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FOCUS ON COST ALLOCATION FOR PERFORMANCE EVALUATION : METHODOLOGICAL APPROACH

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Abstract

Inasmuch as overhead costs are a joint responsibility of any business entity, all segments of the organization should be made aware of them for purposes of performance evaluation. The theory and empirical evidence indicate that the allocation or non-allocation of central overhead costs for performance evaluation is made to influence the behaviour of divisional managers (keeping in view that they have to report target profits agreed upon with top management of the company) to take appropriate actions/steps in the best interest of the organization.

JEL Classification : G31; L21; L70; M41; O53

Keywords: Overhead costs allocation; performance evaluation; Behaviour of divisional managers

Introduction

The use of cost allocation in performance evaluation is a controversial subject. One view suggests that as overhead costs are a joint, responsibility, all segments of the organisation should be aware of them. Furthermore, cost allocation can be used to motivate individual managers to exercise a degree of control over their consumption of central services[1]. The alternative view is that the allocation of central overhead costs moves costs away from where they are incurred, and ought to be controlled, to other parts of the organisation where it is more difficult to exercise control. The allocation of central overhead costs among divisions of the firm may not be relevant if top management in divisionalised companies do not use such accounting information for performance evaluation purposes. However, this issue is debatable because managers may act on information that is good for the company.

The main purpose of this study is to analyse he different explanations given for central cost allocation for the purposes of performance evaluation with a view to offer an explanation for divisionalised companies' practice regarding this issue. For the purposes of the study, the following definitions are used:

- **Central overhead costs** are the costs of a service incurred at headquarters level for the benefit of two or more components of a company. Such costs need to be allocated among the segments of the firm (e.g. centralized computer facility research and development, maintenance costs and general

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administration costs). Central overhead costs may be known within the organisation as common costs, corporate indirect costs, central administrative costs, management charges, central head office costs and so on[2 & 3].

- **Cost allocation** is the process of assigning accumulated indirect costs among two or more cost objects. The cost of the resource is allocated to a cost object when a direct measure does not exist for the quantity of the resource consumed by the cost object.
- **A cost object** is anything for which a separate measurement of cost is desired[4]. A cost object could be a unit of product, a service, a production line, a project, a contract, a customer, a machine, a department, a division, an activity, or a program.

Cost Allocation and Performance Evaluation

Cost allocations are made for different purposes (e.g., performance evaluation, decision making and financial reporting). This study is solely concerned with the allocation of central overhead costs for the purposes of performance evaluation. Allocations for other purposes can be examined individually in other research projects. Further, the study is concerned-with cost allocation in large divisionalised companies. The reasons is that in small or simple businesses it may be possible to attribute cots directly to individual users. But as business becomes more complex, it is increasingly difficult to attribute costs in this way. So, it is not surprising to discover that historically, interest in cost allocation accompanied the development of large-scale business enterprise.[3 to 6]

The advocates of responsibility accounting and the controllability principle claim that subordinate managers' performance should be based on factors over which they exercise control. The rationale is that this will provide the most satisfactory base for controlling and motivating subordinate managers[7 to 11]. Such a view indicates that cost allocations should not be made for the purposes of performance evaluation. However, this issue is debatable because we agree on a cost allocation base that the subordinate controls and then he will be charged based on a targeted rate for the usage of central overhead costs. So, allocations may be acceptable from the point of view of the subordinate manager although he does not control the original cost of the services provided to him.

