engineered standards’ in the Australian grocery distribution industry. This computer-based system, developed by a number of American management consultancies, establishes standard times for basic warehouse tasks. Management can closely monitor individual employee performance and discipline under-achievers. The system has engendered significant labour unrest and is currently the subject of a New South Wales ministerial inquiry.8 While viewed as ‘international best practice’ by employers,9 our analysis of the introduction and implementation of this system suggests that management has adopted a dominantly ‘low trust’ labour management system—essentially a form of computerized Taylorism.10 This paper outlines the specifics of the engineered standards system and its origins in the United States grocery warehouse industry. It then elaborates on the implications of this system for employees and industrial relations in Australian grocery distribution and concludes by examining the broader implications of such a management approach for Australian workplace reform generally.

**Grocery distribution: the drive for efficiency**

Despite the fact that supermarkets and convenience stores have become accepted features of everyday life, few people probably consider the activity involved in stocking these outlets with food, groceries and other consumer necessities. In the movement of goods from manufacturer or grower to retail outlet, the distribution centre has come to play a crucial role in the constant renewal of an ever-widening range of stock on supermarket shelves.


8. A strike at Davids Holdings’ Blacktown warehouse in April 1994 resulted in a request from the Retail Traders Association to the then New South Wales minister of industrial relations for the establishment of a formal inquiry into engineered standards. This move was supported by the National Union of Workers and the New South Wales Labor Council, which argued for significantly widened terms of reference. The inquiry has proceeded in the Industrial Commission of New South Wales since mid-1994 and is due to be completed in early 1996.


10. While some writers have viewed Taylorism as a broad ideology or philosophy of management, the term ‘Taylorism’ is used here to denote a specific form of management control over the labour process, based on the use of methods study, work measurement and wage incentives in order to analyze, simplify, and establish new effort norms for specific job tasks. See C. Wright, ‘Taylorism Reconsidered: The Impact of Scientific Management Within the Australian Workplace’, Labour History, 64, 1993, pp. 34–53.
The distribution centre is essentially a large warehouse, which may contain a number of storage areas such as dry grocery, frozen goods, and produce. Stock from suppliers is transported by truck and received at the distribution centre delivery bays. Fork-lifts unload the pallets of stock and transport them to designated storage areas, which typically consist of rows of multi-level racking. When an order is received from a supermarket or other retail outlet, a list of printed labels is prepared setting out the various products required, and allocated to an order selector. The order selector drives an electrically powered pallet-jack around the aisles of the warehouse, stopping at designated areas where he or she manually ‘picks’ the required cases of goods and loads them onto the pallet-jack, thereby ‘building’ a pallet to the order’s specifications. Once completed, the newly assembled pallets are deposited at a loading bay, prior to their placement on trucks for transport to the relevant supermarket.

Australian grocery distribution is a strongly competitive industry within distinctive state markets. In New South Wales, the industry is essentially oligopolistic in nature, with four major companies dominating the market, these being Woolstar (a subsidiary of Woolworths), Davids Holdings, Franklins, and Retail Distribution Management (an arm of the Coles-Myer group). In the other Australian states a similar pattern of market concentration exists, the product of a process of merger and acquisition that has accelerated in the 1990s, as smaller distribution companies have been absorbed by larger interests. While companies such as Woolworths, Franklins and Coles have a captive client base through their associated supermarket outlets, there is still significant competition to increase market share. Added to this, for independent wholesalers such as Davids, which lack captive outlets, there is the need to satisfy a range of smaller separate supermarket clients, in terms of both price and promptness of supply. Takeover bids among the independent wholesalers have added to the industry’s volatility.

Industrial relations in the industry have been traditionally combative. Workplace management has been generally authoritarian and there has been little if any attempt to introduce employee participation or joint consultative schemes. Over

11. A smaller Victorian-based company, Composite Buyers, also competes in the New South Wales market, although at the time of writing it was the subject of takeover bids by Davids and Queensland Independent Wholesalers; see J. Hurst, ‘ASC Starts Check on Composite Bidders Trading’, Australian Financial Review, 5 July 1995, p. 21.


the years, increasing capitalization of warehousing operations, high levels of unionization and a well-developed shop steward organization have added to the bargaining power of warehouse workers and the crucial part they play in the supply of goods to supermarket outlets. Given such a strategic position, the withdrawal of labour has been a popular bargaining tactic, winning employees significant improvements in wages and working conditions. In New South Wales, the major union covering the industry is the Storemen and Packers Union (now part of the National Union of Workers), which has emphasized a hard-bargaining approach to collective negotiation. In response, employers have adopted a generally confrontational and embattled mindset. At an industry level this has involved warehouse employers attempting to maintain a common front against trade union claims, through their membership of the Retail Traders Association. However, the union has proved adept at dividing employers and using individual companies as precedents for industry-wide campaigns. In other states, union coverage of grocery distribution is split between the National Union of Workers and the Shop Distributive and Allied Employees Association.

