

PRODUCTIVITY INDICATORS AND CHALLENGES IN NEW ZEALAND WORKPLACES

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Abstract

As part of a government initiative, the Department of Labour's Workplace Productivity Working Group has been charged with the task of stimulating debate and broadening the discourse on workplace productivity. The Department of Labour has also supported research into how New Zealand businesses are responding to the productivity challenges they face. This paper presents findings from two studies that were part of this research agenda. In particular, the paper reports on the experiences of individual business case studies, (predominately SMEs), of introducing and maintaining initiatives designed to raise workforce productivity. Analysis of the data reveals a number of key themes: catalysts and drivers for change; distinctive characteristics of high performing firms; differing characteristics of the case studies; and barriers to introducing productivity initiatives and some solutions. The findings also indicated that in practice, efficiency increased both through innovation and a realignment of activities, with higher value added than those conducted in the past. However, there is an inherent tension within these and other similar studies that cannot easily be resolved. One on the hand, employers are striving to obtain increased worker performance and gain more productivity while on the other hand they are driving their employees to work longer, harder and more effectively often in extremely hazardous conditions. Thus, it would appear that efforts to increase productivity can have contradictory results.

Introduction

There has been an infinite fascination with increasing employee performance and productivity in which the likes of Frederick Taylor have generated a plethora of studies and influenced generations of managers. The measurement of productivity and performance, however, is typically described by a narrow set of output or budget indicators and is dogged by dichotomous perspectives – that is, increased productivity has either positive or negative affects on the labour force.

The level of New Zealand's labour productivity has also been a source of debate in which there have been persistent claims from the business community that our

labour productivity is much lower than in many other similar OECD countries. It has been argued that New Zealand's growth has been driven to a large extent by growth in the labour force with labour productivity growth playing a much less significant role. This perception has led to a preoccupation with increasing labour productivity on many levels and resulted in the introduction of the Employment Contracts Act, 1990. However, it could also be argued that productivity levels are based on comparisons of macro economic data and may not be indicative of the efficiency of individual workplaces within the context of small scale activities.

This paper reports on two studies undertaken between 2004-2006 that were part of a wider research agenda on

workplace performance and productivity – namely ‘Addressing Productivity in Eight Workplaces’¹ and ‘Understanding the Link Between Workplace Health and Safety and Firm Performance and Productivity’. In particular, the paper commences with a brief overview of the literature and research background on the activities of the New Zealand’s Department of Labour’s Workplace Productivity Working Group. The Department of Labour provided the impetus for and the facilitation of this research agenda as well as framing the rationale for the studies. The paper also provides an outline of the primary research methods used. The main focus of the paper, however, is to discuss the underlying issues surrounding productivity and to highlight the key emergent themes from both studies, which are: the catalysts and drivers of productivity, the distinctive characteristics of the high performing firms; the differing characteristics of each of the case studies; and the barriers and some solutions to introducing productivity initiatives.

Background

The literature on productivity represents a diversity of opinions and a range of disciplines resulting in entrenched biases. In spite of this heterogeneity, the literature can be arranged around three distinct questions, that is: 1) what constitutes “productivity”?; 2) how to increase productivity?; and 3) how to measure the subsequent productivity gains? Within each of the three groups there is a great deal of debate. For example, when identifying what is “productivity” there is disagreement over whether or not to include unpaid work in the equation. The subject of how to increase productivity is also contentious. While there are some that would argue that increasing productivity and performance are critical in maintaining business competitiveness (NZIER, 2004), others have focused on the health and safety risks posed by these trends (Landsbergis, 2003:61; De Greef, Van den Broek, 2004). Quinlan (1999:427) summarises the impact of these recent changes:

‘Over the past 20 years the labour markets of industrialized countries have undergone a series of profound changes. These changes have been associated with significant changes in work processes but until recently no attention was given to the consequences of this for occupational health and safety (OHS)... available evidence indicates that labour market restructuring is having a significant (adverse) but often hidden impact on OHS. In many cases, these effects are compounded by competition, labour market and health care policies introduced since in the 1980s.’

