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**Alternative Evaluations of Indirect Labor in an International Public Sector Entity****Steven P. Landry\* Canri Chan****Abstract**

A major problem in trying to assess cost accuracy lies in the understanding and “proper” assignment of overhead costs. Activity-Based Costing (ABC) has been offered as a means to address the inaccuracies generated by traditional costing systems, particularly the problem of “cross-subsidization” of costs. Much of the research on ABC has focused on the for-profit sector, primarily in manufacturing. More recently, services have received attention with respect to ABC analysis. We provide an ABC analysis of a nonprofit/governmental service organization, specifically the Hong Kong Housing Authority (HKHA).

**I. Introduction**

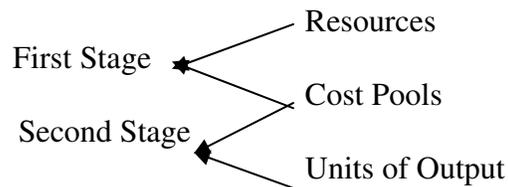
From a for-profit business perspective, organizational strategy is based, in its simplest construct, either on the creation of product differentiation or the development of a product cost advantage (for example becoming or remaining the low cost producer). The latter, in particular, requires the availability of relevant and accurate information regarding product costs. For governmental or nonprofit organizations, policy generally drives strategy which does not necessarily fall within the constructs of product differentiation or cost advantage. Nevertheless, successful implementation of a chosen strategy or policy, whether for-profit or nonprofit, depends in part on the availability of relevant and reliable financial information, particularly cost information. Both types of organizations suffer from resource constraints and under ceteris paribus conditions would prefer that marginal benefits exceed marginal costs.

In focusing on costs, a major problem lies in the understanding and “proper” assignment of overhead costs. Activity-Based Costing (ABC) has been offered as a means to address the inaccuracies generated by traditional costing systems, particularly the problem of “cross-subsidization” of costs. Much of the research on ABC has focused on the for-profit sector, primarily in manufacturing. More recently, services have received attention with respect to ABC analysis. We provide a case study of an ABC analysis of a nonprofit/governmental service organization, the Hong Kong Housing Authority (HKHA) which administers/manages public housing in Hong Kong. Specifically, this case examines how HKHA’s costing applications scheme compares with a potential Activity-Based Costing (ABC) allocation.

The organization of the article follows. The next section provides an overview of traditional costing and ABC costing. The background of the case study will then be presented followed by an analysis of cost allocations and a discussion section. The final section presents conclusions and recommendations.

**II. Overview of Traditional and Activity-Based Costing****Traditional Costing**

Traditional cost systems use a two-stage procedure to assign an organization's indirect and support expenses to outputs. Operating expenses are assigned first to cost pools and second, to the outputs of the production process (see Figure 1).

**Figure 1: The Traditional Two Stage Approach**

These traditional two-stage assignment procedures, however, can potentially distort reported costs considerably. Traditional systems allocate overhead costs, to include fixed overhead costs, to products or services (cost objects) on the basis of the cost object's demand for some volume of variable input (the overhead base or denominator in the overhead rate calculation) such as labor, machine hours, material cost, or even units produced. The traditional method assumes all cost objects consume overhead costs equally relative to the denominator activity. The traditional approach often uses too few pools of indirect costs leading to averaged cost allocations versus cause and effect allocations.

In reality, given a multiple array of products and/or services produced by a typical organization, the various output (cost objects) actually use indirect and support resources not in the identical proportions to the amount of the overhead base. Furthermore, an out-of-date overhead allocation base may be significantly uncorrelated to the overhead actually consumed. Utilizing direct labor hours as an overhead allocation base in a highly automated production environment represents a major example. As a consequence, traditional cost systems can skew in a highly inaccurate manner the costs of support activities used by individual outputs. In turn, distorted reported costs may adversely affect the result of performance evaluations and lead to incorrect allocation of resources.