Since the 1970s, increases in the number of supermarkets, their size, and the range of their stock have led the large retail chains to focus increasingly on the efficiency of their distribution centres. During the late 1970s and early 1980s, the two largest grocery distribution concerns, Davids Holdings and Woolworths, attempted to improve warehouse efficiency by investing in multi-million-dollar automated systems of order selection, based on ‘state-of-the-art’ American technology. However, technical difficulties, poor middle and supervisory management, and strong trade union resistance to attempts to cut staffing levels led both companies to disband such capital-intensive experimentation in favour of more traditional manual forms of order selection. Despite attempts by employers to impose minimum ‘pick-rates’, warehouse workers rejected management control over the pace of work, and instead emphasized more general concepts of ‘a fair day’s work for a fair day’s pay’. By the later 1980s and early 1990s increased competitive pressures and a lengthening of supermarket opening hours had led to a renewed push by warehouse employers to increase their profitability by improving warehouse throughput and labour productivity. It was in this context that employers looked to the United States for a ‘best practice’ solution to warehouse inefficiencies.

15. A good example of this occurred in 1978, following industry-wide industrial dispute over paid meal breaks, when Davids broke from the industry agreement and developed a separate enterprise agreement with the union. The hard-bargaining style of the Storemen and Packers was again demonstrated in 1982, when an industry-wide three-week strike resulted in the union winning a 36-hour week and a 30-dollar pay rise. Interview Frank Belan, state secretary, National Union of Workers (New South Wales branch), 24 March 1995; A. Casey, ‘Supermarkets Close as Talks Fail’, Sydney Morning Herald, 24 September 1987, p. 2.


17. Interview Frank Belan; interview Clyde Stewart, National Union of Workers organizer, 17 March 1995.
The distribution centre and engineered standards

Engineered standards is a computerized system by which management can measure employee output, set standard times for each job assignment, and monitor and enforce employee compliance with such standards. Engineered standards were first applied in American warehouses in the mid-1970s. As with earlier forms of scientific management, management consultants have proven pivotal in the spread of engineered standards. Three management consultancies were instrumental in the development of these systems. Eric Baum & Associates were the first in this field and relied on traditional stopwatch time study techniques to develop standards for basic warehouse operations. Gagnon & Associates, a Minnesota-based consultancy, were the second group to specialize in the area of warehouse work measurement and, unlike Baum, used the pre-determined motion time system, Master Standard Data, as the basis for standards calculation. The third consultant to develop warehouse work standards was Dallas Systems Corporation of Dallas, Texas. Unlike the other two consultancies, Dallas specialized initially in the area of computerized inventory control before branching into work measurement and engineered standards. During the 1980s, the engineered standards concept proved extremely popular with North American warehouse employers, with large companies such as Kroger, Allied Supermarkets, Scrivener, National Grocers, Smith’s Food & Drug, Fleming, Super-Valu and Safeway using consultants or their own in-house industrial engineers to establish standards of work effort. More recently, engineered standards have spread internationally to warehouses in the United Kingdom, Europe and now Australia. 18

As noted earlier, the engineered standards system is essentially a form of computerized Taylorism through which management can maintain close tabs on individual employee performance and establish and enforce new effort norms on the shopfloor. However, engineered standards represents a significant advance on traditional scientific management practice in that the use of computers results in a ‘real-time’ monitoring system of a highly variable work process. The system involves a layering of computer technology and traditional scientific management techniques. Five key elements or ‘layers’ of the system are central, these being:

(i) the development of a telecommunications link between customer stores and the distribution centre;
(ii) the creation of a computerized inventory database and order dispatch system at the distribution centre;
(iii) the use of work measurement techniques to generate an allowed time for each individual order;
(iv) ‘real-time’ monitoring of employee performance; and
(v) enforcement of performance through discipline and incentives.

