

## **Post Occupancy Evaluation and Workplace Productivity**

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**Abstract:** *Post Occupancy Evaluation (POE) involves the systematic evaluation of user satisfaction with the facilities provided, usually in respect of users' work environment. POE traditionally concentrates on the built environment itself rather than concurrent changes to work process and work culture, which frequently help to drive the changes to the built environment. POE tends to assume that productivity improvements will automatically flow from built environment improvements, with benefits being couched in terms such as "benefits to the organisation through improved design decisions and resultant better quality buildings"; "human benefits through avoidance of problems that are obstacles to the effectiveness and enjoyment of workplaces"; "professional benefits through professionals making better-informed design decisions". The traditional focus seems to be on user appreciation of the design professionals' efforts, rather than on the, arguably more important, achievement of the organisation's productivity goals.*

*This POE study of four newly-altered branches of a financial institution was conducted by researchers familiar both with changes to the built environment and desired changes to work processes and work culture. The study sought to find the links from built environment, work process and work culture change to productivity, as well as to staff satisfaction. The results indicate that the design intent to create branches that have a focus of providing more value added services achieved its productivity goals. The results of improvements in measures of workplace culture, such as staff having a sense of belonging and a feeling of empowerment were more equivocal.*

## **Introduction**

This paper examines the concept and practice of post occupancy evaluation (POE) by reference to both the literature and practical application to a retail financial services organisation in Australia.

The attitudes of affected staff to their new accommodation and their own and their supervisors' views on their productivity are examined. This determined staff attitudes to the accommodation change and whether there had been a staff productivity gain due to the branch refurbishment.

Questions are posed as to who is best qualified to conduct post occupancy evaluation – design professionals, business managers or both – and how post occupancy evaluation can isolate the effects of workplace design from the effects of changes in work procedures.

## **Post occupancy evaluation**

Post occupancy evaluation of productive buildings is, in the broadest sense, about the extent to which the buildings being evaluated meet the intended goals of its designers. Preiser (1988) identified three benefits of post occupancy evaluation as;

- Benefits to the user organization through improved design decisions and resultant better quality buildings,
- Human benefits through the avoidance of problems that are the obstacles to effectiveness and enjoyment of workplaces and,
- Professional benefits through design professionals making better informed design decisions.

Formal post occupation evaluation has its origins in the UK where the British Ministry of Education in conjunction with local governments first undertook evaluations of buildings in the post World War II period. The buildings evaluated were school buildings and resulted in a series of building bulletins for schools. The US followed in the early 60's with the Schools Construction System Development in California in 1961 (Preiser 1988)

In the 1980's there were significant advances in theory, method, strategy and application of post occupation evaluation. This was a result of the growing interest in this field and higher levels of accountability for both managers and designers. An important model of how the physical environment and organizational setting of the workplace influences the perceptions and behaviours of workers was developed by Marans and Spreckelmeyer (1981). Their conceptual model relates objective environmental attributes to subjective user perceptions and assessments of the effect of the work environment on occupant behaviour and overall satisfaction.

More recent writings on the impact of post occupancy evaluation emphasise the value of reviews to assess employee productivity, with issues of privacy, lighting, storage, and thermal comfort and project management being key components of post occupancy evaluation (Bordass 2003; Bordass & Leaman 2005; Nicol & Roaf 2005; Preiser 2002; Way & Bordass 2005). Post occupancy evaluation has been elevated in corporate thinking by the emphasis being placed on the contributions of workplaces to corporate productivity by the corporate real estate industry. Corporate real estate

executives have begun to provide the connection between design professionals, who have long known the potential contribution of workplace design, and business decision makers who are under increasing pressure to increase their organisations' overall productivity (Becker 1995; Sims et al 1996; Bon 1998; Osgood 2004; Hood 2005)

Significantly post occupancy evaluations have been used as a lever to gain employee buy-in for future upgrade works as they are able to demonstrate that in previous fit outs, a high percentage of staff were pleased with the outcome of the fit out. Post occupancy evaluation also sends a message to staff that the employer cares how they feel about their accommodation and cares that the staff feel the effort has achieved a productive outcome for staff and the employer wants to measure the extent of that improvement. The results of a post occupancy evaluation can identify the extent to which the design intent has been met and identify best practices that can be used to improve future designs (Forbes 2003). Post occupancy evaluation is not the end phase of a building or refurbishment project; rather, it should be an integral part of the entire building delivery process (Federal Facilities Council 2002). This of course assumes that the design or redesign of workplaces is driven by such goals in the first instance and that the effect of changes to the workplace can be separated from any accompanying changes to work procedure. These important qualifications were highlighted by the research case study undertaken.