As noted above, these incorrect allocations can lead to incorrect decision making. For example, a product 'over-costed' by the traditional approach may be priced too high, resulting in loss of market share. Similarly, managers may set prices for some products below the cost of the resources used to produce them. The dangers are especially pronounced when hundreds of diverse products are manufactured in various annual output levels. Averaged costs stemming from the traditional approach can load indirect manufacturing costs too heavily on high-output-level (volume) products and too lightly on low-output-level (volume) products, for example, by not appropriately considering set-up activities and costs.

### **Activity-Based Costing (ABC)**

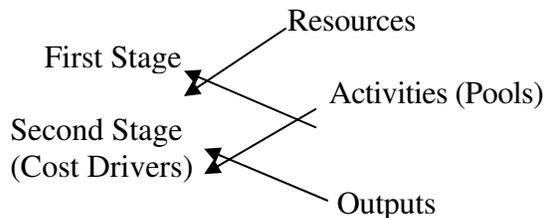
As reported by Kaplan and Norton (1996), utilizing well-designed ABC systems can more accurately allocate costs because they attempt to link work activities to the costs created or demanded of those activities. ABC attempts to identify the cause and effect relationships between drivers of cost and the resulting cost. Activities can be classified into a hierarchy (Cooper & Kaplan, 1992):

- Unit-level activities: performed each time a unit is produced, e.g. drilling holes. They vary proportionately with production or sales volume.
- Batch-level activities: performed each time a batch of goods is produced, e.g. setting up a machine or ordering a group of parts. They are performed for each batch produced but are independent of the number of units in the batch.
- Product-sustaining activities: performed to support the diversity of products in plants, e.g. performing engineering change notices.
- Facility-sustaining activities: performed to support a facility's general manufacturing

process, e.g. facility security, and plant administration and management. They enable production of products or delivery of services to occur but are independent of product/services volume and mix.

ABC uses the following procedure for allocating overhead costs to products (see Figure 2). The first stage takes the costs of certain resources and combines these costs into appropriate and homogeneous cost pools connected to work activities. The second-stage allocation involves finding an appropriate, cause and effect, cost driver to trace the costs in these intermediate pools to the cost objects.

**Figure 2: The Activity-Based Two Stage Procedure Products**



Activity-based costing identifies activities performed by the overhead organization and calculates the cost incurred to perform each activity. Such measures are described as cost drivers. Per cost object (output unit) demand for any particular activity is then multiplied by the amount of the input unit and the cost per activity unit. Costs are traced to products on the basis of the individual product's demand for these activities throughout the process of converting the various inputs into the finished output.

Cost drivers link activities together. Thus, if a batch of 20,000 units of product to be manufactured required 100 different components, the size of the order and the number of components would drive the costs associated with purchasing, receiving, inspecting and handling the material among the many factors of production. The cost of each activity can be calculated by determining the amount of its associated cost to arrive at the total batch cost which, divided by the number of units, will yield a unit value. Further information on ABC can be found in a variety of Cost Accounting text books (for example, Horngren et al., 2009) and journal articles (for instance, Drake et al., 2001).

**III. Background of the Public Sector Entity**

The Hong Kong Housing Authority (HKHA), evolved from three earlier official bodies, namely, the Resettlement Department, the Low Cost Housing Scheme under the former Public Works Department, and an earlier Housing Authority department. HKHA retains responsibility for advising originally the Governor (when under British rule) and now the Chief Executive of Hong Kong, SAR, on matters relating to housing to include the planning, construction, management and coordination of all aspects of public housing and associated amenities.

The Government's public housing program was started in 1954 when a fire swept through the Shek Kip Mei squatter area on Christmas night 1953. To accommodate 53,000 homeless people, by the end of 1954 eight permanent six-story buildings were completed; and the people housed in temporary homes after the fire were moved to this new Resettlement Estate block. A brief timeline since the beginning of the Government's involvement highlighting the major accomplishments is shown in Table 1.