These elements are sequential and interdependent; that is, each successive element requires the existence of the former. As a result, the implementation of job standards

and their monitoring and enforcement is impossible without the preceding computerization of inventory and dispatch. Neither is there a technological imperative forcing an employer to move beyond steps (i) and (ii) and adopt the measurement, monitoring and enforcement aspects of the system. The following sections outline in detail how each of the elements of engineered standards operates.

(i) **Telecommunications link between store and distribution centre**

The first ‘layer’ of the system involves the linking of the supermarket with the distribution centres using sophisticated telecommunications (for example, modems, satellite links, computerized ordering and tracking software). This enables supermarket outlets to more rapidly and accurately order and receive product. A significant technology investment is required, but the pay-off is significant in terms of quicker inventory turnaround, greater accuracy and reliability, and Just In Time inventories for grocery stores.

(ii) **Development of a computerized inventory control and order dispatch system**

The next ‘layer’ of technology involves the development of a computerized inventory control database. Each product item stocked by the distribution centre constitutes a single ‘record’ in this database. Each record contains data about the product itself, quantity available, price, weight, volume and its own unique physical location in the warehouse (an address or ‘slot’ code). As soon as product enters the receiving dock, it is scanned or entered into the database; similarly, when an order is filled the inventory database is updated. A necessary precondition is to first subdivide the warehouse into grid co-ordinates and assign each product its own unique ‘slot’ location and ‘address’. This enables an order selector or fork-lift operator (who replenishes storage areas with new stock) to go directly to the necessary location.

Such a computerized inventory database also allows the development of an order dispatch system. This system takes a single store order and sorts the order by product location in the warehouse. The program ‘looks up’ the slot location from the inventory database of each item on the store order, and then arranges the most efficient ‘travel path’ through the warehouse for the order selector or fork-lift operator to pick up or drop off stock. By reducing backtracking, this system minimizes travel distance and further reduces the amount of time it takes for an item to travel from the receiving to the shipping dock. All else being equal, the faster the ‘through-put’ (that is, the turnover or movement of stock) the greater the revenue gain for the distribution centre. Moreover, the order dispatch program ensures that adequate supplies of each product are available in each slot; if not, a request is relayed to a fork-lift operator to replenish that particular slot. Finally, the order dispatch program provides the printed adhesive product labels that detail the employee’s picking order, and which he or she attaches to each case of product as it is ‘picked’. On each label, in order of their slot occurrence, is printed the product

19. Indeed, a number of United States grocery warehouses have utilized the computerization of inventory control and order despatch but stopped short of adding on engineered standards. They argue that they achieve sufficient productivity through these measures without the need for the detailed labour control that flows from engineered work standards.
name, slot number, product description, weight, volume and other identifying characteristics of the order.

(iii) Generation of standard times through work measurement

The computerization of inventory control and order dispatch constitutes a precondition for the introduction of engineered standards. Given the non-repetitious and highly variable nature of warehouse work (for example, in terms of the length of each selection assignment, the number of cases selected and their size, weight and location), the manual calculation of a standard time for each job assignment of each employee over each working day would be an administrative nightmare. Computerization of the warehouse overcomes these limitations, and by reference to the inventory database the system can quickly recalculate standard times for each individual job assignment as it arises.

Before any standard times can be developed, working methods and conditions in the warehouse must be standardized. This involves the documentation of standard work methods and the training of workers in the required methods. Distances within the warehouse are already known from gridding the warehouse into slot locations. Other travel distances between, for example, pallet pick-up and drop-off points and order desk to first selection slot are also calculated. Further, time studies are made of the speed of pallet-jacks and fork-lifts under loaded or unloaded conditions in order to provide travel times. This involves making assumptions about what is an average load, and an average speed.

Two basic systems of work measurement have been used by management consultants in the warehouse industry; pre-determined motion–time systems and stopwatch-derived systems. Both aim to provide a library of elemental component times, which the computer can choose from for each individual job assignment, thereby calculating a standard time specific to that assignment. Examples of such elemental components might include; walking, selecting certain-sized cases from first-, second- or third-tier racks and placing them on to the pallet-jack, wrapping and marking pallets, and obtaining empty pallets. Under a stopwatch-derived engineered standards system, these elemental times are derived from stopwatch time studies of warehouse employees undertaking such tasks, and may well involve hundreds of observations from a variety of different warehouses. A problem with such systems is that elemental times derived may fail to take account of varying work methods or environmental conditions. Added to this, differences in performance rating of different industrial engineers may affect the supposed accuracy of the final time standard.

