Perceptions of the Measurability, Importance and Effects of Work Equity on Job Satisfaction and Work Motivation: An Exploratory Study of the Utility of Equity Theory

D.A.L. Coldwell
S. Perumal

Abstract

Adams’ Equity theory (Adams, 1965) suggests that employees’ perceptions of equity or inequity stem from individual comparisons with salient referents of individual personal-referent perceptions of work inputs to outcomes ratios. Although the theory has proven to be generally correct in showing that employee motivation is affected by the perceived ratio of work inputs to outcomes, there are several aspects that have not been sufficiently articulated (Cosier & Dalton, 1983; Robbins, 1994:457).

Using a cross-sectional correlation research design consisting of a sample of academics specifically aimed at exploring input equity perceptions and effects, preliminary findings indicate that:
Roughly half the respondents felt it was not possible to measure (define and weigh) academic workloads accurately and,

Respondents who felt that equity in workload was important (equity sensitives) also felt that inequities in work loads affected the job satisfaction and motivation of work colleagues.

Possible implications of these exploratory findings in terms of the original input/outcome model and the more recent model propounded by (Huseman, Hatfield & Miles, 1987) are discussed. The findings tentatively suggest that the precise ways in which particular individuals define and weigh inputs in themselves may have a bearing on the satisfaction and motivation of equity sensitive employees in a specific work locality.

Key Concepts

Equity theory, ratio of inputs to outcomes, benevolent, norm of equity, entitleds, equity sensitives, job satisfaction, work motivation equemes, equimport, equeffect.

Introduction

Although Adams equity model has attracted a large amount of interest among management theorists and the fundamental behavioural predictions of the theory have been supported (Duchon & Jago, 1981; Folger, 1977; Vecchio, 1981) its basic premise of individual definitions and weightings of specific input and outcome ratios compared with referent(s) have not been fully explicated (Robbins, 1994). The basic thrust of the current study is aimed to shed light on how individuals in a homogenous work environment (i.e. with employees doing
qualitatively similar work) regard the substance of the work they do as: quantifiable and measurable in terms of the comparative equity importance in work inputs and perceived inequity in inputs’ effects on job satisfaction and work motivation.

**Literature Review**

Adams equity theory (Adams 1963, 1965) focuses on the issue of fairness and equal treatment in organizations and the effects of perceptions of equities and inequities in inputs and outputs on specific workplace behaviour:

The key to equity theory is the ratio of inputs to outcomes. Inputs include all factors (education, effort, experience etc) that a person perceives as relevant in obtaining some return. Outcomes include all factors seen to be returns on the individual’s job investment. The value of the exchange to the individual, then, is a function of the outcomes to input ratio. It is from this ratio that the formulation of equity and inequity arises (Cosier & Dalton, 1983:312).

Adams theory suggests that people working in organizations form notions of the fairness or otherwise of their treatment in a four step process (Moorhead & Griffin, 1998). Employees first assess how they perceive themselves to be treated by the firm. Second they form a view of how another or others with whom they measure themselves are treated by the firm. Third they compare their particular circumstances with a referent that might be a specific individual or some persons or a generalized group which leads to specific perceptions of equity or inequity. Finally, feelings of inequity
or equity may lead (depending on their type and intensity) to specific behavioural outcomes

The theory maintains that an individual in a situation of equity, where the ratio of perceived inputs to outcomes is seen to be in equilibrium with a referent’s inputs to outcomes, will maintain the status quo so long as the individual’s inputs to outcomes and those of the referent don’t change. There are six general methods whereby individuals try to reduce feelings of inequity of the type delineated by the Adams’ equity model (Moorhead & Griffith, 1998). These can be listed as follows:

• The individual may change his or her inputs.
• The individual may change his or her outcomes.
• The individual may change his or her perceptions of their personal circumstances that have a bearing on their feelings of inequity.
• The individual may change his or her perceptions of the referent’s inputs or outcomes
• The individual may change his or her perception of a valid referent.
• The individual may disengage entirely from the situation generating feelings of inequity

The basic focus of empirical tests of the theory have tended to be restricted to payment;

… dealing with only one ratio, between pay (hourly and piece rate) and the quality or quantity of worker output given overpayment and underpayment (Moorhead & Griffin, 1998:147).
Empirical support for the theory has been good in underpayment situations and equivocal in overpayment circumstances (Cosier & Dalton, 1983).