**Table 1: Major Hong Kong Public Housing Accomplishments**

Time Period (Decade)	Accomplishments
<b>The Sixties</b>	<ul style="list-style-type: none"> <li>• Improvements were made to earlier designs</li> <li>• The Temporary Housing Scheme was launched</li> </ul>
<b>The Seventies</b>	<ul style="list-style-type: none"> <li>• The Governor, Sir Murray McLhose, announced a ten-year housing program and the Housing Authority was established</li> <li>• Redevelopment of the Mark I &amp; Mark II estates</li> <li>• Introduction of the Home Ownership Scheme (HOS)</li> </ul>
<b>The Eighties</b>	<ul style="list-style-type: none"> <li>• The Redevelopment Program was stepped up in 1983</li> <li>• The double-rent policy was endorsed in 1986</li> <li>• Formulation of the Long-Term Housing Strategy</li> <li>• The Housing Authority was reorganized in April 1988</li> </ul>
<b>The Nineties</b>	<ul style="list-style-type: none"> <li>• The new Headquarters building was completed in Ho Man Tin</li> <li>• The Mark I &amp; II redevelopment and re-housing programs were completed, providing homes for half a million people</li> <li>• Housing Authority became financially autonomous</li> </ul>
<b>The New Millennium</b>	<ul style="list-style-type: none"> <li>• The Housing, Planning and Lands Bureau was formed in 2002 to oversee Hong Kong's overall housing</li> <li>• The Housing Authority has focused on providing subsidized rental housing to people in need</li> </ul>

Across all the time periods to meet the need of different people, different types of low cost but high standard housing were developed, including squatter areas, interim housing, long-term rental housing, a home ownership scheme, private development and in the latter portion of the timeline a Tenants Purchase Scheme.

#### **IV. Methodology**

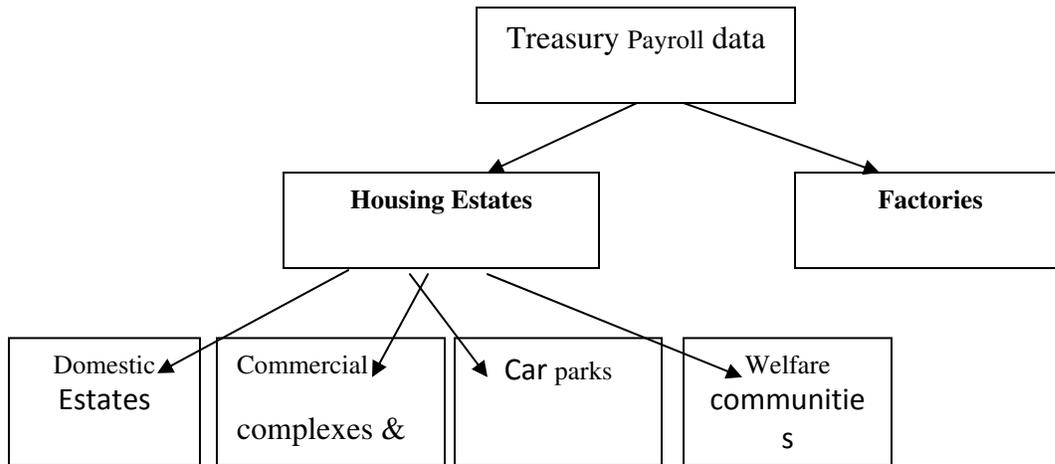
To gather information concerning costs and work activities, interviews were conducted with two Hong Kong Housing Authority accounting staff employees. Of primary interest to the HKHA is how Staff Costs should be allocated in any given housing estate. Under the then current Staff Cost Allocation System, 5 major cost centers were classified as below:

1. Domestic (including public housing & home ownership scheme estates);
2. Commercial complexes (including commercial retail space, hereafter referred to as market stores or, simply, stores);
3. Car parks;
4. Welfare communities (including parks, community centers, etc.), and
5. Factories (e.g. Industrial Estates)

Figure 3 provides a diagrammatic overview.

When allocating staff cost, the Housing Authority included the first four cost centers in the estate. The cost involved in Cost Center 5 was excluded and calculated separately because, although possible, it was uncommon for an estate to have factories. Figure 3 denotes the separation between domestic estates or courts, and factories. The analysis here will focus on allocating staff costs in a housing estate only.