In the case of predetermined motion–time system derived standards, consultants rely on systems such as Master Standard Data or Methods-Time-Measurement, which set down normal times for various micro-motions. The consultant develops worksheets that set out the various micro-motions involved in basic order selection tasks (for example, selecting a case and placing it on the pallet-jack, mounting or dismounting from the jack, wrapping and loading, obtaining pallets). Instead of relying on a stopwatch, under a predetermined motion–time system such as Master Standard Data, the industrial engineer simply measures the distances involving in reaching or lifting, and by referring to the data card can calculate the various elemental normal times.

Irrespective of whether stopwatch or predetermined motion–time system stand-
ard data are used, the next stage is to apply various personal, fatigue and unavoidable delay (P, F and D) allowances relevant to the particular warehouse. There is little uniformity in the United States industry in how these allowances are determined. Personal allowances generally reflect breaks for toilet, water and other personal needs. Sometimes travel to and from break rooms or canteens is also included; at other times it is not. Unavoidable delay allowances are intended to allow for circumstances beyond the employees' control that impede his or her work (for example, items out of stock or traffic jams in the aisles); these are often determined using some form of work sampling. Finally, fatigue allowances may be determined from a variety of methods. For example, Dallas Systems Corporation utilizes parts of a fatigue allowance worksheet reproduced in an International Labour Organisation publication.20

Once the personal, fatigue and delay allowances are applied to the normal times, standard times are input into a standards generating program. Standard times are stored as variables together with the work activities they are associated with. Once an order from a supermarket is received, it is relatively easy for the order dispatch system to calculate a standard time for the order by referring to this elemental standard data.

(iv) Development of a 'real-time' monitoring system

To establish a 'real time' work monitoring system that obtains actual time for each employee under standard, another software program is written and added to the inventory control, dispatch and standards generation program library. In addition, a peripheral input device (a computer keyboard or barcode wand) is installed at the location where employees pick up their order assignments. This device is linked to the computer and consists of a small keyboard, a display, and often a magnetic card reader. To activate it, the employee picks up the store order, punches in the store order code and their own employee number, which activates the computer's time clock. The starting time is stored by the computer program together with the order and employee number. The time clock stops running when the next order number is punched in by that particular employee, or when a meal break occurs. The program simply subtracts the starting from the stopping time, adjusts for breaks or downtime, and computes the elapsed minutes (actual minutes) and compares this with the allowed or standard time.

The advantages of such a system for management control over labour effort should be readily apparent. Under the engineered standards system, records of employee performance can be called up on screen at any time by any authorized supervisor in order to monitor, in real time, how well an employee is performing in relation to the standard. These systems also generate an efficiency percentage score for each completed assignment (this is simply the allowed or standard time divided by the actual time multiplied by one hundred). In addition, daily, weekly or monthly performance reports can be readily prepared detailing the performance of each employee.

Enforcing employee performance

In most United States and Australian warehouses operating an engineered standards system, employers often establish an ‘enforcement level’, which is an average level of expected performance against standard, usually expressed in percentage terms, against which all workers are measured. Enforcement levels typically fall between 80 and 100 per cent of standard over a working week, and workers who fall below these levels often receive some form of disciplinary action. In the American warehouse industry, typically, the first instance of failing to reach the enforcement level prompts a verbal warning. A secondary breach may result in a written warning, followed by some time without pay for a third transgression and termination after a fourth occurrence. Similar disciplinary procedures have been introduced in some Australian warehouses using engineered standards. However, there is no standard format for such disciplinary procedures, which may or may not include some ‘retraining’, ‘counselling’ or close personal monitoring of work methods. Within the unionized section of the American warehouse industry, actual enforcement levels and policy are often negotiated with union representatives, but there is nevertheless significant variation in the specifics of such procedures.

Added to this, a variety of informal shopfloor ‘carrots on sticks’ may be linked to an employee’s ability to attain standard. Examples might include access to overtime or the possibility of transfer to less arduous jobs.