Adams theory has been criticised on a number of fronts; In particular, Cosier and Dalton (1983) and Robbins (1994:457) suggest that the theory does not fully deal with:

- The dynamics of equity and inequity; i.e. when, how and why ratios of inputs to outcomes change over time.
- How employees define inputs and outcomes and,
- How employees combine and weigh their inputs and outcomes to derive totals.

Vecchio (1982), Cosier and Dalton (1983) have criticised the theory because it does not take account of time and relies on a static view of equity. They (Cosier & Dalton, 1982) suggest, for example that the effects of inequity may diminish over time and that this aspect needs to be reflected in the model. Or, an individual’s circumstances may radically change suddenly thus affecting feelings of inequity. For example, feelings of inequity may become more poignant because of major and unanticipated expenditure.

Perceptions of equity/inequity may also be affected by biographical factors. For example Carrell and Dittrich (1978) have indicated that gender, locus of control, spirituality and intelligence all have a bearing on feelings of inequity. And it has been suggested (Huseman, Hatfield & Miles, 1987) that people may have differential dispositions for feelings of inequity based on their ‘equity sensitivity’.
Moreover the ‘norm of equity’ which assumes that individuals are equally sensitive to comparative equity in their input/outcome ratios, may not necessarily be the case (Leventhal 1976), particularly as regards outcomes’ distributions which can be measured in terms of:

- Individual contributions vis-a-vis their input/outcome ratios (the equity rule).
- Individual needs (the needs rule).
- Individual equality irrespective of input (the equality rule).

In this regard, a novel perspective of equity theory has been devised (Huseman, Hatfield & Miles, 1987) whereby three types of individuals with differential sensitivities towards equity have been identified. As (Huseman, Hatfield & Miles, 1987:223) put it:

(a) Benevolents, those who prefer their outcome/input ratios to be less than the outcome/input ratios of the comparison other; (b) Equity Sensitives, those who conforming to the traditional norm of equality, prefer their outcome/input ratios to equal those of comparison others; and (c) Entitleds, those who prefer their outcome/input ratios to exceed the comparison others.

More recently (Greenberg, 1990) found in an investigation of employee theft as a reaction to underpayment equity, that groups whose pay had been reduced had significantly higher theft rates compared to control groups whose pay had been unchanged. He also found a moderating effect in the adequacy of the explanation of the pay reduction- where the reasons for the pay cut were adequately and sensitively explained group theft rates were reduced commensurately. The findings generally supported equity theory’s predictions of employee responses to underpayment situations.
Following the theoretical model suggested by (Huseman, Hatfield and Miles, 1987), according to (Allen, 2002), the latest view of the classical equity model suggests that it has its greatest predictive value of employee behaviour in cases focusing on equity sensitive groups.

The literature dealing with the concepts of job satisfaction and work motivation is voluminous and it is not the purpose of this paper to catalogue this in any detail. Working definitions that embrace the essential meanings of these concepts as used in this study are provide by Luthans (1998) and Moorhead and Griffiths (1998). Luthans (1998) defines motivation as behaviour that stimulates, energizes and directs individuals towards a desired goal. Work motivation is therefore behaviour that stimulates individuals to perform in the job situation. Moorhead and Griffith (1998:602) define job satisfaction as:

Luthans (1998) asserts that motivation is the process that arouses, energizes, directs, and sustains behaviour and performance. That is, it is the process of stimulating people to action and to achieve a desired task. The extent to which a person is gratified or fulfilled by his or her work.

The Problem Statement

The classical theory of equity has been found to be generally useful as an explanatory model however, it has been found to be practically wanting in predicting general employee behaviour (Allen, 2002). In line with these stated concerns, the current study explores the issue of how employees define and weigh work inputs per se and investigates the effects such definitional and weighing behaviour have on the job satisfaction and work motivation of employees. Specifically the study investigates whether perceived differences in the equity of job inputs, when compared with generalised (non-specified) referents’ inputs,
have a bearing on individual levels of satisfaction and motivation in the work situation. In order to do this effectively, the investigation focuses on a sample of academics’ perceptions of the measurability, importance and effects of perceived generalised referents inputs’ equity on job satisfaction and motivation.

A core difficulty in the practical implementation of the Adams equity model has been the fact that individual definitions of inputs/outcomes and referents are highly specific and dynamic, and that specific weightings attached to particular feelings of inequity are variable from person to person. In an attempt to surmount these difficulties, the current study attempts to measure individual perceptions of workload equity (inputs) in a relatively homogenous work setting (i.e. where individuals are doing qualitatively similar work and where referents are, therefore, clearly specified). Equity sensitive individuals are regarded as those individuals who feel that their inputs (workload) can be effectively defined and measured and who regard input equity as important. The study also explores the perceptions of equity sensitive individuals vis a vis the effects of input inequities on job satisfaction and work motivation in the workplace.