Moreover, some authors in the management accounting literature suggest that central costs should be allocated to segments of the firm. They argue that a good cost accounting system should provide incentives for efficient performance by the managers of service departments and for prudent use of service departments' outputs by divisional managers. If the costs of using central services are not charged to user divisions, a number of negative consequences can occur. Therefore, the proponents of this view suggest that cost allocations may be used to influence the behaviour of managers to take action in the best interests of the company as a whole (i.e., reduce divisional managers' expenditure on perquisites, reduce budgetary slack and encourage optimal' utilization of resources);[12 to 14]; Each of the arguments in favor of cost allocation is examined in detail :

- **Cost Allocation and Resource Utilisation** Zimmerman[1] opines that allocations are likely to enccurage optimal utilization of resources. Zimmerman's argument is based on the view that if central services are provided free,overconsumption will be inevitable. That is, if the costs of using an internal service is not allocated, more of the service will be demanded by user divisions than is economically feasible to supply and that cost allocations are likely to influence divisional managers' behaviour in such a way that optimal utilization of resources can be achieved and identifies allocations as approximations of difficult-to-observe costs. When, for example, a long distance telephone line is shared and no allocation is made, incorrect over-use of this facility may result in additional costs to the firm. These costs arise because the service is degraded;

managers find the line occupied and have to wait (queue to use the service). To avoid this, managers may turn to telex, fax or other costly means of communicating. Therefore, allocating the costs of the long distance telephone line may proxy these : difficult-to-observe opportunity costs and constrain excessive miss-use. This view is appreciated because if central services are provided free, organisational sub-units will rush to use the service. The result will be overconsumption of the scarce resource and the quality of the service offered may be negatively affected.

- **Cost Allocation and Perquisite Consumption**
It is also suggested that cost allocation induce subordinate managers to reduce their consumption of perquisites. This arises if a divisional manager with discretionary spending authority consumes an excessive amount of perquisites. For example, the manager may decide to improve his working environment by acquiring a large, expensively decorated office space, by hiring an unnecessary personnel, and by buying the latest and most elaborate office equipment. These expenditures will reduce the manager's performance measure, but the manger may prefer the direct consumption of these perquisites to the perhaps small increase in pecuniary compensation that could be earned by forgoing these expenditures[15]. In this context, Williamson[16] investigated the impact of tax on the agent's behaviour and the resulting effect on the consumption of prequisites. He distinguished between tax based on profit and a lump-sum tax. It was found that if tax was based on profit, it would not be possible to determine the direction of the manager's response to tax. However, in the case of a lump-sum tax. Williamson found that the behaviour of a manager could be inclined in a particular direction. He suggested the use of cost allocation because it would result in desirable behaviour.

Similarly, Zimmerman attempted to explain cost allocation in an agency context. He argued that cost allocations encourage subordinate managers to work in the best interest of the firm; rather than to pursue personal goals (e.g., motivate managers to reduce their expenditure on perquisites). This is because divisional managers need to report target profits agreed upon with top management. Divisional managers are likely to be guided by target profits which may be based on their past results, the results of similar sub-units or the industry average. Thus when costs are allocated to divisions total costs of the division will increase and divisional income will decrease. Consequently, divisional managers (consumers of perquisites) will be under pressure to reduce their consumption of perquisites. Furthermore, divisional managers, receiving the allocated costs will also pressure the head office to reduce their own consumption of perquisites so as to reduce the total costs allocated to their divisions.

On the other hand to compensate for the increased costs which result from central cost allocations and the consumption of perquisites, divisional managers can manipulate accounting conventions in such a way that they produce adequate profit. For example, they may treat revenue expenditures as capital expenditures. They may also be engaged in some activities which are beneficial to them in the short run, but detrimental to the firm as a whole in the long run (e.g., defer necessary maintenance). Therefore, it is unlikely that cost allocation will reduce divisional managers' expenditure on perquisites.

- **Cost Allocation and Budgetary Slack**
Participation in developing a profit may result in subtle attempts to slack pad the budget. Budgetary slack refers to the practice of underestimating budgeted revenues (or

overestimating budgeted costs) in order to make budget targets more easily achievable. With budgetary slack it is more likely that actual sales will exceed budgeted amount and make sales persons' performance look good. From the sales standpoint, budgetary slack hedges against unexpected adverse circumstances. **Inserting slack in the budget is a behavioural problem and perceptive top management can rninimise budgetary slack by budget education which is aimed at developing positive attitudes toward budgets.** This can be achieved if subordinate managers are told that both favourable and unfavourable variances from budgeted amounts are carefully considered. Moreover, Blanchard and Chow[14] suggest that the allocation of central costs using sales revenue as an allocation basis will reduce divisional managers' tendency to insert slack in their performance budgets. Sales revenue is an allocation base which reflects the ability to bear criterion for cost allocation. The principle involved is that the cost allocation scheme should use some surrogate measure for the size of the cost object. The presumption is that larger cost objects can afford to bear larger shares of overhead costs.