In addition to disciplinary procedures that aim to enforce employee compliance with the new effort norms established, a number of employers have also sought to introduce wage incentive schemes as part of their engineered standards system. Whereas discipline penalizes performance below an enforcement level, wage incentives aim to reward performance above a predetermined level. A standard wage incentive scheme might, for example, reward every 1 per cent of an employee’s performance above a set level (say 100 per cent efficiency) with a 1 per cent increase in weekly pay. Other systems may simply pay a flat dollar bonus for performance above a set performance threshold. Interestingly, while Australian distribution companies such as Coles and Woolworths have combined such wage incentive schemes with the setting up of their engineered standards systems, wage incentives are less common in unionized North American grocery distribution centres. In the United States, the major industry union, the International...
Brotherhood of Teamsters, has opposed the adoption of wage incentives in distribution centres that they cover. In Australia, the relatively recent introduction of engineered standards may indicate that employers are using incentive schemes as a short-term inducement to employees to accept the engineered standards system and the higher effort norms that result.

**Engineered standards in Australian warehousing**

The engineered standards system was first applied in Australian grocery distribution in 1989, when Coles implemented a system of computerized work measurement and performance monitoring at their Somersby (New South Wales), Gepps Cross (South Australia) and Hampton Park (Victoria) distribution centres. A two week strike by storemen and packers at the New South Wales site led to the removal of time-study experts, but Coles management succeeded in implementing the system in Victoria and South Australia, combining performance monitoring with a wage incentive scheme.  

During the next four years, each of the major grocery distribution companies attempted with varying success to implement similar engineered standards systems. Crucial to the introduction of engineered standards in the New South Wales industry were a series of industrial disputes that fundamentally weakened the workplace strength of the Storemen and Packers Union. Such a process began at the Coles Somersby warehouse in March 1990, when eighty striking employees were terminated by the company after failing to obey a return-to-work order by the New South Wales Industrial Commission. The scale of the sackings seriously weakened the union presence and thereafter management enforced a minimum pick-rate.  A similar process occurred at both Davids and Woolworths during 1991, where management dismissed large numbers of striking employees and instituted minimum pick-rates for the remaining workforce.  

All the major grocery distribution companies had by this stage begun to explore the different computerized options for improving warehouse productivity, sending selected managers to the United States to liaise with American warehouse managers and consultants such as Dallas, Gagnon and Baum. During 1992 and 1993, Woolworths and Davids began to introduce engineered standards in a number of warehouses across the country. Franklins followed a similar process in early 1994, although industrial disputes halted the full implementation of engineered standards at their Chullora warehouse.


What then has been the impact of the engineered standards system? First, it should be emphasized that Australian distribution companies have applied engineered standards fairly selectively. At the time of writing only four warehouses in New South Wales had fully operational engineered standards systems. In Victoria, South Australia and Queensland a review of unions covering the industry suggests a similar picture of partial application. No doubt a major reason for this has been the fact that the major distribution companies have only adopted engineered standards relatively recently. Moreover, given the high cost of implementing the computerized inventory control and engineered standards systems, most applications have been limited to the larger dry-grocery distribution centres, where labour cost reductions are likely to be greatest. Added to this, strong union opposition in the New South Wales industry and the establishment of a ministerial inquiry into the impact of engineered standards have led a number of employers to forestall full implementation of their engineered standards systems.

At the workplace level, the impact of engineered standards has been varied. As was noted earlier, relations between management and workers have traditionally been strained, and the introduction of engineered standards appears to have exacerbated workplace hostility. While employees and union delegates acknowledge the advantages that flow from a more systematic layout of the warehouse and better inventory control, there is clear hostility towards the practice of performance monitoring. In part such reactions derive from the perception that from the moment employees arrive at work to the moment they leave, they are ‘under the clock’. Such attitudes are reinforced by the system’s ‘feedback’ mechanisms; an employee’s performance score appears on the screen as the next order is punched in at the order dispatch area, and failure to attain standard over the working week often results in ‘counselling’ and a methods review from a supervisor. Hence, the perception of surveillance is readily tangible. Such features are argued by employees to have resulted in a decline in workplace morale, reduced social interaction and increased job stress.