The study is limited to an assessment of perceived behavioural effects of input inequity and does not consider input/outcome ratios as such in the analysis. This limitation, however, is considered useful in that it allows a simpler, albeit partial, investigation of definitional (the feasibility of measuring input equity in a specific work locality), weighting (importance attached to input equity) and perceived outcomes of employee behaviour in a relatively homogenous work setting. The study is also limited by the small size of the sample (although reasonable representative of the population of academics in
the School) and, because of this, it is recognized that only tentative conclusions can be obtained from the analyses.

**Methodology**

The study utilises a correlation cross sectional research design. The statistical analysis utilized in the study incorporates descriptive statistics and correlation matrices. It adopts a quantitative approach but incorporates an open-ended (qualitative) section to the measuring instrument questionnaire. The questionnaire consists of three measuring instruments utilizing a five point Likert-type format ranging from ‘strongly agree’ to ‘strongly disagree’ that aimed to measure perceptions of:

- The possibility of measuring (defining) comparative academic workloads (inputs) accurately.
- The importance of attaining academic workload equity.
- The effects of academic workload inequities on job satisfaction and work motivation.

The questionnaire also incorporates an open ended question which aims to elicit respondents’ feelings regarding the general merit/demerits of attempting to define, measure and implement workload equity in an academic environment. For example, items: such as: ‘Any attempt at measuring equity in academic workloads is bound to fail’; ‘Inequities in academic workload are of little concern to me personally’ and; ‘The job satisfaction of academics in the School is largely a matter of equity in work load distribution among academic staff members’; aim to measure equity measurement (Equmes), equity importance (Equimport) and equity effects (Equeffect) respectively.
Each scale was subjected to Cronbach Alpha tests of internal consistency and the coefficients obtained are indicated in Table 1:

<table>
<thead>
<tr>
<th>Scale Name</th>
<th>Number of items</th>
<th>Cronbach Alpha Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equmes</td>
<td>5</td>
<td>0.854</td>
</tr>
<tr>
<td>Equimport</td>
<td>5</td>
<td>0.840</td>
</tr>
<tr>
<td>Equeffect</td>
<td>5</td>
<td>0.666</td>
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</table>

Table 1: Cronbach Alpha coefficients of the measuring instruments

Table 1 indicates that both the Equmes and Equimport scales attain a high level of internal consistency, while the internal consistency of the Equeffect scale is considered acceptable for purposes of an exploratory study utilizing a small sample. To test the construct validity of the scales the data was exposed to a factor analysis utilising a varimax rotation to obtain a simple structure. Although the Kaiser-Meyer-Oklin MSA was middling to poor (MSA=0.475), given the size of the sample and the fact that Bartlett’s Test of Sphericity (p=0.000) suggested that significant relationships between the variables was evident, it was decided to proceed with the analysis. Four components emerged from the rotated component matrix using principle components analysis as the extraction method and quartimax with Kaiser normalization as the rotation method. The four components explained 78.85% of the variance with components 1, 2 and 3 explaining 29%, 24.5% and 13.2% of this respectively. Three interpretable components emerged from the analysis corresponding to the three scales, with items loading under each of the components in the expected manner. The fourth component loaded most prominently (0.727) on the Equeffect measuring instrument’s
item 4: ‘The job satisfaction of academics in the School is largely a matter of work in work load distribution among academic staff members’ which expresses the underlying dimension of this component most strongly. However, this item also loads 0.332 on component 2 where it is more readily interpretable alongside two other items from this scale (Equeffect) which load 0.638 and 0.824 under this component. Initially the questionnaire was sent electronically to all permanent academic staff members in the School with the intention of obtaining a census of all 50 odd members rather than a sample. However, non response led ultimately to obtaining 25 useable questionnaires. This is considered a reasonably representative sample of academics in the School. To ensure anonymity, the questionnaires were sent electronically by the School secretary to each permanent academic staff and returned to her either electronically or as hard copies. Hard copies were made of the electronic versions by the secretary before transferring them for data analysis. The questionnaire was also subjected to scrutiny by the University Ethics Committee before being released for use in the investigation.

