

Accounting Information in Performance Evaluation: A Cross Cultural Study

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Abstract

This study addresses the issue of culture as a contingent factor in the use made of accounting information in performance evaluation. Managers in two distinct cultures (Australia and Hong Kong) were interviewed to collect data on the reliance on, perceived usefulness of and importance of accounting information. These attributes were examined for supervisors and subordinates. Sample size was limited, and non-parametric tests were applied to the data for analysis. The results show Australian managers rely more on accounting information in performance evaluation than do Hong Kong Managers. There are significant differences between Australian and Hong Kong Managers in their reliance on accounting information for performance appraisal. Failure to recognise these differences in the design of performance appraisal and information systems will inevitably lead to dysfunctional behaviour.

Introduction

The role of accounting information in performance evaluation has been the subject of many accounting research studies over the past forty years. The inquiry was pioneered by Argyris (1952) in his book "The Impact of Budgets on People". Hopwood (1972,147) suggested that if the styles of use of accounting information were properly selected, dysfunctional behaviour could be avoided regardless of the

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imperfections of the accounting system. He examined the effects of evaluations between subordinates and supervisors, and relations with peers.

Briers and Hirst (1988,1) commented that Otley, who followed a similar path to Hopwood, was more concerned with the generalisability of research findings and the use of statistical methods, and began to adopt a contingency approach. A number of contingent factors were proposed by researchers. Some of them, such as task uncertainty, environmental uncertainty, budgetary participation, business strategy and leadership style were evidenced by research. However, it was not suggested that could contribute to understanding the black box of behavioural aspects of the use of accounting systems.

To extend the contingency framework another contingent factor-culture-is further examined in this paper. Understanding the effects of cultural differences on the use of accounting information is helpful when designing accounting systems that will provide useful information to the employees and as to the company as a whole.

Although much cross-culture research had been done in the discipline of anthropology (Bernard 1988; Goodenough 1964; Hsu, 1971), socialpsychology (Garza and Romero 1982; Hiers and Heckel 1977), and in business studies such as marketing (Graham 1985; Kale and McIntyre 1991) and management studies (Chikudate 1991; Gregory 1983), only Hofstede's (1980) landmark work was found in accounting research until Harrison (1992) and Ueno and Wu (1993). Hofstede (1980) introduced four value dimensions that were affected by cultural differences. They were power distance, uncertainty avoidance, individualism and masculinity.

To limit the scope of the study, only two nationalities, namely Australian and Hong Kong Chinese, were chosen. Australian managers in the cities of Sydney and Wollongong were selected to represent Western culture and managers in Hong Kong were selected to present Chinese culture. A sample of companies was chosen to investigate the reliance on accounting information in performance evaluation of supervisors and subordinates both in Hong Kong and in Australia. Comparison of the findings on these two group of companies was then made and examined to determine if there was evidence that culture was relevant variable in explaining difference's in practice. Data were collected using a questionnaire designed to guide interviewers through a structured interview.

This paper began with an introduction of the objectives of, and justification for the study. The remainder is organised as follows. Section two describes some recent developments in the area. The research methodology employed and the results obtained are then presented. A discussion of the implications of the findings concludes the paper.

Accounting Information and Performance Evaluation

The role of accounting information in performance evaluation and its impact on managerial performance is the subject of many research papers. The beginning of the inquiry can be traced to the work of Argris (1952). He distinguished between the technical aspects of accounting systems and the behavioural consequences of how accounting information was used by managers. He found that the accounting information system was seen by subordinates as a “pressure device”. the perception was that employee were considered lazy, and not interested in work. Therefore inappropriate use of accounting information could lead to unintended and unfavourable consequences.

The main thrust of Argyris’work was that the reliance on accounting information in performance evaluation could cause tension, resentment, suspicion, fear and mistrust even in the most technically superior accounting system. As a result, dysfunctional behaviour such as formation of groups to thwart management, interdepartmental conflicts, and falsification of information might prevail (Brownell 1987,178).

The Limitations of Accounting Information Systems

Hopwood (1972,147) suggested that if the style of use of accounting information was properly selected, dysfunctional behaviour could be avoided regardless of the imperfections of the accounting system. He concluded not all relevant dimensions of performance were necessarily adequately represented by quantitative or financial information.