Blanchard and Chow used sales revenue as a basis to allocate central costs among divisions. Such a view cannot be generalized if different allocation bases are used. Previous empirical studies show that companies use a variety of cost allocation bases and sales revenue is one of them. In addition, Ramadan[17] found that top management in divisionalised companies perceive allocations as being unlikely to reduce divisional managers' tendency to build slack in their performance budgets.

Cost Allocation Practices

Despite the arguments against cost allocation in the academic literature costs continue to be allocated in practice. A review of six survey studies in both the U.K.[17 to 19] and the U.S.A.[20 to 22] reveals that the allocation of central overhead costs is common in practice. Most organisations engage in some sort of cost allocation and it can be seen from **Table 1** that there is a diversity in the practice of cost allocation not all companies allocate costs and not all companies allocate all central overhead costs. For example, Baumes[20] found that 53 per cent of the 158 companies allocated all central costs to divisions. Melrose-Woodman[18] found that 81 per cent of the companies in the sample charged all or part of central costs to divisions or subsidiaries (see also the findings of other surveys in **Table 1**). As far as performance evaluation is concerned, these studies found considerable variations in cost allocation practices. Some firms allocate costs for performance evaluation purposes and some do not. The companies which allocated

TABLE 1
EXTENT OF COST ALLOCATION IN PRACTICE : SURVEY FINDINGS

Author	Country	Sample	Allocators (%)	Extent of allocation
Baumes (1963)[20]	USA	158	53	All central costs
			26	Partial allocation
Mautz and Skousen (1969)[21]	USA	412	306	All costs
Melrose-Woodman (1974)[18]	UK	26	81	All or part of central costs
Fremgen and Liao (1981)[22]	USA	123	84	All or part of central costs
Bourn and Ezzamel (1987)[19]	UK	9	100	All or part of central costs
Ramadan (1989)[17]	UK	120	69	All or part of central costs

costs indicated that the most important reason for central costs allocation is to remind divisional managers that such costs exist and must be covered by divisional profits (see **Table 2**). The motivation, apparently, is to alert division managers to the level of these central overhead costs and indicate that the company as a whole is not profitable unless the divisions generate enough contribution margin to cover a share of such costs[15]. This suggests that cost allocations are made for behavioural reasons. For example, reminding divisional managers of the existence of overheads may induce a sense of cost responsibility on their part. Given that divisional managers know that a portion of central overhead is allocated to their divisions, this will increase their costs and, as a result, their net income will decrease. Therefore, to maintain the same level of profit, or to achieve the target profit desired by top management, divisional managers are likely to become cost conscious and will try to minimise their costs. Moreover, a check on the cost of central services and divisional expenses should induce a sense of cost consciousness - - at both levels managers of central services - - the providers of service and divisional managers - - the users of services). That is, it will encourage divisional managers to put pressure on central service managers to control the costs of their services. Thus by allocating central overhead costs to divisions, the division managers are made more