Debates over what initiatives will increase productivity and how to measure the subsequent gains have tended to be more about disciplinary preferences and the suitability (or lack of it) of measurement tools. However, there is general agreement that there is a need for more empirical research.

In response to the international and national interest in how to increase performance and productivity, the Department of Labour commissioned a report in 2004 entitled the “Workplace Productivity Challenge” which concluded that: “there was a need to work together to improve workplace productivity”. As a result the Workplace Productivity Reference Group (WPRG) was established in 2005 and comprises of representatives from industry, business organisations and trade unions. Its brief is to implement the recommendations in the WPWG report and to stimulate debate and broaden the discourse on workplace productivity. As part of this process, the Group, in conjunction with the Department of Labour, have developed a research agenda which incorporates the three primary areas of productivity:

- Labour productivity – refers to the quantity of output produced by a given quantity of labour input. It is driven by the amount of capital available to workers, e.g. equipment, as well as multifactor productivity.
- Multifactor Productivity (MFP) – refers to the way that labour and capital are combined to produce goods and services (also called total-factor productivity). It is driven by economies of scale, technical progress and the adoption of best practice.
- Workplace productivity – refers to how firms can utilise labour and skills, innovation, technology and workplace organisation to improve the quantity and quality of their output.

As stated above, the two of the studies reported in this paper are part of the Department of Labour agenda into productivity. The central aim of both studies was to identify what motivates businesses to implement initiatives that may increase productivity, but which the beneficial outcomes cannot be guaranteed. In particular, the objectives of the first study were to:

- Identify the practices firms have adopted to increase their productivity;
- Explore why these practices have: i) worked; and ii) not worked;
- Understand how the firms in the study measure success;
- Identify barriers to the adoption of practices that could improve workplace productivity; and
- Identify possible solutions and strategies to overcome the barriers.

In the second study, the focus was on investigating the link between the implementation of occupational health safety policies and practices and increased individual performance and overall productivity. The objectives of the second study were to:

- Investigate whether or not a good working environment contributes to increased performance and productivity;
- Identify (if any) the gains with regard to these links between workplace health and safety interventions and firm performance and productivity; and
- Examine the NZ and international evidence to show the link(s) between a good working environment and productivity/performance.

Methodology

In both studies, a qualitative approach was applied in which case studies were developed and face-to-face interviews with participants were the primary source of data collection. The case studies were selected from the private sector businesses to represent a variety of commercial environments in terms of industry, organisational size and location. In the first study, 'Addressing Productivity in Eight Workplaces' 10 case studies were approached and eight cases agreed to be involved in the project. In the second study, 'Understanding the Link Between Workplace Health and Safety and Firm Performance and Productivity', 25 preliminary case studies were developed and from this basis, 12 extensive cases and corresponding fact sheets were written. Appendix 1 provides an overview of the type of businesses that were involved in the two studies.

In order to assist in standardising the information collected, a semi-structured interview schedule was developed to guide the initial interview. This schedule was designed to assist the interviewer to:

- Identify those initiatives and/or workplace practices which have increased employee performance and productivity; and
- Explore why these initiatives have enabled the firms to realise productivity improvements, and why other initiatives have not;
- Understand how the firms in the study measure success of the initiatives;
- Identify perceived barriers to the adoption of initiatives that could improve the working environment and workplace productivity; and
- Identify solutions and strategies used (or proposed) to overcome barriers.

In focussing the discussion on productivity, interviewees were directed to the seven sources of productivity growth identified by the WPWG, namely:

- Building leadership and management capability;
- Investing in people and skills;

- Creating productive workplace cultures;
- Organising work to promote workforce participation and good quality jobs;
- Encouraging innovation and the use of technology;
- Networking and collaborating; and
- Measuring and reporting practices.