Otley (1978,122) was not able to confirm the higher job related tension observed by Hopwood. He suggested the inconsistencies might be due in path to variations in the environment facing the different firms in the two studies.

A contingency Framework

Task uncertainty. Responding to the work of Otley and Hopwood, Hirst (1981) proposed a theory to explain the role of task uncertainty as a moderating variable on the effects of reliance on accounting information in performance evaluation. In general, as the task becomes less structured, accounting measures of performance become less able to reflect performance, as distinct from outcomes.

Environmental uncertainty was the focus of Govindarajan (1984). He focused on whether environmental uncertainty would influence the choice between accounting and non-accounting bases of evaluation. He proposed that in a low uncertainty environment, the accounting information would be a good predictor of the actual outcomes. In a highly uncertain environment, it was not possible to have

complete knowledge regarding any cause-effect relationships. Therefore formula-based (accounting) evaluation was not preferred. As financial performance indicators focused on outcomes not processes, they failed to confirm if the outcomes were caused by managerial actions or by uncontrollable environmental factors in an uncertain environment.

Business strategy and leadership style were suggested by Brownell (1987,190) as factors that may affect the degree of reliance on accounting information in performance evaluation. From these research findings, it was evident that task uncertainty, environmental uncertainty, participation in target setting, business strategy and managerial leadership style could influence the desirability of reliance on accounting performance measures. However, this list of contingent variables is not exhaustive. A promising contingent variable-cultural difference-was suggested by Hofstede (1980) as worthy of investigation.

Defining Culture

Culture was defined by Kroeber and Parsons (1958,583) as “transmitted and created content and patterns of values, ideas, and other symbolic meaningful systems as factor in the shaping of human behaviour and the artifacts produced through behaviour”. Hofstede (1980,25), adapted a narrower definition of culture. He defined as “the collective programming of the mind which distinguishes the members of one human group from another”.

Hofstede (1980, 47) further proposed four dimensions of culture which were power distance, individualism, masculinity and uncertainty avoidance. Power distance and individualism have been identified as the most relevant dimensions for leadership (Harrison,1992,5). This leads us to use them in assessing leadership in the use of accounting information in performance evaluation.

Power distance (PD) is concerned with attitudes towards inequality of power. In high PD societies, inequality is acceptable, while it is minimised in low PD societies. Inside an organisation, inequality of power, which is in the form of supervisor-subordinate relationships, is considered functional and normal. Mulders Power Distance Reduction theory suggests that subordinates will attempt to reduce the PD between themselves and their supervisors, but Hofstede (1980,92) reports that PD is determined societally. Low PD groups will consider participation in decision making as a norm, while high PD groups will depend on superiors, and will not expect to be consulted.

Individualism is the other relevant dimension of culture. It is “the relationship between the individual and the collectively which prevails in a given society” (Hofstede, (1980, 213). In societies of low individualism societies, the focus is on the

individual, and does not depend on group affiliation for identity. The relationship between individuality and collectivity is more than a way of living, it affects the behaviour of people through societal norms and values. It also influences the structure and function of organisations (Hofstede, 1980:214).

When Hofstede (1983, 82) plotted 50 countries and three regions in four quadrants based on PD and individualism, 32 primarily Asian nations fell in the high PD, low individualism quadrant, and 15 primarily Anglo nations fell in the low PD, high individualism quadrant. Hong Kong was in the "Asian" quadrant and Australia was in the "Anglo" quadrant. These classifications support our view that Australia and Hong Kong represent Western and Chinese cultures respectively.

Shame Orientation (Chinese) and Guilt Orientation (Western)

Chu (1971,94) suggested that when there is conflict between individual behaviour and the social norms, emotional sanctions: sense of shame and sense of guilt. The sense of guilt focuses on events rather than people. If a person feels he has violated his own principles, he will be uncomfortable, even when no-one else is affected. This sense of guilt is socialised in Western societies and therefore a guilt-oriented personality develops among individuals.