Figure 3: Staff Cost Allocation



A significant number of staff maintains responsibility for the daily operation and management of an estate. Their respective positions and main duties are described later. Staffing depends on the number of tenants, the number and type of facilities in the estate, as well as size of the estate. Thus, the greater the number of tenants, or larger the estate, the greater will be the number of staff.

**Staff Cost Allocation System - Specifics**

Since the Authority became a financially autonomous body in the early 1990's, with independent financing to implement the Government's Long-Term Housing Strategy, a comprehensive cost allocation and control system was needed to collect cost-related information to administer the estates. Under the Staff Cost Allocation System, at the end of each month, each staff member receives a time sheet. Based on their perception and experience, they fill out the time (usually in terms of a %) used in each of the four cost centers. For example, in April, suppose Workman A spent most of his or her time in lift (elevator) maintenance in public housing buildings and electrical facilities repair in the commercial complex area. In filling his or her time sheet, greater %'s would be allocated to domestic and commercial complex, while less %'s would be allocated to car parks and welfare communities. The total % should add up to 100%. As different staff members contribute different amounts of time in different cost centers, the % allocations of each cost center in total are taken and averaged according to this formula:

$$\text{Average \%} = [\text{Total amount of time (total \%)}] \div [\text{No. of staff in the same position}]$$

For example, there are 3 Housing Officers in estate A, they contribute 40%, 50%, and 60% of their time, respectively, in the Domestic Cost Center.

$$\text{Average \%} = (40\% + 50\% + 60\%) / 3 = 50\%$$

So the average % of Housing Officer time used in the Domestic Cost Center is 50%. All average %'s are calculated using this method or algorithm.

**Allocation Illustration of Gu Kong Estate**

Noting the proprietary nature of HKHA data, the data that follow, although realistic, are 'masked' with respect to the identity of the particular estate in Hong Kong. Specifically, although the data relate to an actual estate, the name of the estate has been given a fictitious name. The primary purpose here is to explain and understand how the system works. The following is an illustration of Staff Cost Allocation System applied in "Gu Kong Estate". In the Gu Kong estate, there are:

- a. 4 public housing buildings: 7,600 flats
- b. 90 stores in the market;
- c. 1 car park with 450 parking spaces; and
- d. Several parks, a community center and a youth center.

The number of the housing staff and their main duties are:

- a. 1 Housing Manager: the head of the estate office, responsible for communicating and reporting estate matters to the HKHA; required to write reports and hold meetings;
- b. 3 Housing Officers: they are the middle managers with duties including dealing with different types of complaints, including handling related documents and writing reports; conducting telephone interviews with complainants; arranging workmen to repair or refurbish facilities; and inspecting the buildings along with carrying out follow-up procedures;
- c. 3 Estate Assistants: they are responsible for rent collection for domestic, commercial complex, car parks and community facilities, a total of 8,142 units (7,600 flats, 90 stores and 450 car parks, 1 community center and 1 youth center); preparing reminder letters for those who have not yet paid rent in the month and to collect the late rent;
- d. 8 Workmen: they are responsible for repairing, maintaining and refurbishing estate public facilities and equipment, e.g., fences, water pipes and pumps, main drainages, lighting

equipment, notice boards, lifts, electrical wires, fire hose reels, security equipment, etc. (the above grouped as major case). Also, they are responsible for repairing, maintaining and refurbishing in-house equipment, e.g., water taps, water pipes, drainages, door locks, doors, toilets, etc. (the above grouped as minor case);

- e. 2 Clerical Officers: they are responsible for handling tenants’ documents, e.g. application of Home Ownership Scheme, Tenants Purchase Scheme, car parks, market stores, changing of flats, admission and deletion of tenants, affairs about new tenants, etc.