Workforce hostility has also been generated by the complexity of the engineered standards system. While the traditional ‘pick-rate’ (cartons or ‘picks’ per hour) was a crude measure of performance, it was also easily understood by employees, who could exercise some control over their work pace in order to attain the daily pick-rate target. Under engineered standards, however, because standards

warehouse managers have traditionally looked to the United States industry as a source of technological and managerial innovation. For example, the managing director of David’s Distribution (and a prime mover in that Company’s adoption of engineered standards) spent several years working for the Chicago-based Independent Grocers’ Alliance; see G. Korporaal, ‘No Longer All In the Family—Davids Ltd’, Australian Financial Review, 3 June 1994.

29. These being Davids’ Blacktown dry grocery DC, Woolworths’ Yennora and Moorebank DCs, and Franklins’ Ingleburn DC.
for each individual job order are calculated by the computer, based on a number of variables (location of each item, size, travel speed of the jack laden and unladen), the relationship between the number of cartons picked and the time allowed varies significantly from order to order. While a number of distribution companies have endeavoured to explain engineered standards to their employees, the limited nature of such explanations and the complexity of the system means that few if any workers (or indeed managers) truly understand how the standard times are actually generated. As a result, employees are asked to accept the accuracy of the system on trust. Not surprisingly, warehouse employees react with suspicion and distrust when they receive orders with similar numbers of cartons to be picked but widely varying allowed times.

There is also a clear perception among warehouse employees that expected levels of performance have increased significantly since the introduction of engineered standards. While mandatory ‘pick-rates’ prior to the introduction of engineered standards in a number of New South Wales warehouses were of the order of 100 picks per hour, anecdotal evidence from employees suggests that expected performance levels have risen on average to between 140 to 175 cases per hour, that is, an increase of at least 40 per cent. Such perceptions are borne out by employer expectations of increases in overall warehouse productivity of between 20 and 30 per cent as a result of the implementation of engineered standards. American evidence also points to the jump in work effort that accompanies the implementation of engineered standards. For example, one recent private arbitration decision found that the introduction of an engineered standards system in one warehouse resulted in an increase in average employee production of approximately 30 per cent.

Employee and trade union hostility to engineered standards has also been engendered by the potentially negative impact such a system may have on workplace health and safety. Anecdotal evidence from warehouse employees highlights the increased likelihood of accidents, given the increased pace of work under engineered standards. As has been noted in other industries where time-based performance standards and wage incentive schemes have operated, the drive to reach standard often results in employees taking short cuts and avoiding more time-consuming safe work practices. Examples have included employees engaged on order-replenishment duties driving their fork-lifts while raising or lowering their forks, employees driving forks or pallet-jacks at excessive speed, and

33. Most of the warehouse employers briefed employees on the introduction of engineered standards and provided a rudimentary explanation of what the system involved. The engineered standards system was also discussed in consultative committee meetings; Davids Blacktown, Consultative Committee Meeting Minutes 8 March, 7 April and 13 May 1995.
34. Warehouse employee interviews, 7 February, 11 and 15 June 1995.
order selectors letting their jacks ‘run on’ after dismounting to pick an order. 39
Added to this, the increased frequency of lifting required of employees engaged in
order selection under engineered standards raises questions about the increased
likelihood of lower back injury. A 1992 study by the United States National
Institute for Occupational Safety and Health found the job of order selection in the
grocery warehouse required a great degree of physical effort and was accompanied
by a high risk of lifting injury. Increases in the frequency of lifting are likely to
exacerbate these factors. 40 Interestingly, the Australian National Occupational
Health and Safety Commission’s draft code of practice on manual handling
acknowledges that electronic monitoring can place workers at risk of injury by
causing them to work at rates beyond their capacity, and recommends against the
use of such techniques. 41

More broadly, employees have also expressed concern over changes to the
employment practices of warehouse management that have followed the introduc-
tion of engineered standards. Workers cite general reductions in the size of
warehouse workforces, an increase in the proportion of casual to full-time employ-
ees, and a trend towards the employment of younger, male workers in preference
to older men or to women. 42 While this is an area that requires further research, one
hypothesis is that warehouse management are seeking to move towards a more
flexible (and possibly disposable) workforce that is physically capable of maintain-
ing the increased effort levels that derive from the engineered standards
system. As a number of older full-time employees have noted, casual workers are
more likely to strive to beat the standards, given that management might then offer
them a full-time position, and that failure to do so might result in a casual worker
not being called back for employment in the future. 43