The sense of shame is focused on the feelings of others, or their interpretation of events. This leads to the orientation of avoiding hurting others, even if one's own principles are violated (Sun, 1985,157). In Eastern societies (especially in Chinese society), the sense of shame is perpetuated through the socialisation process and thus a shame-oriented personality is developed among individuals (Chu 1971,95). The sense of Guilt and the sense of shame are not mutually exclusive, for a particular society, one orientation might dominate, but they can and do coexist.

The shame orientation of Chinese could explain why people in Chinese societies are less individualistic than their wealth would predict. Australia is mainly dominated by Western culture and shows a higher score in the Individualism Index and is more individualistic than her wealth would predict (Hofstede 1980, 232).

In terms of power distance, Chinese people in power try to maintain or lengthen the power distance and Chinese in Hong Kong score high in the Power Distance Index. Australians score much lower in the Power Distance Index. This could be explained by the less authoritarian nature of Australian organisations (Hofstede 1980,104).

In terms of individualism, it was expected that Hong Kong managers are more group orientated than Australians, it is because the well-being of individuals is

defined by group membership in Chinese societies, while Australians focus on individual needs and performance.

Implications of Culture on Performance Evaluation

Brownell (1987,191) argued that the differences in cultures would affect the reaction of people to formal performance evaluation. In modern organisations, accounting information has been widely used to report the economic performance of organisations. Accounting information systems provide information for planning, controlling and performance evaluation. The way people use accounting information in management control in general, and in performance evaluation in particular, is expected to be different in different cultures. This area of research is now more relevant because of global commercial, employment and political change. People migrate to countries with cultures very different from their own. The design, implementation and operation of a management control system within an organisation employing people from diverse cultures will have little chance of success if cultural differences are not considered. A multi-cultural society such as Australia has many such organisations.

Purpose of the Study

The purpose of this exploratory study is to seek additional information for consideration by designers and implementers of accounting information systems in differing cultural environments. To identify how culture affects these differences, we examine the effects of cultural difference on the reliance on, perceived usefulness of, and importance of accounting information for performance evaluation in Chinese and Western cultures. Hong Kong was selected to represent the Chinese culture while Australia was chosen to represent the Western culture. We relied on the work of Hofstede (1984,391) and Harrison (1992,5) to confirm Australia as a low power distance and high individualism culture, and to identify Hong Kong as a high power distance and low individualism culture. A study of how people in organisations within these cultures use accounting information in performance evaluation was conducted. The work is descriptive in nature, and is exploratory.

In the discussion some terms are used that may be open to alternative meanings. These terms include accounting information, performance evaluation, reliance, useful, and important. The definitions that follow were given to the interviewees during the structured interview to minimise the differences in understanding of the terms used.

Accounting Information is financial reports, budgets, variance analysis reports, and any other quantifiable financial information formally collected in the organisation.

Performance evaluation is the formal assessment of the performance of an individual staff member by his/her supervisor. Assessment can be based on direct observations, internal reports, interviews, and other relevant information.

Reliance indicates that accounting information is actually used in performance appraisal, without regard to other qualities such as decision usefulness.

Useful is used in the same way as it appears in FASB Concept Statement No 2 (FASB 1980), ie “the qualities that distinguish ‘better’ (more useful) information from ‘inferior’ (less useful) information are primarily the qualities of relevance and reliability”.

Importance is the weighting given to accounting information in the evaluation of performance.

Hypotheses

If people from different cultures respond in the same way to various performance measurement systems, cultural differences will not have a significant influence on the perceived usefulness of accounting information in performance evaluation.. We examine the assertion of no difference by comparing the reported use of accounting information in Hong Kong companies and Australian companies. The alternative position is that there are culture differences in the reliance on, intensity of use, and importance of accounting information in performance evaluation.

Null Hypothesis

H₀: There is no difference between Hong Kong and Australian managers in their use of accounting information for performance evaluation.

Hypothesis 1 is concerned with the extent of use made of accounting information in performance evaluation by Australian managers compared with Hong Kong managers. Australian managers are defined as guilt oriented and so are accustomed to relying on rules and procedures to rationalise and justify their actions or decisions. Hong Kong managers are shame oriented and more likely to rely on personal contacts. The expectation is that more Australian managers than Hong Kong managers rely on accounting information in performance evaluation.