Table 2 depicts the staff cost (in Hong Kong Dollars) allocation of Gu Kong Estate for one month. The five different positions in Gu Kong Estate receive pay as follows. One Housing Officer receives \$14,000 per month, and the two other Housing Officers receive \$13,000 each per month (total \$13,000 x 2 = \$26,000) as they are less experienced. Noting that the average % contributed to the domestic cost center is 50% (calculated earlier), \$7,000 + \$13,000 = \$20,000 would be allocated to the domestic cost center (\$14,000 x 50% = \$7,000 and \$26,000 x 50% = \$13,000). As for the 3 Estate Assistants, each one has a monthly salary of \$12,000, so the total monthly combined salaries would be \$36,000 (\$12,000 x 3); and the cost allocated to the domestic cost center would be \$27,000 (\$36,000 x 75%). As for the commercial complex, assuming the average % was 5%, \$1,800 would be allocated (\$36,000 x 5%). Under the current system, the total staff cost allocated to domestic, commercial complex, car park and welfare community would be \$135,500, \$27,680, \$21,830 and \$7,990, respectively. A summary report containing this information would be sent to the Housing Authority Headquarters for further analysis.

**Table 2: Salary Report Summary of Gu Kong Estate**

*Note: The monthly salary included fringe benefits, e.g. sick leave, holiday leaves, etc.*

Position	No. of staff	Salary per month	Total Monthly Salary	Cost Centers							
				Domestic		Commercial Complex		Carparks		Welfare Community	
		\$	\$	\$	Avg.	\$	Avg.	\$	Avg.%	\$	Avg.%
Housing Mgr.	1	23,000	23,000	11,500	50%	6,900	30%	3,450	15%	1,150	5%
Housing Officer Officers	1	14,000	14,000	7,000	50%	4,200	30%	2,100	15%	700	5%
	2	13,000	26,000	13,000	50%	7,800	30%	3,900	15%	1,300	5%
Estate Asst.	3	12,000	36,000	27,000	75%	1,800	5%	5,400	15%	1,800	5%
Workmen	4	11,000	44,000	35,200	80%	3,520	8%	3,520	8%	1,760	4%
	4	8,000	32,000	25,600	80%	2,560	8%	2,560	8%	1,280	4%
Clerical Officer	2	9,000	18,000	16,200	90%	900	5%	900	5%	0	0%
Total	17		193,000	135,500		27,680		21,830		7,990	
Total excluding Mgr	16		170,000	124,000		20,780		18,380		6,840	

**Selected Uses of Financial Data**

To highlight the significance of this cost category, according to the interviewees, staff cost contributes about 60% of the total costs in an estate. One of the uses of the financial data is *to charge the right costs to the right cost centers* (i.e. domestic, car parks, etc.). Also, the information is used to *prepare financial statements*. Other important uses of the financial information include *work evaluation of an estate* and *cost control*. By collecting all estates cost allocation summaries along with supporting detail, comparisons can be made. These include

comparing estates past records along with estate-to-estate comparisons showing which estates have high costs and which estates have low costs. Inspections and investigations are necessary follow-up activities to find out why an estate reported high costs relative to some benchmark. Is the cost center being overcharged? Are the costs due to poor maintenance of buildings? On the other hand, why might an estate have lower than anticipated costs?

With respect to price setting, the data in Table 2 show the costs for each cost center thereby providing indicators for determining fees and charges for services provided. Although HKHA is a nonprofit entity, it is a financially autonomous, self-sustaining body. Therefore, the charges should be high enough to cover the costs and possibly even include an incremental amount for future reinvestment (replacement of fixed assets and so forth). If the costs of services increase, price adjustments may be needed. Such revaluations are typically carried out every two years (the fees and charges of services provided are standardized across all estates). In this light, the estate representatives and other external parties, usually the district officers or political parties, are particularly interested in the financial information and making inquiries regarding the rental rates and/or selling prices of public housing.

#### **V. Analysis of Cost Allocations**

##### **Problems of Staff Cost Allocation Systems**

The two interviewees were asked for their opinions regarding the staff cost allocation system. Both of them believed using time spent was an acceptable and reasonable measure for allocating staff cost because the number of hours spent multiplied by staff salaries fairly represented the economic value being rendered by the staff. The system in their mind reflected a true and fair view of cost allocation.