TABLE 2
REASONS FOR COST ALLOCATION

Study	Reasons
Baurnes (1963)[20]	1. Allocations serve as a reminder that such costs exist and that divisional earnings should be sufficient to cover a proportionate share. 2. Encourage the use of central services and act as a check on head office expenses.
Fremgen and Liao (1981)[22]	1. To remind divisional managers that indirect costs exist and that divisional profits must be adequate to cover a share of those costs. 2. Allocations should reflect the usage of central services. 3. Motivate profit center managers to put pressure on central managers to control service costs. 4. Encourage the use of central services that would otherwise be underutilised.
Ramadan (1989) (U.K.)[17]	1. Divisions would incur such costs if they were independent or if the service was not provided centrally. 2. To make divisional managers aware that central costs exist and must be covered by divisional profits. 3. To stimulate divisional managers to put pressure on central support managers to control costs. 4. To stimulate divisional managers to economise in the usage of central services.
Kaplan and Atkinson (1989) (Canada)[12]	1. To fix accountability. 2. To evaluate profit centers. 3. To promote more efficient resource usage. 4. To foster cost awareness.
Bourn and Ezzamel (1987)[19] (U.K.)	1. To monitor divisional use of fixed facilities. 2. To ensure that fixed costs are fully recovered.

aware of these costs, so that they will exert pressure to keep down the costs of central services. **Figure 1** shows how central overhead costs are allocated to divisions.

The functional relationship between cost and profit margins at divisional level and corporate level is shown in **Table 3** as the aim of corporate management is to maximise profit and minimise costs. Here we assume that divisional profit before taxes is used to evaluate the division's performance.

Finally, previous empirical studies show that the rationale for not allocating central costs is also behavioural. The main reasons why companies do not allocate costs were, **the profit center managers have no control over such cost and they object to charges they cannot influence and control.** These reasons are likely to be based on the arbitrary

FIGURE 1
COST ALLOCATION

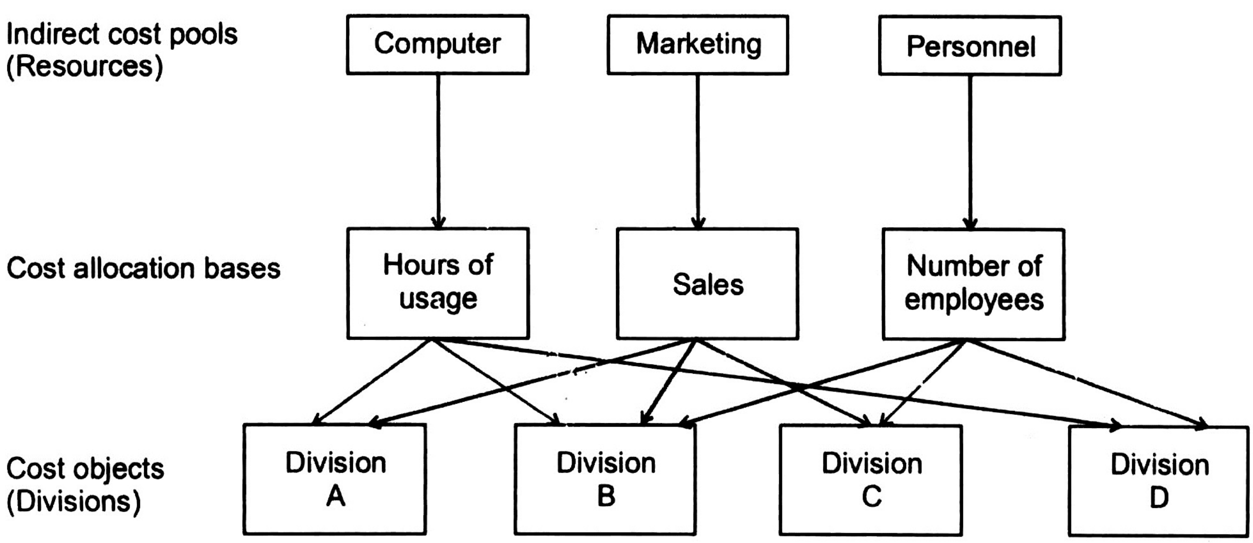

TABLE 3
DIVISIONAL INCOME STATEMENT DIVISIONS

Indicator	**A**	**B**	**C**	**Firm**
Sales	5000	10000	15000	30000
Variable costs	3000	6000	9000	18000
Contribution margin	**2000**	**4000**	6000	**12000**
Controllable fixed costs	200	300	**400**	900
Controllable contribution	**1800**	**3700**	5600	**11100**
Noncontrollable fixed costs	500	1000	1500	3000
Divisional contribution	**1300**	**2700**	**4100**	**8100**
Allocated corporate expenses	300	700	**1100**	2100
Divisional profit before taxes	**1000**	**2000**	**3000**	**6000**

allocation base in each case.