Alternate hypotheses

H₁: More Australian managers than Hong Kong managers rely on accounting information in performance evaluation.

Hypotheses 2 and 3 are concerned with the perception of supervisors of the importance and usefulness of accounting information in performance evaluation of subordinates. with similar reasons to hypothesis 1, we expect Australian managers

consider accounting information more important and more useful than do Hong Kong managers.

H₂: More Australian managers than Hong Kong managers consider that accounting information is useful in performance evaluation of subordinates.

H₃: Australian managers consider that accounting information is more important in performance evaluation of subordinates than do Hong Kong managers.

Hypotheses 4 and 5 examine the perceptions of managers when they act in the role of subordinate. They are concerned with managers views of the perceived importance and usefulness of accounting information when their own performance is being assessed.

H₄: More Australian managers than Hong Kong managers consider that accounting information is useful in performance evaluation by their supervisors.

H₅: Australian managers consider that accounting information is more important in performance evaluation by their supervisors than do Hong Kong.

Research Method

Collection of Data

Mintzberg (1983) suggested that the social interactions process in an organisation is affected by internal variables as well as external variables. Ideally we control all these other variables in conducting cross-cultural studies. That means we attempt to match firms on contingent variables except the national socio-cultural variable so the organisations to be compared are as similar as possible. We recognise that with a larger sample, random sampling may achieve as good a matching as alternative methods.

The geographical and socio-economic influences on the culture of the organisations were controlled. Subjects were selected from large companies in Hong Kong and in the Sydney and Wollongong metropolitan areas. Hong Kong was chosen because it is predominantly a community of Chinese people dominated by strong Chinese culture. Australia also has a strong dominant culture that is Western. These two systems have similar accounting practices reduce differences caused by reporting methods.

Only companies with more than three hundred employees were selected in an attempt to ensure that performance evaluation systems existed. To contain the cost of data gathering, the Australian sample was further restricted to companies in metropolitan Sydney and Wollongong. There was no restriction in areas for participating companies in Hong Kong. A total of twenty-eight companies agreed to participate in this research. Fourteen were in Hong Kong and fourteen were in Australia.

Questionnaire

The questionnaire was constructed to guide interviewers during structured interviews at each company. Qualitative data were collected. The qualitative data were used to improve understanding of the responses that were recorded.

There were four sections in the questionnaire. The first section addressed the performance evaluation, reward structure and promotion of subordinates of interviewees. The second section sought data on performance evaluation, reward structure and promotion of the interviewees themselves in their subordinate role. In the third section information was sought on the communication of the performance results, both how the interviewees communicated performance results to their subordinates, and how the interviewees' supervisors communicated performance results to them. The fourth section was optional and comprised questions concerning demographics of the interviewees. The third and fourth sections were not used to satisfy any primary purpose for this study. They were included to enhance understanding of the processes and people included in the study. They are not used in the results reported here.

Results

The design of the study aimed at minimising influences of factors other than cultural difference in the use of accounting information in performance evaluation.

The two groups of managers have been living in their respective countries for more than ten years and are familiar with the culture in which they have been living and are a part of it. They are considered representative of Hong Kong and Australian cultures respectively.

From an analysis of two groups of managers there was no significant difference in gender, in position in the organisation, in length of stay in country. Conversely Chinese managers were younger, more highly educated and had spent less time with the company. These last three variables show little correlation with other related variables measured using Phi coefficients for nominal data, and Spearman Rank-order correlation coefficients, as suggested in Siegel and Castellan (1988:233-7).

Statistics

For the nominal data we observed "small" values (less than 5) in one or more cells, and our samples size was relatively small. Under these conditions the only viable test statistic for our nominal data is a Fishers exact test (Daniel and Terrell 1986). This test "counts all possible outcomes exactly" and is more conservative than

the chi-square alternative (Wilkinson 1990). Ordinal data observations were measured on likert-type scales, so the numbers one through five used to identify responses are indicators of rank, and not necessarily of interval. The possible inequality of the intervals between data points rendered a t-test inappropriate. As our data distribution was not know, and may have violated the assumption that “the distributions of the two sampled populations, if they differ at all, differ only with respect to location”, the Mann-Whitney test was also rejected (Daniel and Terrell,1986). The Kolmogorov-Smirnov test is useful in testing the shape as well as the location of sample distribution. The Kolmogorov-Smirnov two sample test is used to test if two samples have the same mean, standard deviation, and distribution (Wikinson 1990). This is the adopted for our ordinal data.