### **Challenges facing the financial services sector**

Richard Bell (2003) from Financial Insights a US authority on trends in the financial services sector has reported that two broad forces are driving change within financial institution branch touch points. These are:

- continued cost pressure driving a demand for increased branch efficiency; and
- new services, products and a demand for improved sales performance being imposed on the branch.

Many retail banks and financial institutions are struggling with their branch networks. In the face of customers' continued preference for the branch, high branch delivery costs and the desire to replace aging and obsolete branch technology requires the branch to deliver non traditional products. This presents a compelling business case for the transformation of the branch to address the emerging product converged, customer focused, and multi channel financial services marketplace (Bell 2003). This demands physical changes to the branch, with staff being retrained and equipped to meet the demands of the new design and technology improvements. It also involves education of customers in the new ways of transacting their financial dealings such as via the internet. Further the branch of the future will leverage Internet and web technologies to create a much richer and dynamic delivery environment to the benefit of customers and branch employees (Bell 2003).

### **The financial services sector in Australia**

In the early 1980s the traditional bank-style branch was identified as the most expensive delivery channel for financial institutions. In an era where "economic rationalists" and shareholder returns reigned supreme, banks embarked on a

programme of branch closures in both city and rural areas in Australia and other parts of the world.

Banks abandoning their traditional customer base, increasing fees and closing branches caused wide spread customer disenchantment with the traditional financial services providers. This provided an opportunity for other financial institutions to gather up the disenfranchised bank customers by positioning their institution where they believed there was a need being ignored by traditional banks. This saw new participants enter the market. Not only did the new financial institutions such as credit unions occupy the traditional locations on the fringe of major shopping centres or strip shopping areas but many took their products direct to the membership and the pool of potential members by paying higher rents for prime retail locations, which the traditional banks had avoided as it further exacerbated the high costs of branches.

It was not enough for the new participants to simply move into the places abandoned by the banks. They had to provide branches that added value to the business of the customer and an important means of adding value to the customer requires the delivery of customer focused services in modern premises. These new premises and new approaches to work were seen to add to the productivity of staff in delivering services and enhance the value equation for staff in the form of higher levels of staff satisfaction with their role in the organisation. The new institutions' presence in the market established more competition for traditional financial institutions and saw many customers move away from the traditional banks.

According to a recent study by KPMG (reported in The Australian 14 May 2004 Pg23) banks and other traditional financial institutions are now heading back to the suburbs to rediscover their roots in what they had perceived as suburban wastelands, but are now being eyed as potential engine-rooms of growth. Their strategy is to build bridges into local communities as a service provider with an understanding of local needs.

### **The case study institution and its workplaces**

Whilst many of the newer financial institutions can offer a range of products and services, they have not been aggressive in marketing these and understand that more effort needs to be put into raising awareness of the benefits of membership and the competitive products and services available.

The need for better marketing, coupled with the wider geographical participation by the subject institution in the financial services market, has seen the first wave of its branch fit-outs reach the end of their useful lives. These branches served the institution well in its significant initial growth period. However the renewed branch level competition has challenged the institution's facilities managers to embark upon a programme to refurbish the premises in a way that provides maximum value to the firm, its membership and the staff.

A key for the institution when responding to these demands is to ensure that when it refurbishes branches, the outcome in each case is a well designed branch attractive to members and motivating to staff, resulting in increased staff satisfaction and productivity.

The investment in refurbishing branches of the subject institution involves a continuing investment of around \$1 million annually. The institution has more than 20 branches throughout SA and the Northern Territory and generally seeks to refurbish each branch on a 7-10 year cycle.