In summary, it can be seen that the extensive theoretical controversy in favour and against cost allocation which appears in the literature, is also reflected in practice. Those who allocate costs claim that allocations are made to influence the behaviour of managers in a desired direction. The non-allocators also seem to have the same rationale for cost allocation. So, it can be seen that both groups (the allocators and non-allocators) believe they are doing the right thing, and that each approach is likely to have some desired behavioural effects (i.e., it encourages divisional managers to take action in the best interest of the company as a whole). The question which can be raised here is which approach is more likely to produce better results? If the allocation approach is more likely to produce better results than the non-allocation approach, then why do not all companies adopt such an approach? Alternatively, in what circumstances is one or other approach to be preferred? Why the percentage of companies allocating costs has fallen? Why some companies abandoned cost allocation? However, we do net know whether the allocators use the same allocation methods or both the allocators and non-allocations operate in the same environment. The following section summarises the other explanations given for cost allocation.

Alternative Explanations for Cost Allocation

The previous argument concerning cost allocation for the purposes of performance evaluation indicates that further investigation for this issue is still required. The following explanations has been offered :

- One explanation is that company executives might be aware of the argument against cost allocation but they are not convinced by the continual admonitions of researchers against cost allocation. Although this view may be appreciated, it does not provide an explanation of why some companies allocated costs for performance evaluation purposes.

- Wells[23] provides indirect evidence that allocations were known more than 100 years ago, and their widespread use came from members of the American Society of Mechanical Engineers which was formed in New York in 1880. Those members developed the scientific management movement which promoted the allocation of overhead costs. The conclusion derived from Wells' study is that cost allocation developed as part of the price determination procedure associated with specialized production for which there was not an active market. This study focuses on central cost allocation for the purposes of performance evaluation. Nevertheless, it is recognized that systems of cost allocation exist for a variety of purposes and performance evaluation is not the only one.

- Burritt and his associates[24] point out that the continuous use of cost allocations in practice is because accountants have little incentive to abandon techniques which have become familiar to them for a long time. Although this view is appreciated, it is unlikelythatthere is no objective to be accomplished by cost allocation; otherwise a lot of the accountant's time is wasted. One of the purposes of cost allocation is that they are made for tlnancial reporting purposes. Published financial statements set tile full cost of production against sales revenue. Thus, income reporting for tax purposes provides another justification for cost allocation. In addition, internal management reports frequently use full costs for evaluating the financial performance of divisions. Based on this, Hanks[25] argues that allocations are made in practice because of the orientation towards the income statement and suggests that companies may allocate costs for performance evaluation simply because of the need to allocate costs for external financial reporting. However this is only true 'if divisions are considered as separate legal entities and divisional managers are profit accountable.

Nonetheless, previous empirical studies indicate that respondents allocate costs for different purposes in addition to performance evaluation. Thus, the possilility exists that the responses concerning cost allocation for performance evaluation might be influenced by alternative purposes cost allocation (i.e., financial reporting). Although this issue seems reasonable and appreciated, the question is : since it is assumed that companies allocated costs for financial reporting purposes why some companies did not allocate costs for performance evaluation purposes?

- Otley[26] states that there are many techniques of dubious validity continuing to be widely used. He gives the example of cost a locations for different purposes (e.g. performance evaluation and cost-based pricing). These allocations, which continue to be used by firms, are condemned by some academics. The reason may be because these costs are considered as noncontrollable at divisional level. In additton, tile bases for allocating corporate expenses is usually arbitrary bearing no causal relation to the way in which divisional activities influence the level of these corporate expenses. To explain this, Otley concluded that accounting theory had not run ahead of practice; rather it had run away from practice. What Otley is saying may be true, but not so many academics condemn cost allocations, and some of the academics who condemn cost allocation may be wrong sometimes (see the argument for cost allocation in the previous paras).