However, in analyzing their responses, there are some problems with the current system. It uses too few pools for staff costs and only one driver (allocation base) which is the number of hours (time spent). It may not be appropriate for some activities to use time spent as allocation base. For example, when a Housing Officer handles complaints about facilities breakdowns, he/she has to arrange for (contract) workers to make repairs. The activities of arranging workers are not directly related to time spent but rather to the number of workers with whom he/she contracts. Accordingly, a more appropriate allocation base would likely be the number of workers rather than time spent.

Another problem resides in how the staff currently fill out time sheets based on their experience and knowledge without more specific, objective measures. This results in cost allocations possessing overly broad averages. Part of the staff cost may be allocated inconsistently because the allocation in some cases may have been based on the actual amount of time, while in other cases the allocation may have utilized budgeted amounts of time. Cost centers may be overcosted (undercosted). In situations where workers are inefficient (efficient), more (less) costs are allocated to the cost centers as workers allocate more (less) % of time to the cost centers.

Should the resulting cost inaccuracies make their way onto financial reports, management may be prone to making erroneous decision such as the selling or renting of a flat lower than cost. Also, the broad averages may load indirect (overhead) costs too heavily on high output volume product (domestic flats and courts) and too lightly on low output volume products (commercial complex and car parks).

##### **Recalculate Staff Cost Using ABC in Gu Kong Estate**

Noting the potential problems that exist under the current Staff Cost Allocation System, the focus now is on the recalculation of staff costs in Gu Kong Estate using ABC. The cost objects in Gu

Kong Estate remain the same: namely the domestic flats and courts, commercial market stores, car parks and welfare community facilities. Activities are classified as follows: handling complaints across four activities include handling complaint documents; telephone interviews to the persons who made the complaints; arranging workers if the complaint related to repairs or maintenance of facilities and equipment; and inspection to include follow-up. The interviewees provided input that essentially allowed only for ‘unit-level’ and ‘facility-level’ aspects for the cost hierarchy.

With regard to the salaries paid to the responsible staff as noted in Table 2, there are 3 Housing Officers. One is paid \$14,000/month and the other two are paid \$13,000/month. Their combined monthly salaries total \$40,000. It is assumed that all staff members work 176 hours month, so the hourly rate of a Housing Officer is \$76/hour (\$40,000/176 hours). Finally, the budgeted rates are calculated by this formula:

$$\frac{\text{Budgeted Time}}{\text{Required (hours)}} \times \frac{\text{Budgeted Hourly}}{\text{rate of the activity}} = \frac{\text{Budgeted Cost}}{\text{of the activity}}$$

Take an example of handling documents for complaints. If the time required to handle a document by an efficient staff member is 2 hours, and the hourly rate of a Housing Officer is \$76, then the budgeted rate for this activity would be \$152/document (\$76 x 2). To take another example, rent collection requires issuing letters for those who have not yet paid rent in the month. The cost driver of preparing such letters is the number of letters. Assume that such a letter requires 15 minutes to prepare, and the hourly rate for an Estate Assistant is \$68. The budgeted rate, then, for preparing a letter would be \$17/letter (\$68 x 0.25). Other activities are calculated using the same approach.

One point to note is the omission of the Housing Manager in the cost allocation. The function of the Housing Manager is a facility-sustaining activity, e.g., administration and management. This staff person enables delivery of services to occur but the related staff cost is independent of service volumes and/or mix. Thus, this salary cannot be allocated to the cost centers on any basis different than how was done using the existing cost allocation method or same analogous method. As for the other staff, they perform unit-level, batch-level, and/or product level activities and their costs vary proportionately with respective activity volumes.