The refurbishment is fairly typical in that it involves more than a change of layout and refreshment of the organisation's marketing image; changes in technology and in the roles of branch staff are in fact the main drivers of the refurbishment, which complicates the post occupancy evaluation. The subject institution has moved from the traditional rows of teller stations to having a focus on simpler more secure teller positions with teller cash dispensing equipment (TCD's) that counts and dispenses cash to the staff member, similar to an ATM, with the process simplified and manual balancing of the session transactions eliminated. Some teller positions have changed to client consulting and marketing desks, to reflect the change in job roles from counter service to marketing. This involves a fresh new layout, and requires training staff in the new procedures associated with TCD's, as well as in the marketing aspects of their roles.

### **Relevance to the value proposition**

The subject institution has positioned itself in the market place as a provider of a full range of financial and wealth management solutions for its membership. It has developed mission statements that echo this strategic direction such as, "It's a good feeling to belong" and "it's not about the money." Each statement tells staff and members that relationships, value added services, and good products are an important part of managing financial affairs. It is therefore important that the channels that deliver these services support these strategies and add value to the business. A pivotal part of the branch channel is the productivity and value that the branch delivers to the business and the effectiveness of the staff and the accommodation in which they deliver services is the important vehicle that delivers that value.

The exodus of members from traditional financial institutions through branch closures and high fees in the 1980s showed that, whilst branches are an expensive delivery channel, internal research showed that customers still have a need for face to face contact through a branch of their financial institution. The challenge for the financial institutions that took up some of gap left by the banks has been to remain of relevance and value to members and continue to improve processes and profitability.

The subject institution considers that it would have been folly to step into the place of the banks offering the same low value, low return services. What was required was a different approach to customers, a different value proposition and a different style of delivery. A combination of a new face to the branch and Internet and phone bank delivery of services was seen as part of the answer.

### **Measuring value**

The subject institution has in place a series of financial indicators to determine branch and product performance. As it moves into the next cycle of branch fit outs, it is finalizing the financial models that will be utilized to measure branch profitability. However, it had not at the time of the study formally measured the adequacy of the branch refurbishments, to see whether the investment in refurbishment was providing a reasonable return to the institution in terms of improved staff satisfaction levels and

increased productivity. These are two important measures; while staff satisfaction is manifested to some extent in productivity, it also influences staff turnover, which has direct and indirect influences on profitability.

Basic financial indicators were considered for the purpose of this study but as they are largely influenced by general economic conditions such as interest rate movement, a federal election and local economic and employment conditions, it would be meaningless to draw conclusions from them about the effectiveness of refurbishment and other changes. Instead, other measures of efficient use of space and better performance of the organization and its employees were pursued. Theo J M van der Voordt (2003) identified a range of aims that are generally pursued. These include:

- Increased effectiveness (productivity)
- More employee satisfaction
- Positive image as a modern professional organization
- Attraction and retention of personnel
- More flexibility
- Lower costs.

It is these aims that have formed the basis of the research carried out for this paper.

### **Hypothesis**

The principal hypothesis adopted for this study is that an upgrade of accommodation to a modern fit out designed to meet the institutional business goals of increased efficiency and profitability will impact in a significant manner on the following:

- Staff satisfaction with their work,
- Employee productivity in the refurbished branch.
- Attitudes to the workplace and
- Customer service focus.

### **Methodology**

This study examined four recently refurbished branches of the subject institution through a questionnaire completed by staff who had worked in their branch both before and following the branch upgrade. The questionnaire concentrated on staff attitude and productivity. Interviews were also undertaken with managers to determine their attitudes to their old and new accommodation.

The four sites examined were refurbished in the 12 month period between July 2003 and June 2004 and at the time of the survey had been completed for periods of between 4 and 16 months. This period of time fits the model recommended by Nadasdi as reported in Tarricone's article "The power of POE".