Perhaps not surprisingly, given such potential negative effects, trade unions
representing warehouse employees have generally opposed the introduction of
engineered standards. Such a response has been strongest in New South Wales,
where, as noted earlier, a series of strikes and stoppages in protest against the
system led the former state minister of industrial relations to establish an Industrial
Commission inquiry into the effects of engineered standards on the health, safety
and welfare of warehouse workers. In New South Wales, the National Union of
Workers as the sole representative of warehouse employees has maintained a
strong policy of opposition to engineered standards, which it sees as harmful to its
members’ health and safety and an attack upon working conditions. In other states,
union reaction has been less adamant. While the South Australian, Victorian and

40. NIOSH, Hazard Evaluation and Technical Assistance Report: Big Bear Grocery
Warehouse Columbus, Ohio, August 1993 (HETA 91–405–2340).
41. See Worksafe Australia, Draft National Code of Practice for Manual Handling
2022–3, 2027, 2033.
43. Casual employees in the New South Wales warehouse industry are employed through
a number of private recruitment and manpower agencies. Regarding employee claims,
see ‘Engineered Standards’ transcript, 15 August 1995, pp. 2035, 2073; 18 August,
Queensland branches of the Shop Distributive and Allied Employees Association and National Union of Workers have opposed the concept of engineered standards, in general union officials in these states have accepted management’s right to introduce the system, subject to union officials being able to assess the fairness of the standards from time to time. Such acceptance of engineered standards has been formalized within a number of enterprise agreements, usually in return for a general wage increase.

Such a divergence of union strategy highlights the difficulties facing unions in determining how best to respond to engineered standards. In the United States the teamsters’ union went through a series of stages in its response to engineered standards. Initially, the union adopted a wait-and-see attitude. After some experience had accumulated under engineered standards and employees began to receive disciplinary action for failure to meet standards, a number of local unions decided to challenge the standards. However, union attempts to abolish engineered standards in private arbitration, on the grounds that the system itself was unreasonable, proved generally unsuccessful. A second, more limited strategy was to focus on cases of union members who had been disciplined under engineered standards systems. In these cases, the employer had the burden of proving before an arbitrator that disciplinary action was for just cause, and in many instances the union succeeded in reversing or reducing the discipline for employees. Importantly, however, such actions represented a largely piecemeal and defensive reaction to the engineered standards system. More recently, the teamsters’ union has sought to regulate the use of engineered standards in unionized warehouses. This has resulted in the union hiring its own industrial engineers to assist local union branches in audits of standards and the training of stewards and business agents in how to monitor standards, and to develop collective bargaining language to regulate engineered standards. In addition, the union has been actively joining other unions in seeking legislation to curb electronic performance monitoring, and in lobbying the United States Occupational Safety and Health Administration to adopt mandatory ergonomic standards.

44. See, for example, National Union of Workers and Franklins Limited Victoria, Warehouse Enterprise Agreement, (C. no. 35030 of 1994); Davids Distribution Pty Ltd—Loganlea and the Federated Storemen and Packers Union of Employees (Queensland Branch) Certified Agreement (no. CA224 of 1994); Davids VGD Pty Ltd and National Union of Workers Agreement (C. no. 20030 of 1995).

45. In these cases the union carried the burden of proof before the arbitrator. See Lund, ‘Computerized Work Performance...’ pp. 201–3.

46. For elaboration on the concept of discipline for ‘just cause’, see F. Elkouri and E. Elkouri, How Arbitration Works (Bureau of National Affairs, Washington DC, 1985). A good example of such a union victory is Orville Products 88 LA 204 (Dworkin, 1987), where, in the arbitrator’s words, several employees were ‘disciplined strictly by the numbers, without inquiry as to why the shortfalls occurred. Such discipline necessarily dispenses with the employer’s obligation to assess cause and mitigating factors.’ No enquiry had been made in this case into extenuating factors or explanations, nor had the grievants received any instruction as to how they might meet the production standards. The arbitrator therefore upheld the grievance in the union’s favour.