Appendix A depicts the allocation of costs to the four cost centers based on the units of services used. The cost allocated is based on this formula:

$$\text{Budgeted Rate} \times \text{Actual Volume of Activity} = \text{Cost allocated to the Cost Centers}$$

Assume there were 85 complaint documents for the domestic center and 55 documents for the commercial complex to address, respectively. The costs allocated would be \$13,814 (\$162.51 x 85) to the domestic center and \$8,938 (\$162.51 x 55) to the commercial complex. Other costs are calculated similarly. The last column shows the total costs allocated as a consequence of the activity. The bottom row depicts the total costs allocated to the four cost centers. All these exclude the cost of the Housing Manager.

### Comparing the Result of Staff Cost Allocation & ABC

Table 3 shows that the amounts allocated to the four cost centers do differ when comparing the Staff Cost Allocation Method and ABC. The current method allocates more Staff Costs to the Domestic cost center while allocating less to the remaining centers. Given the range of costs derived from the two cost allocation methods, the Domestic center contains in the neighborhood of 67% (2/3) of activities and costs to administer. The \$9,714 difference relative to the \$170,000 total costs (not including the Housing Manager) amounts to about a 5.7% swing. The

\$9,714 difference relative to the Domestic Estate Existing Staff Cost Allocation of \$124,000 is 7.8%.

**Table 3: Comparison of Cost Allocated by Existing Staff Cost Allocation & ABC (Excluding Housing Manager)**

	Domestic Estates	Commercial Complexes	Car Parks	Welfare Communities	Total
Existing Staff Cost Allocation	\$ 124,000	\$ 20,780	\$ 18,380	\$ 6,840	\$ 170,000
ABC	114,286	25,426	21,263	9,025	170,000
Difference (relative to ABC)	9,714	(4,646)	(2,883)	(2,185)	- 0 -
% Difference from Existing Staff Cost Allocation	7.8%	22.3%	15.7%	31.9%	

(see Appendix A for details of calculations)

## VI. Discussion

### Problems and Limitations of Using ABC in an Estate

It is unquestionable that ABC can be beneficial (Drake et al., 2001). However, there are some practical problems and limitations. Implementing and using ABC requires collecting information about the duties from the estate staff. However, some activities performed may be trivial or difficult to classify, e.g. receiving or distributing keys to tenants. The identification, deriving, and categorization of activities may be a quite lengthy and time-consuming process.

Another practical problem lies in cost driver selection. In this case it was done primarily on the basis of judgments as to what were considered to be the more influential factors. The activities selected may have actually consisted of several important sub-activities; e.g., handling complaints including related documents; conducting telephone interviews; arranging workers; and conducting inspections. Each sub-activity could very well have its own cost driver. Trying to categorize activities to ever lower levels can lead to too many activities and cost drivers which in turn can create an overly complex cost system.

A final limitation of using ABC has to do with the nature of the organization at the heart of this case. The HKHA will generally provide similar services and charge standard prices for the same services across all the estates under its administrative control. Therefore, even in the scenario where ABC could provide more accurate cost information, its usefulness may be minimal in the management of the estates. To take a simple example, assume the ABC suggests that the cost of repairing a water pump in estate A should be different from the same repair in estate B and that these repair costs were to be recaptured through estate management fees. Given political influences in Hong Kong, and the fact that tenants expect from past experience to be charged at the same standard rate across the city, complaints could arise resulting in significant external costs dealing with the various stakeholders beyond just the

tenants affected. The potential ‘political costs’ may not be worth the effort to charge more accurate costs and rents that differ from estate-to-estate.

### **VII. Conclusions and Recommendations**

ABC can bring significant benefits, especially improving the accuracy of costs allowing for better decision making. Should the HKHA switch? Based on the analysis in this case, there could be some benefit. However, one may want to reconsider analyzing the activities since it may be that the activities denoted by the interviewees were ‘misspecified’ and/or not complete. For instance, the interviews did not identify any ‘batch-level’ or ‘product-level (cost center)’ hierarchical activities which may in fact exist. On the other hand, while the need to obtain accurate unit cost information is especially important to profit making organizations for strategic decision making, it may not be essential to a non-profit, public sector organization, such as HKHA. The mission of the HKHA, while acknowledging its need to be self-funding, is to provide people with low cost but high standard housing, rather than making profits. Using a greater number of cost pools and cost drivers will make allocations more accurate, but accounting systems with many indirect cost pools and allocation bases are more expensive to implement and use. Another important point rests in that financial data constitutes just one of the factors affecting the HKHA’s decision making. Other non-financial factors such as the interest of the tenants, government policy, the power of political entities, etc., have to be considered. The various decisions that HKHA must make cannot just rely on financial data. Frequently, noting the possibility of prices lower than costs, the government may subsidize services. For example, the government in its home ownership schemes hopes to increase flat (home) ownership. Consequently, in some situations the HKHA is willing to set low prices for flats in a public housing building even if below cost.