The staff were asked to provide responses to a questionnaire of 20 questions concerned with productivity and staff satisfaction levels of the old and new accommodation. The questionnaire, in the majority of responses used a 7 point Likert scale providing the respondent the ability to select measures through the scale to indicate their degree of agreement with a position or view including a mid "neutral" point to indicate a neutral view. (1=low, through 7=high)

In addition, respondents were provided with a list of 10 features of the branch and were asked to rate the features on a scale of 1 –5 indicating the 5 best features of the branch both before and after the refurbishment. 1 was a measure of best feature. They were also asked to score the two features that were the least satisfactory in the accommodation before and after the works were performed. These scores were recorded by the number of times the item was scored and the average ranking that it was given.

The respective managers of each of the branches were interviewed after a review of the staff responses had been undertaken. The purpose of interviewing the managers was to determine whether, in the opinion of the manager, there had been noticeable changes in staff attitudes and productivity and the extent of the change. The managers' view was sought to assist in determining whether these changes could be related to the new accommodation or the technology and role changes that occurred at the same time, and the extent to which each contributed to the change in attitude and productivity.

Inferential statistical methods in SPSS were used to determine the statistical significance of the results. Responses were summarized in tables and statistical analysis of the before and after data tested, to determine any significant changes in ratings in post refurbishment variables. Paired sample T tests were performed and results graphically presented.

### Staff survey results

A total of 16 responses were received from the 42 staff employed across the four branches. This was considered a good response in view of the fact that around 15 of the 42 staff had not worked in their branch before the refurbishment and were therefore ineligible to complete the questionnaire.

To provide a measure of overall staff satisfaction, items measuring before refurbishment variables were summed, as were those measuring post refurbishment variables.



Figure 1: Mean Staff Satisfaction Before and After Refurbishment

As can be seen in Figure 1, there was a significant increase in staff satisfaction post refurbishment [ $t = 3.12, p < .01$ ]. Additionally, all staff indicated that they were not actively contemplating leaving their employment with the reviewed organisation before refurbishment, and this remained unchanged after the branch upgrades.

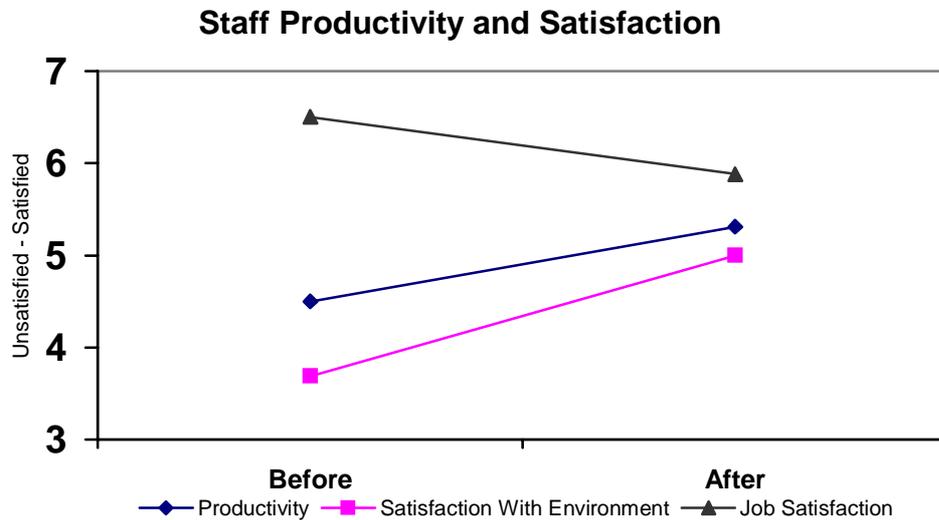


Figure 2: Mean Productivity, Job Satisfaction, and Environment Satisfaction Scores

As can be seen in Figure 2, there was a significant increase in subjective productivity after the branch was refurbished [ $t = 3.31, p < .05$ ]. There was also an increase in satisfaction with the working environment, though it was not significant. Interestingly however, there was an actual significant decrease in job satisfaction [ $t = 2.61, p < .05$ ]. This appears to confirm that post occupancy evaluation needs to try to separate the effects of the environment changes from the effects of changes in technology and job description.