Underlying Issues Surrounding Increased Productivity

There were a number of issues surrounding the drive to increase the level of performance and productivity. The first issue is: "Who benefits from increases in productivity?" And in this regard, there is an inherent tension within the literature and the case study data that cannot easily be resolved. The pressure for firms to become more productive, and thus more profitable, has historically been transferred to the employees who are expected to work longer, harder and often with poor wages and conditions (Mayhew, *et al.* 1997; Mayhew and Quinlan, 1999; Lamm, 2000; Dorman, 2000; Quinlan, 2001). In short, implementing measures, including OHS, to increase productivity may create the opposite effect, as Goetzel, *et al* (2001:211) notes:

"Instead of feeling empowered, [workers] may feel ... uncomfortable about their new job demands...They may experience increased stress, more worry about their job tenure, heightened feelings of detachment, and diminishing motivation to perform at peak performance...Low morale and poor attitudes about work can become contagious and infect fellow workers, further exacerbating individual productivity and bring about increased turnover and general organisational malaise."

The second and emerging problem identified in both the literature and the findings of the two studies is *how to change the entrenched attitudes* of some managers towards productivity reforms? Shearn (2003:iv) warns that it is very difficult to get employers to commit to investing in better working conditions in which there is no certainty that there will be the corresponding increased profits. O'Donnell (2000), and Cowley (2006) also argue that a more persuasive argument is required if managers' behaviour is to change, and that it is easier to justify introducing measures that may enhance productivity if it can be shown to increase profits.

The third problem is *how to evaluate* the success or otherwise of the productivity initiatives. Smallman and John's (2001) argue that there has been a plethora of articles (both popular and scientific) almost entirely concerned with inventing and promulgating programmes aimed at increasing productivity with little scrutiny of the efficacy of such programmes. In many of the case studies

investigated there also seemed to be a lack of robust and coherent productivity measurements and a reliance on the 'bottom-line' as the only measurement. However, most interviewees could detail what they felt were the benefits of the intervention measures for their firms. But, fewer could describe the benefits in the context of productivity and/or improved firm performance – and some of these viewed any gains as incidental.

There is general agreement in the literature that when evaluating a particular intervention, data on productivity should be collected using a variety of means: self-reporting, archival sources, or mixed methods. Oxenburgh and Marlow (2005:211) note that in order to determine whether or not there have been economic benefits as a result of an intervention, it is necessary to gather data on the direct and indirect costs from a range of sources – namely:

- *Employee Data*: this includes the number of employees, their working time and wages, overtime, training and production costs;
- *Workplace Data*: this includes supervisory costs, recruitment, insurance, and other general overheads, maintenance, waste, and energy use; and
- *Intervention Data*: this relates to the costs associated with the intervention, for example, consultants' fees, disruptions, errors, etc.

Evans (2004), however, warns that measuring productivity is demanding and fraught with difficulties. In particular, while self-reporting may be valuable when there is no other suitable source of data or when the data is too costly to obtain, it is nonetheless based on the subjective reporting of the employer or employee. In terms of validity, archival data is the preferred source, however, not all employers collect archival data and frequently the data is limited to a sample (Evans, 2004).

The third problem highlighted was the *barriers to introducing productivity initiatives*, particularly the costs involved. Many of the interviewees noted that the costs of gathering information and implementing initiatives to improve productivity often outweighed the benefits, especially in the short-term. Moreover, as most of the case studies were small businesses, there were not the economies of scale to warrant implementing productivity initiatives. Resistance to change not only by employees but also management, directors, suppliers and customers were seen as another barrier. Once the firm had implemented productivity measures there was also no guarantee that other competitors would not replicate the changes with fewer transactional costs. However, interviewees from the high performing case studies argued that these "spill-over" costs were tolerable if it meant that industry standards were raised. While the barriers to introducing productivity initiatives were primarily concerned with costs, the other substantial barriers identified were the current tight labour market and perennial staffing problems. In essence, introducing productivity initiatives involves risk for the company and

may impact substantially on both the management and employees alike.