Findings

Tables 2-6 give the findings of the statistical analyses involving descriptive statistics of measurements of statistical indices of central tendency, dispersion and distribution and percentage distributions of the three measuring instruments. The inferential statistics utilizing product moment correlation matrices are displayed in Table6. Table 2 indicates the findings of the descriptive statistical analyses for the three measuring instruments.
Table 2: Descriptive statistics of the measuring instrument scores

The total maximum possible score for each of the three individual measuring instruments was 25 with a minimum possible score of 5. Table 2 indicates that the mean scores for the Equmes, Equimport and Equeffect instruments are 16.2, 18.1 and 16.6 respectively. Note that the range of actual scores for respondents approximates the total possible range of the instruments. Standard deviations for each of the scales are indicated in Table 2 as: 4.0 9 (Equmes), 4.1 (Equimport) and 3.7 (Equeffect). Each of the three measuring instruments is also negatively skewed with Equimport being the most pronounced in this respect. Tables 3-5 indicate the percentage distributions of respondent scores on the three measuring
instruments. Table 3 gives the percentage distribution of scores for the Equmes instrument.

<table>
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<tr>
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<th>Cumulative Percent</th>
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<tbody>
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<td>4.0</td>
</tr>
<tr>
<td>11.00</td>
<td>2</td>
<td>8.0</td>
</tr>
<tr>
<td>13.00</td>
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<td>16.00</td>
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<td>25</td>
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</table>

**Table 3:** Percentage distribution of the Equmes measuring instrument scores

Table 3 indicates that approximately 28% of the respondents scored 17 or more on this scale (mean = 16.2) indicating that they felt that workload (input) work equity could be effectively defined and measured. Around 20% felt that workloads could not be effectively measured and a further 52% were uncertain in this regard. Table 4 gives the percentage distribution of scores for the Equimport measuring instrument.
Table 4: Percentage distribution of the Equimport measuring instrument scores

Table 4 shows that about 50% of the respondents scored 19 or more (mean=18.1) thus indicating that they regarded comparative workload (input) equity important. These respondents were regarded as input ‘equity sensitive’. Sixteen percent did not regard comparative workloads as important and were therefore not ‘equity sensitive’. However, no attempt was made to ascertain whether such equity insensitive respondents included benevolent and/or entitled sub-groups as this was considered outside the scope of the investigation. Table 4 indicates that around 32% of the respondents were uncertain about the importance of equity in workload distributions.

Table 5 indicates the Equeffect measuring instrument scores’ percentage distribution.
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Table 5: Percentage distribution of the Equeffect measuring instrument

Table 5 indicates that 52% of respondents scored 18 or more (mean=16.6) on this measuring instrument which suggested that they regarded comparative workload equity as having a bearing on the job satisfaction and work motivation of colleagues in the School. About 28% of the respondents were undecided and a further 20 percent felt that inequities in workload had no effect on the job satisfaction and work motivation of their colleagues.

The qualitative findings comprised a number of evoked responses from individuals who had specific comments to make. In terms of above and below the mean scores for Equmes and Equimport,
four and three out of the six respondents respectively who made qualitative comments, felt workload equity among academics could be effectively defined and measured, and were equity sensitive. All qualitative respondents scored above the mean on the Equifect measuring instrument and indicated in their qualitative commentary that they perceived a connection between inequities in workload and job satisfaction, work motivation and research productivity.

Specific examples are:

‘The merit (of the equity workload initiative) lies in the perception of staff. They should not believe that their workloads can be manipulated based on who is the Head or that people’s workloads will be higher or lower based on the degree of ’influence’ they exert in the management of the School. For this reason we should attempt a fair system of workload allocation.’

‘It is necessary to encourage a conducive (sic) work environment to promote research and publications.’

‘Junior staff members should not be made to feel the pinch for senior academics who demand less workloads-this is one of the issues that contribute to low morale.’

‘Merits: motivated staff. Demerits: none’ and,

‘Workload equity should be established soonest as this correlates with academic staff satisfaction at work. There is, however, major inequality in the workload as of present.’

Although there was some ambivalence regarding the possibility of effectively measuring academic workloads reflected in some below mean scores on the Equines measuring instrument and there appeared to be a number of equity insensitive individuals who made qualitative comments, in all the above cases inequities in workload were seen to negatively affect the job satisfaction and work motivation of colleagues.
One response clearly indicated a non-equity sensitive individual; ‘competence to do the job is of greater impact and concern than inequities in workload’ This particular individual scored considerably below the mean scores on the Equimport and Equeffect measuring instruments (actual scores 11 and 13, mean= 18.1 and 16.6 respectively). This finding supports the view (in conjunction with the construct validation process afforded by the factor analysis) that the instruments are valid and are able to measure what they purport to measure.