Hypothesis 1

The null hypothesis was tested against the alternative hypothesis H_1 that more Australian than Hong Kong managers rely on accounting information for performance evaluation. As shown in table1 the null hypothesis was rejected. The Fisher exact test statistic yielded a P value of 0.0107, where P is the probability that the two samples were drawn from either the same population, or from two populations with the same distribution and location. This result suggested there is a significant difference in reliance on accounting information for performance evaluation between Hong Kong managers and Australian Managers. Only four Hong Kong managers, compared to eleven Australians, said they relied on accounting information. It supported the alternative hypothesis that Australian managers rely more than Hong Kong managers on accounting information for performance evaluation.

Table 1
Reliance On, And Usefulness Of Accounting Information
In Supervisor Rose

		Yes	No	Fisher Exact $P \alpha = 0.05$
Rely on	AU	11	3	0.0107 Reject H_0
Rely on	HK	4	10	
Useful	Hk	13	1	0.1182 Fail to Reject H_0
Useful	Hk	7	7	

Hypothesis 2

A test of the null hypothesis against H_2 that more Australian managers perceive accounting information to be useful in evaluating subordinate performance show there is significant difference between subjects' perception of usefulness of accounting information in evaluating their subordinates in these two groups, and we fail to reject the null hypothesis (table 1). The Fisher exact test shows an observed probability of 0.1182, greater than the critical α of 0.05. The perceived usefulness of accounting information is higher in the Australian group (13) than in the Hong Kong group (7) but this difference is not statistically significant at the critical level.

Hypothesis 3

The null hypothesis was tested against the alternative hypothesis (H_3) that for Australian managers, accounting information is more important in performance evaluation of subordinates. This measure is one of intensity rather than frequency of use. The test results appear in table 2, and indicate we fail to reject the null hypothesis. The Kolmogorov-Smirnov test showed a maximum difference for pairs of groups of 0.214, with probability of 0.844. These results suggest that there is no significant difference between subjects' perception of the importance of accounting information in evaluating their subordinates in these two groups. The mean scores of two groups were 3.0 and 3.214 respectively on a five point scale. It suggests that the importance of accounting information is perceived as moderate by both groups.

TABLE 2
Importance Of Accounting Information
In Supervisor Role

	Australia (Mean)	Hong Kong (Mean)	Kolmogorov - Smirnov Max - Diff	Prob
Importance	3	3.214	0.214	0.844 Fail to Reject H_0
Scale: Extremely Important (1) (5)			$\alpha = 0.05$

Discussion

The results of the hypothesis testing generally supports the alternative hypotheses that there are significant between Australian and Hong Kong managers in relation to the reliance of accounting information in performance evaluation. Australian managers rely more on accounting information than do Hong Kong managers. The reason for the difference can be explained in part by the cultural difference in these two groups. In the Australian group, the most quoted source of information for performance evaluation was different forms of performance budgets (such as sales budgets, revenue budgets and the like) while in the Hong Kong group, the most quoted source of information was interaction with the subordinates or direct observation.

Western culture is more concerned with the rules, standards and laws that can be separable from those who carry them out. Australian people may be more willing to follow rules and standards such as budgets.

The Chinese culture is more concerned with those who enforce the rules and standards than the rules and standards themselves. Therefore the best way to motivate and evaluate subordinates in a Chinese culture appears to be though personal interaction and direct observation.

The perceived importance of accounting information was higher, but not statistically significant, in the Australian group than in the Hong Kong. This could also be explained by cultural difference, some subjects in Hong Kong group claimed that accounting information was not accurate and timely for evaluating performance. They preferred relying on direct observation for performance evaluation and for making business decisions.