Although none of the case studies demonstrated a complete solution to overcoming the barriers, analysis of the data identified key mitigating factors – namely processes, systems, people and organisational culture and, more interestingly drew attention to the rubric of performance, workplace productivity and the health and safety of workers. One of the primary factors was the existence of a process for reviewing, modifying and deploying productivity measures. The availability of the requisite skilled personnel to manage the changes was also seen as a critical factor. The final factor was the presence of robust measurement systems that enable the collection, analysis and reporting of appropriate data as well as the universal acceptance by all staff that such systems were critical to gauge the success, or otherwise, of the intervention(s).

Emerging Themes

Although there were a few specific findings peculiar to each of the studies, remarkably most of the findings were similar. These findings can be grouped into the following themes.

The first theme common to all the case studies was that each business experienced a *catalytic event(s)* that precipitate drastic changes and/or the business owners faced ongoing problems that drove them to review the way they managed their company. The most frequent examples of catalytic events were: a traumatic incident, (e.g. a serious injury/illness/fatality or plummeting profits); a significant business juncture (e.g. a merger, growth plateau, etc.); increased competition and the lack of economies of scale; and an epiphany regarding the need to change and improve (or "face the consequences"), which in the case of the small business owner meant re-evaluating the way they managed their business.

The second theme was that there were a number of key *driving forces* for change that aided an increase in productivity. Typically, these driving forces were in the first instance about responding to internal and external factors, especially the need to recruit and retain good staff within the context of a tight labour market and shortages of skilled workers. There was also recognition amongst the interviewees that the workforce is changing – that is, it is becoming more culturally diverse; feminised and older – and that traditional motivation techniques may no longer be sufficient to simulate increases in productivity. The need to continually manage changes in the marketplace, for example exchange rates, the rise in oil prices, regulatory reforms, etc., were also identified drivers for reviewing how processes could be improved in order to increase profits. The key ingredient of those businesses which had substantially increased their productivity and profits was competent senior management who were demonstrably committed to ensuring the welfare of their staff and who supported ways of improving the quality of the working environment.

The third theme identified was that those businesses that had improved productivity gains also shared a number of *common features*. In particular, senior management had created a 'high trust' workplace culture in which quality and innovation were celebrated. Managers in these high-performing businesses also established long-term business and community relationships in which they took leadership roles not only in business but also the community; for example coaching sports teams and committee members of their trade/industry associations. The management in these businesses all shared the same human resource management style. That is, they had a "pastoral care" approach towards their employees and were critical of rival businesses that focused on short-term, exploitative practices towards employees and customers. Linked with these altruistic practices were procedures that ensured productivity improvements matched the needs of employees and their customers.

The fourth theme to emerge was that although there were some similarities between the managers of high-performing businesses, there were *distinct differences* amongst all the managers interviewed. In particular, analysis of the data revealed quite disparate styles of management which can be categorised in the following way: *autocratic* (emphasis on individual performance); *paternalistic* (pastor, coach); and *democratic* (delegation, participation). There was also differing *locus of control* as a means to increase productivity, namely financial, budgetary, inventory, operations, IT, and quality. Interestingly, the case study data indicates that there may be a link (albeit tenuous) between the differences in emphasis of control and the different management styles. For example, the autocratic managers interviewed appeared to be more focused on budgetary and financial controls as a way of increasing productivity than other aspects of the business while the managers who displayed a more democratic approach were more interested in quality controls to increase employee performance and productivity.

The final theme is that there are *different approaches to conceptualising productivity*. The cases reported upon here are indicative of the different approaches to productivity and what is required to implement productivity measures that will have beneficial outcomes. These different approaches are represented in Table 1. The table can be read across in rows (which makes it possible to contrast different approaches to single components relating to the conceptualisation of various elements of the health and safety – productivity nexus) as well as down in columns to represent a 'profile' of perceptions and behaviours that typically coincide with each other.

This table suggests that there is a *continuum of approaches*, with some managers conceptualising implementing productivity measures, such as health and safety, simply as a cost to the firm. In these firms, the budget line will be clearly labelled, say "health and safety", and all expenses will be viewed in this context. By contrast, others see productivity measures quite explicitly as an investment in the firm's overall performance and its future survival.