### Customer Service Issues

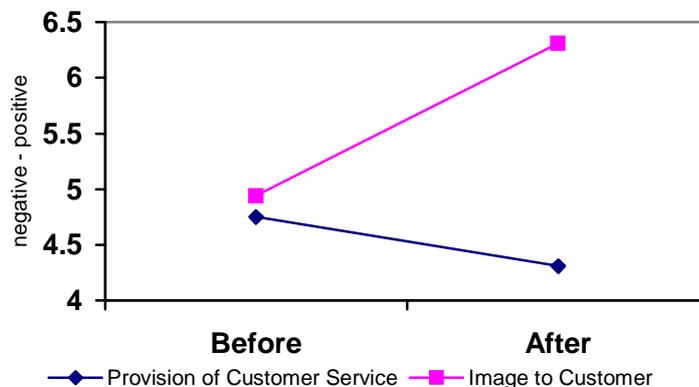


Figure3: Mean Ratings of Customer Service Issues

Subjective ratings of the ability to provide a high level of customer service was not significantly different, again probably reflecting the positive workplace effects being outweighed by the negative effect of coming to grips with new technology and changed duties. However, staffs' ratings of the institution's image presented to customers increased significantly after refurbishment [ $t = 4.56, p < .001$ ].

## Features Assisting Performance

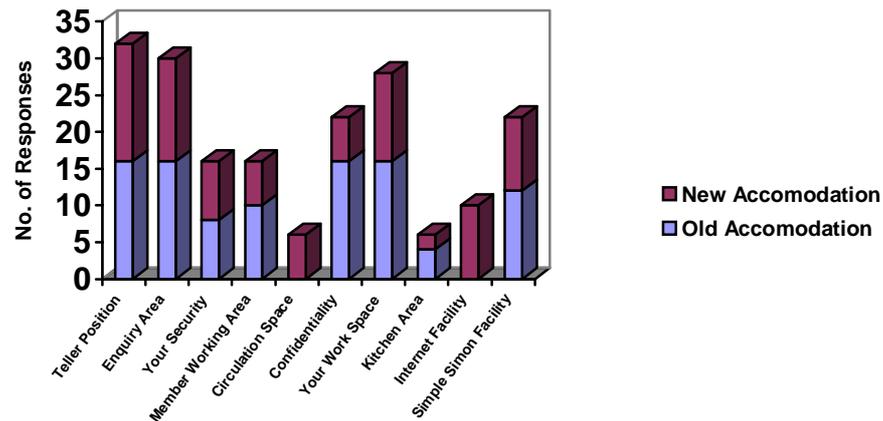


Figure 4: Staffs' Ratings of Assisting Features

Staff ratings both pre- and post-refurbishment provided an insight into the importance of and satisfaction with branch features. As could be expected the features that they rated most important were the areas where they perform the majority of their work, being the teller and enquiry areas. Kitchen areas were not rated as important in either the before or after assessments whilst circulation space and internet facilities only rated in the new branch, indicating that there was a marked improvement in these facilities in the upgrade.

Perhaps the most telling information to come from this question was the responses the staff provided to the two worst features of the branch both before and after the upgrades. In the before the upgrade survey, staff were more critical of the Internet facility. This reflects the position that these facilities had previously been retrofitted. After refurbishment, the Internet facility scored a strongly positive rating from 75% of the respondents and only 1 negative rating.

An absence of confidential interview facilities emerged as the most significant negative feature in the new fit outs with 6 negative scores whilst the member working area scored 8 negative scores. These being the dominant negative features suggest a need for more sound proof areas or better acoustic treatments and better facilities for members to prepare their money or cheques for deposits.

It was noted that some staff did not highlight any negative features in the new branches.

The response to the best and worst features of branches revealed some interesting results. This approach was pursued in the final question of the survey and is based upon Doidge (1987) who pursued a style of POE that identifies “mistakes” to turn them into positives for future projects.

From the responses it is clear to see that the areas where performance went backwards in the opinion of staff. These areas were:

- The member working area and
- Lack of confidentiality, although the presence of confidential facilities score well in the responses of some staff members.