47. The warehouse division of the teamsters’ union is also currently involved in a media campaign to educate the public about the problems faced by warehouse workers.
However, there are limitations to the extent to which a union can meaningfully regulate an engineered standards system. As has been highlighted, the generation of time standards under engineered standards is a very complex process. Union regulation of the fairness of standards requires not only trained industrial engineering and ergonomic expertise, but also a well-developed shopfloor practice of record-keeping and open access to employer records of standards generation and employee performance. To maintain such procedures is not only costly, but also relies on trained and vigilant stewards and organizers; the North American example suggests that unions are generally unable to match employer resources in this area. As a result, unless supported by detailed legislative or arbitral codes of practice, union attempts to regulate engineered standards systems are likely to be ineffectual.

Conclusion: International best practice and management control
In a manner reminiscent of Australian manufacturing employers almost half a century ago, warehouse managers have looked to the guiding light of American industrial practice and scientific management as a means of minimizing labour cost and maximizing labour application.\(^{48}\) The stopwatch and the data card have returned, although in a newer, computerized guise. Indeed, the combination of computerization and work measurement result in a far more powerful form of management control—a combination of George Orwell and Frederick Taylor—in which each individual employee’s work effort can be monitored instantaneously at the push of a computer key.

Clearly there are a number of factors that highlight the atypicality of this case study of workplace reform. The implementation of engineered standards and the associated computerization of the warehouse is an extremely costly exercise; as a result, only very large enterprises with significant financial resources are likely to adopt these systems. Moreover, industry-specific features such as the highly competitive nature of grocery distribution, the rapid expansion in consumer demand for grocery products, and the centrality of labour cost and product throughput to the financial bottom line of the warehouse have played an important part in the development of the engineered standards system of worker control. However, while such classically Taylorist techniques (detailed work measurement, job analysis and related wage incentive schemes) may be limited in their general applicability, the engineered standards example does mirror a variety of other studies that suggest a new era of managerial surveillance of working time and employee effort.\(^{49}\) Such examples highlight a number of deeper conceptual weaknesses in the


broader public policy of contemporary workplace reform.

‘International best practice’ has become the productivity slogan of the 1990s. ‘Best practice’ management is open to a variety of interpretations, however. We would argue that, rather than there being a singular model of workplace reform, there are a variety of options open to employers in the drive to increase productivity. While government, employer associations, trade unions and other observers have emphasized ‘high trust’ visions of workplace reform in the rhetoric of common interest, workplace co-operation and mutual gain, this ignores the fact that the “best practice” model is far from homogenous. One example of this is the innate tension within ‘best practice’ literature between the ‘hard’ management tasks of strategic planning, organizational restructuring and performance measurement and the ‘soft’ employee relations concepts of consultation, commitment, empowerment and teamwork. While some employers may well seek to overcome this tension by sacrificing some of the ‘harder’ elements of reform in favour of the ‘soft’, there appears to be no logical reason why all or most employers should follow this path. If the end goal of workplace reform is productivity improvement and profit maximization, many employers may well opt for alternative ‘low trust’ strategies, in which employee obedience with management goals is demanded, control over work effort is closely monitored, and employees who fail to attain such goals are disciplined or dismissed. As is the case in grocery distribution, such a trend may be particularly apparent where foreign technology promises significant reductions in labour costs and is easily transferable, and where the costs of its implementation (both financial and industrial) can be minimized. Indeed, recent surveys of the effects of workplace restructuring suggest that such ‘low trust’ forms of labour management are an increasingly common phenomenon in Australian enterprises.

At the end of the day, the reality of workplace change is determined by management, subject in some cases to the resistance of employees and their trade unions and the possible limitations of state regulation. As the case of grocery distribution demonstrates, stripped of its common interest rhetoric ‘best practice’ management essentially involves a search by employers for better ways to intensify work effort, reduce labour costs and centralize control over the labour process. The term ‘best practice’ therefore begs the larger question—best for whom?


51. A recent survey of 11,000 employees found 60 per cent claiming an increase in work effort and job stress. Many also argued there had been a decline in job security and promotion possibilities and that they were given little say in decisions that affected their working lives; see DIR, Enterprise Bargaining in Australia: 1994 Annual Report, AGPS, Canberra, p. 376. A smaller Worksafe-sponsored survey of organisations undergoing restructuring found 60 per cent of respondents claiming that they had been ‘bullied’ by management threats, verbal abuse and intimidation; see R. Gittens, ‘Enterprises Can’t Cope With Change’, Sydney Morning Herald, 18 September 1995, pp. 21–2.