Finally, Ramadan attempted to examine the association between cost allocation practices (allocators and non-allocators) and certain organisational variables namely, the degree of interdependence between divisions, the degree of decentralisation, the size of the firm as measured by the number of divisions, the degree of domestic divisons' geographical dispersion from headquarters, and the cost of monitoring divisional managers' performance. The relationships were insignificant excep' in the case of the degree of interdependence be.ween divisions. This result provides very limited upport for the hypothesis that cost allocation pra tice is associated with organisational variables. It can be seen that the explanations given for central cost allocation may not be totally accepted (and an planation for companies' practice regarding this ssue is still required. This is the subject of the following section where cost allocation is examined from a resource dependence perspective.

Resource Dependence Theory

Environmental demands upon organisations :

A business organization interacts with its environment: it draws resources and provides products and services to the environment. Even self-contained organizations require some transactions with their environment in order to survive : 'Ja obs Five areas in which organizations interact with their environment are identified - - these areas are: input acquisition; output disposal; capital acquisition; acquisition of production factors and the acquisition of labour force. The strength of the dependency in each case depends upon the level of substitutionality of, or willingness to do without, a particular resource, and the number of alternatiee suppliers of the resource.

There would be no problem if organizations had control over the resources necessary for their operations. Moreover, if the resources needed by the organizations were continually available (i.e., stable suppliers were assured from the resource providers). even if outside their control, there would be no problem. However, no organization is completely self-contained and problems arise not merely because organizations are dependent on their environment, but because this environment is not dependable. The environment can change and the supply of resources becomes more or less scarce. When the environment changes organizations face the prospect either of not surviving or of changing their behaviour and activities in response to the environmental changes.

It can be seen that the suppliers of resources can exercise some sort of power over those who need their resources. This power results from their ability to control or manage the availability of scarce resources on which the organization is dependent. The more critical the resource to the success or survival of the organization, then the greater the power of those who can ensure its constant availability. For example, if an organization is dependent upon a single resource supplier, then that supplier has power over, or the potential ability to control the organization[27]. Therefore, one would concur that organisations will tend to be influenced by those who control the resources they require. In addition, the likelihood of the influence being successful increases if the following conditions are present:

- The resource is a critical or important part of the organization's operations.
- The organization needing the resource is aware of the demands for that particular resource.
- The organization providing the resource controls the allocation, access or use of the resource and the user organisation is not allowed to use external sources for the resource, even though they are available.

Demands of Resource Providers : The study focuses on the allocation of central service costs. Central services require costs to carry them these costs represent resources. User divisions create the demand for the resources. The unit which provides the central service is a responsibility center within the organisation headed by a manager who is responsible for the use of resources and output of the unit. As a result, the manager of this unit (i.e. the provider of the resources) may demand certain actions from the user divisions in return. He may require that the costs of each resource consumed by the user divisions to be assigned to them. The charge will be based on the user demand for the resource. Cooper and others[28] state that resource consumption model looks at the demand for activities performed.

The argument is that since top management in divisionalised companies control the provision and access to the resources demanded by the divisions, then they are in a position to allocate the costs of the resources consumed by those divisions. In other words, it is believed that in order to acquire resources needed by the firm, managers of departments or divisions which control or manage the availability of scarce resources on which the division is dependent may insist on the allocation of costs. The more critical the resource to the success or survival of the organisation, then the greater the power of those who can ensure its constant availability. This suggests that the providers of resources may, in a few limited cases, dictate the costs of the resources that should be allocated. As a result, cost allocations may reflect the power of particular groups. For example, Pfeffer and Salancik[29] observed that certain university budget allocations can be understood in terms of the relative power of individual departments. Furthermore, powerful groups may also dictate the bases for the allocations. In addition, Ahmed and Scapens[3] indicate that cost allocations may be a source of conflict. In this regard, Bourn and Ezzamel[19] found that in some organizations conflict can lead to elaborate allocation schemes. Nonetheless, the mere allocation of costs without exercising adequate control would not serve the purpose.