Australia has a background of powerful trade unions and sophisticated legislation governing industrial relations. Formal performance appraisal systems are essential to maintain good relationship with employees and trade unions. Wood et al. (1985) reported that about 80 percent of Australian organisations had formal appraisal systems. Of these organisation, 60 percent established formal appraisal systems at least ten years ago. Accounting information that was stated in quantifiable terms was considered as acceptable by parties involved in performance evaluation.

Hong Kong has a history of free trade, including virtually no organised labour and no legally required means of assessing performance. Therefore, the perceived usefulness and importance of accounting information would be expected to be higher among Australian managers than Hong Kong managers.

For the perceived importance of accounting information in performance evaluation, the mean score of Australian managers is 3.00 in evaluation of subordinates, but 2.07 in their own evaluation (1 = extremely important, 5 = not important). In the Hong Kong group, the mean score is 3.20 for evaluation of subordinates and 3.53 for their own evaluation.

The results show there is no significant difference in the perceived usefulness and importance of accounting information for performance appraisal of *subordinates*. However the perceptions of the same managers, when acting in a *subordinate* role, were consistent with our expectations that perceived usefulness and importance of accounting information would be higher among Australian managers.

One possible explanation for the difference may be the nature of the job that surpasses the effects of culture. The demographics from the sample show that most subjects in both groups are in middle management, their subordinates normally involved in daily operations governed by procedures, rules and standards. There is no significant difference between two groups in this regard. However, the nature of middle or high level management involves many unstructured decisions in which cultural differences do not come into effect.

Australian managers tend to consider accounting information because it is perceived as 'fair and objective' as one respondent said. When they evaluate their subordinates, they perceive accounting information as moderately important because other factors, which their subordinates might or might not know, are considered as well. These factors, include attitude towards work and quality of work, as some subjects mentioned during the interviews.

Limitations of the study

Although the results of this exploratory study indicate that cultural difference has a substantial influence on reliance on accounting information in performance evaluation, some limitations of this study should be noted. First, the choice of companies was restricted to a particular area of Australia rather than selected from the entire country.

Second, Australia and Hong Kong were chosen to represent Western and Chinese cultures though they are not the original homelands of those cultures. They are only special samples from Western and Chinese societies. The use of Hong Kong and Australia as surrogates for Chinese and Western cultures introduces a further potential limitation. It was not feasible in this study to determine if responses were shaped by national cultures or by corporate cultures, although thirteen of the fourteen Hong Kong companies were locally headquartered, and none of the Australian companies were Chinese owned. However, the examination was of culture as it exists

in the respective sites, and not as it was in the past. We relied on the work of Hofstede (1980), confirmed by Harrison (1992) to confirm our culture groupings.

This is an exploratory study and only a small sample of organisations was examined. As a result, caution should be exercised in generalising the findings to other organisations or to the whole population of Western and Chinese societies or even to other organisations in Australia and Hong Kong.

Alimentation of having subject companies from different industries rather than concentrated in one industry is the inability to isolate effects caused by industry differences. The industry difference could be isolated with a sufficiently large sample. It is, of course, not possible to match all contingent variables, and this is a further limitation on the results.

The study does provide some empirical evidence of the impact of cultural difference on the reliance of accounting information in performance evaluation. This knowledge is beneficial to those who design and monitor accounting information systems.

Conclusion

We observed differences between cultures in the reliance placed on Accounting information for performance evaluation. More Australian managers rely on accounting information than do Hong Kong managers. There was no difference in the managers perceptions of usefulness and importance in their evaluation of subordinates.

However, when managers act as subordinates, Australian managers report the same level of usefulness as when they act as supervisors, while Hong Kong managers report lower usefulness. The reverse applies when we examine importance. Hong Kong managers report approximately the same level of importance for subordinate appraisal as they do for supervisory appraisal. Australian managers acting as subordinates regard accounting information as more important in their own evaluations.

The cultural differences are in the direction that was expected. An unexpected result was that Hong Kong subordinates placed less importance on accounting than when they were supervisors. This is counter -intuitive as Accounting information is expected to be more useful in performance measurement at lower organisational levels, where task uncertainty is less.

A more detailed study using a large sample size and matching industry characteristics will be useful in further testing cultural factors in performance evaluation.

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