Table 1: Different approaches to conceptualising health and safety.

<i>Conceptualised as:</i>	Cost	Leverage	Investment
<i>Implemented as:</i>	Policy	System	Strategy
<i>System is:</i>	Cut and paste	Integrated	Holistic
<i>Perceived as:</i>	Rule	Compliance	Choice
<i>Linked to:</i>	Operations	Mission	Vision
<i>Productivity link:</i>	Unarticulated – Weak	Implicit – Medium	Explicit – Strong

The different ways in which productivity is conceptualised appears to have a fundamental impact on the way managers *implement* productivity measures: Those who viewed productivity measures primarily as cost reducing exercises were more likely to operationalise it through a formal administrative procedures as well as systems replicated from templates (i.e. 'cut and paste'). By contrast, those who saw measures to increase productivity as an investment (for example, worker participation, health and safety procedures), tended to have a more strategic approach to its operationalising, and were more likely to develop holistic systems that were integrated with the firm's existing systems. The table also helps explain the differences in the way the interviewees reported on the links between health and safety and productivity. That is, those with a 'cost' attitude were less able to articulate a link – and when they did talk about it, the general perception was that the link between health and safety practices was weak. By contrast, those with an investment attitude were more readily able to articulate the link and to describe it as being strong.

Conclusion

Introducing initiatives to increase productivity is complex and may not necessarily deliver the desired productivity gains and increased profits, especially in the short-term. As noted above, there are key issues that need to be acknowledged and if possible resolved. The most significant finding of this research is that crucial ingredient of increased productivity is the *quality of labour* and if there is a tight labour market, ensuring the continuous supply and retention of qualified and reliable staff becomes problematic. Moreover, the productivity achievements observed in the case study firms are frequently linked to the willingness to move beyond a narrow employment relationship of master and servant. In spite of the problems of introducing measures to increase productivity, there were demonstrable benefits that not only enhanced management practices, improve the working environment but also deliver productivity and profit increases.

Future Research

Although the studies outlined in this paper provide some insights into how to best achieve increases in productivity and the issues surrounding the implementation and conceptualisation of "productivity", there is still a need for further research. In particular, a closer examination is required in the area of how best to evaluate productivity

measures to ascertain if there is a causal affect to an increase in productivity. In addition, orthodox research has tended to focus on how best to change entrenched employee attitudes and has given little attention on how to change *employer* attitudes. Finally, there is a need for a more vigorous discourse on who actually benefits from increases in productivity and what impact these increases will have not only for employers but also employees and the wider community.

Note

- 1 The report 'Addressing Productivity in Eight Workplaces' can be viewed at: www.dol.govt.nz/workplaceproductivity

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Appendix

Table 1: An Overview of the Case Studies.

Industry		Size	Location
(A) Transport and Distribution			
	A1	200	Nelson
	A2	1	Taupo
	A3	150	Auckland
(B) Building and Construction			
	B4	40	Auckland
	B5	15,000	Auckland
	B6	3,000	Auckland
	B7	30	Pukekohe
(C) Engineering			
	C8	69	Feilding
	C9	25	Timaru
	C10	160	Auckland
(D) Hospitality and Tourism			
	D11	1,600	Auckland
	D12	30	Queenstown
(E) Manufacturing			
	E13	5	Auckland
	E14	5	Dunedin
	E15	25	Auckland
	E16	55	Kerikeri
	E17	12	Wellington
	E18	300	Kawerau
	E19	10	Auckland
	E20	5,700	Invercargill
	E21	27	Winton
	E22	25	Morrinsville
	E23	37	Napier
	E24	70	Hastings
(F) Service (including IT)			
	F25	200	Hamilton
	F26	28	Auckland
	F27	60	Wellington
	F28	78	Auckland
(G) Agriculture and Agricultural Servicing			
	G29	60	Te Puke
	G30	80	Rotorua
	G31	2	Rakaia
	G32	1,100	Hamilton