In conclusion, **those who provide the resources are in a strong position to exercise control over those resources which are critical to the survival of the divisions.** This gives corporate headquarters (i.e., top management or the bosses who can decide on cost allocation) the power to allocate central overhead costs among divisions.

Managing Environmental Demands : It is apparent that the key to organizational survival is the ability to acquire and maintain resources. The question now is : how does the organisation manage environmental demands? The organization should manage environmental demands in order to acquire resources which are critical to its survival. The organisation could not survive if it was not responsive to the demands from its environment. That is, the company has to make decisions relating to the production activity which will bring the maximum productivity at least cost. Preffer and Salancik[30] propose that the organizations survive to the extent that they are effective in managing the demands, particularly those of interest groups upon which the organizations depend for resources. Therefore, the organization manages environmental demands by taking some actions which reduce the probability of being subject to successfull enforcement of external demands. The reaction of the organisation against cost allocation depends on how critical the resource is to its survival.

Conclusions

This paper has examined the literature on central costs allocation for the purposes of performance evaluation. The theory and empirical evidence indicate that the allocation or non-allocation of central overhead costs for the purposes of performance evaluation is made to influence the behaviour of divisional mangers to take action in the best interests or the company as a whole. Given that both the allocators and non-allocators claim the same rationale for cost allocation, alternative explanations for companies' practice regarding this issue were examined. The evidence suggested by these explanations may hot be convincing. Therefore, the need to provide further explanations may still be required. In this regard, cost allocation has been examined from a resource dependence perspective. Headquarters who provide the resources needed by divisions may require the allocation of the costs of such resources, because they represent resources consumed by user divisions.

Some may argue that this still does not tell us why some companies choose to allocate costs and others do not. The view here is that where the resource is critical to the survival of the division and outside suppliers are not allowed then allocation is likely. However, for the same resource which is not very critical to the success and survival of the firm and the providers of the resource are not very powerful, it is unlikely to allocate the cost of such resource.

This might give an indication of why some companies allocate costs and some do not. Nonetheless, it is only a view and it needs to be empirically examined at both headquarters and divisional levels. In this regard, further research may propose that interdependency amongst divisions is associated with the size of corporate overhead. If this is the case, then it is hardly surprising that there is an association between allocators and the degree of interdependency since non-allocators are likely to have tower amounts of corporate overheaps. Thus, empirical analysis of resource dependency would involve identification of the following :

- Companies with a high and low propensity to allocate costs.
- Companies with high and low levels of corporate overhead.
- Companies with heterogeneous and homogeneous interdependencies across divisions.

In addition given that the focus of the paper is on the acquisition of resources and cost recovery it may be suggested that cost allocation and resource **dependence has to be tackled in relation to the Swamy's unique financial management model of "Punctured Investment Cycle Tyre"[31].**

Finally, it is said that managers of large-size firms will manipulate accounting numbers to reduce political costs (i.e., higher taxes, stricter regulations etc..). Accounting-based evaluation models can play a major role in assessing the impact of investment projects on reported income. In this regard, one might want to explain how controls can be exercised over overhead costs in the context of multinational controlled firms in Bahrain. Multinational companies in controlled economies like Bahrain are interested in maximising profits at the expense of self-reliance of countries like Bahrain as MNCs are suppliers of capital and technology and hence exercise control over costs and prices. As such, they exercise monopoly rights in developing countries (e.g., Bahrain) and may increase overheads and other costs for the host country. Thus, detailed case studies of this would be needed enumerating various cost allocation techniques and their significance in the context of the study.

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