A correlation analysis was conducted in order to ascertain the interrelations between the scores of the three measuring instruments. The associations between the instruments’ scores are shown in Table 6.

<table>
<thead>
<tr>
<th></th>
<th>Equumes</th>
<th>Equimport</th>
<th>Equeffect</th>
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<tbody>
<tr>
<td>Equumes</td>
<td>1</td>
<td>.354 *</td>
<td>.391 *</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td></td>
<td>.041</td>
<td>.027</td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Equimport</td>
<td></td>
<td>1</td>
<td>.574 *</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.354 *</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Equeffect</td>
<td>.391 *</td>
<td>.574 *</td>
<td>1</td>
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<tr>
<td>N</td>
<td>25</td>
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</table>

* Correlation is significant at the 0.05 level (1-tailed).
** Correlation is significant at the 0.01 level (1-tailed).

Table 6: Correlation matrix of measuring instruments’ scores
Table 6 indicates Pearson correlations of measuring instruments’ scores. The matrix indicates that Equmes and Equiimport scores correlate significantly \((r=0.354, \ p<0.05)\) and that scores between Equmes and Equeffect correlate significantly \((r=0.391, \ p<0.05)\). Table 6 also shows that Equiimport and Equeffect scores significantly positively correlate \((r=0.574, \ p<0.01)\).

**Discussion of the Findings**

The findings of the descriptive statistical analysis indicate that a specific percentage of respondents felt that:

- Workload equity could be effectively defined and measured;
- Comparative workload equity and inequity was important and,
- Inequity had effects on job satisfaction and work motivation.

Although only 28\% of the respondents felt with some conviction (above mean scores) that academic workload equity could be effectively defined and measured, a further 24\% were neutral in this regard. In other words, roughly half the respondents felt that the effective definition and measurement of workload equity was or may be possible. Only 20\% of respondents felt that it was not possible to measure workload equity effectively,

Roughly half the respondents felt both that workload equity was important and that inequity had an effect on job satisfaction and work motivation.

The qualitative analysis, broadly speaking, corroborates the quantitative analysis and suggests, in particular, that workload inequities were seen as a reason for the poor motivation and job
satisfaction of fellow academics. Although some of the qualitative comments were associated with individuals who had not scored above the mean on the Equimport measuring instrument and who, therefore, might not be regarded as equity sensitive, all commentators scored above the mean on the Equeffect measuring instrument. This suggests that although some individuals might not be equity sensitive themselves, they were nevertheless aware of the effects of workload inequities on colleagues’ job satisfaction and work motivation.

The correlation analysis underlines the association between the Equimport and the Equeffect measuring instruments. The positive and significant association between these variables underlines the association between individuals who perceive comparative workload equities as important on the one hand, and, on the other hand, those who perceive the effects of input inequity on job satisfaction and motivation among academic colleagues. In other words the findings suggest that persons who regard workload equity as important also recognize it’s negative effects on behavioural outcomes. The fact that around 50% of respondents scored above the mean on both Equimport and Equeffect instruments also suggests that it is mostly equity sensitive individuals (i.e. those that regard it as important) that associate inequities in inputs with negative behavioural effects.

Although these findings must be regarded as tentative, given the small size of the sample, these inferences can be made on the solid foundation of reliable and valid measuring instruments.
Conclusion and Recommendations

The investigation is exploratory and has attempted to expose the perceived measurability, importance and effects of workload inequity in a relatively homogenous work environment with people doing qualitatively similar work and where group referents were relatively clearly identifiable. No attempt was made to test the efficacy of Adams theory as such and the ratios of inputs to outcomes were not directly considered. However, the study is able to suggest that individual perceptions of definitions and measurement of inputs and the perceived importance of comparative input equity have a pronounced effect on perceived negative behavioural outcomes in a specific work locality.

Further research could gainfully be directed towards exploring the effects of perceived inequities in outcomes (rewards) in their own right in a homogenous work setting such as that provided by academic work, and once these two aspects (inputs and outcomes) have been defined and measured and the perceived affects they have on work motivation and job satisfaction, established separately, the additional effect perceived inequities of ratios of inputs to outcomes and those of referents could be tested in a multiple regression statistical framework. In this way it should become possible to establish the effects not only of inequities in inputs’ referents and outcomes’ referents per se, but also the effects of ratios between individual inputs and outcomes and their referents as a more comprehensive test of the comparative explanatory salience of Adams original equity model.
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References


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