Clearly there are mixed messages, although reactions generally indicate that attention needs to be directed at future upgrades to ensure these facilities are adequate and the reasonable expectations of staff are met.

The relationship that the institution has with its membership is high and the customer service culture that exists has been improved from already high levels through the branch refurbishments. The responses revealed a high score on staff views of the image of the branch before the refurbishments, with an initial score of 4.94 growing to 6.31 on the 7 point scale after the refurbishing of the branch, which is a very good outcome from the viewpoint of staff satisfaction with their employer and workplace. However, given the importance of this variable to the institution, post occupancy evaluation of variables with some customer focus should logically include customers.

### **Results from interviews with branch managers**

The attitudes of the four managers interviewed were all positive about the new branch accommodation. Each believed that the new fit out presented a modern 2004/5 style branch that reflected positively on their operation and positioned their product in the market place as emanating from a positive and progressive customer focused organization.

They offered the view that there was a progressive build in more positive outcomes from staff that took between 2 and 6 months to clearly materialise due to the introduction of new technology and working procedures at the same time as the fit out occurring. The take up of the new technology took several months before staff members were comfortable with the new procedures. This observation reinforced the difficulty in separating the effects of the accommodation changes from the effects of new technology and work roles.

Each manager was acutely aware of the need for the subject institution to be able to compete on a continuing basis in the financial services sector and saw the improved accommodation as a key part of their branch displaying a competitive and customer focused organization. They indicated that the new style branch and changed focus toward non cash transactions in the branch meant that they were armed with a better environment to deliver on the business need to improve sales and activities in product lines with better income generation potential.

Each shared the view that the new accommodation provided an impetus for completion of programmes to multi-skill staff to promote revenue generating products rather than the traditional roles of accepting and dispensing cash.

Managers expressed a view that whilst there was some negativity among them in relation to the changes, that was generally attributed to the changes in ways of working rather than the new environment. The latter provided them with an opportunity to be more proactive and sales focused in dealing with customers. Managers generally believed that staff also felt this empowerment, citing examples of some staff being more proactive in looking for customers to attend.

The managers were unanimous in their view that the new accommodation was widely acclaimed by members because it was new and showed an investment in the member's local branch. Managers shared the view that the investment positioned their branch more positively and allowed the branch to be more competitive in the local market place. They believed that the new accommodation caused deals to be secured more readily when a member may have been shopping around for a financial product, perhaps initially planning to get quotes from several financial institutions but settling on the subject institution due to the positive image created in the new fit out and the personalized service that was delivered in the new accommodation.

### **Conclusions**

The results of this study have both confirmed the expected results of post occupancy evaluation and highlighted the interdependence of the workplace, the work and the technology.

The hypothesis focused on positive indicators that were expected to be outcomes of the new accommodation in terms of the manner in which staff perceived the accommodation. The feedback from staff would indicate that the design intent to create branches that have a focus of providing more value added services through loans, wealth management advice and sales of insurance and other income generating products was achieving its goals. There is also less focus on transaction business with Internet, ATM's and phone banking filling those roles. This changed focus to sales and a customer focused approach was meeting the subject institution's value proposition of selling multiple products to members and strengthening the relationship with those members.

While the study has provided a useful measure of the staff view of the accommodation, it was concluded that it would also be useful for the organisation to conduct a formal survey of member's attitudes to determine if the style of accommodation and fit out meets the needs of customers.

While it is usual to think in terms of the workplace providing passive support for the work, the study also pointed to the potential for workplace changes to be the drivers of productive changes to work roles and the way those roles are carried out.

The methodology of this particular post occupancy evaluation highlighted some significant procedural issues that were independent of the results obtained. The subtle interaction of concurrent changes in the workplace, the nature of the work and the technology strongly suggests that post occupancy evaluation of the premises should be delayed until staff are trained and comfortable with the new technology and new work requirements. That observation also highlights the necessity for post occupancy evaluation to be designed and analysed by a multi-disciplinary team of people familiar

with the built environment, the work roles and work technology. The subject institution has since adopted these insights in the design and implementation of its formal post occupancy evaluation system.

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