Although the current Staff Cost Allocation System uses overly broad averages, thereby loading indirect costs too heavily on the Domestic Cost Centers, the discrepancy appears only marginal significant in total and may be fairly inconsequential when further allocated to each individual flat. Also, since the services provided in estates are nearly all standardized, staff spend more or less equal amounts of time performing similar tasks thus minimizing the likelihood or magnitude of over-costing or under-costing.

As always, there needs to be a cost-benefit consideration when designing cost allocation systems. ABC has benefits, e.g., potentially better pricing decisions, and cost-control decisions. However, if HKHA were to adopt ABC, costs may not only increase in additional data gathering, but also in taking time to educate management about the new systems, related computer programming, and software needed to make the changes.

By using more and different cost drivers for different activities under ABC, costs are allocated to the cost centers in a more logical and acceptable method when compared to the existing Staff Cost Allocation Method which only uses one base – overall time spent - as the allocation base. ABC can remove or reduce the distortions and improve cost accuracy. Cost centers are less likely to be over-costed or under-costed by using ABC.

Since the financial data are used for work evaluation of different estates, if upper management finds abnormal performance, they will investigate as to the reasons. The more accurate the information, the higher the probability that management will have of conducting properly directed, efficient investigations in respective housing estates. Otherwise, human resources may be misdirected by investigating incorrectly identified problem areas.

As ABC provides relatively more accurate costs, it can lead to better decision making, e.g., charging the appropriate fees for the services provided, and fairly charging tenants for rents. The

HKHA can better ensure that service fees and rents cover costs. Price setting is a key decision for the sale of flats under both the Home Ownership Scheme and Tenants Purchase Scheme. Better understanding of the cost center costs and the activities that drive the costs enable more informed decisions. For instance, if a building was poorly built and required very high maintenance costs, then the building may not be sold to tenants given policy and social constraints. Under ABC, staff cost should be allocated based on budgeted rates, rather than actual rates, to provide more realistic costs. For example, under the current cost allocation method, if a worker is inefficient, more cost will be allocated to the affected cost center since he/she will allocate more % of time to it when filling the time sheet. Under ABC, the cost would be allocated based on the activities used in each of the cost centers thereby making it more objective.

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**Appendix A: Recalculate Staff Cost Using ABC in Gu Kong Estate.**

Activities Area	Budgeted Rate\$	Domestic		Commercial Complexes		Car parks		Welfare Communities		Total Cost \$
		*No. of Units	**Cost of \$	No. of Unit	Cost of \$	No. of Units	Cost of \$	No. of Unit	Cost of \$	
Housing Officer Salary										40,000
- handling documents	62.52/document	85	13,814	55	8,938	30	4,875	12	1,950	29,577
- telephone interviews	0.95/call	55	3,352	25	1,524	16	975	3	183	6,034
- arranging workmen	0.33/worker	15	305	12	244	10	203	3	61	813
- inspection	1.25/case	30	2,438	6	488	5	406	3	244	3,576
Housing Officer Allocation (\$2 rounding error subtracted from Domestic 'handling documents' line)		19,909		11,194		6,459		2,438		40,000
Estate Assistants Salaries										36,000
- preparing letters	17.20/ltr	80	1,376	8	138		516	7	120	2,150
- collecting rent	4.15/rent	7,600	31,600	90	374	30	1,868	2	8	33,850
Estate Assistants Allocation (\$60 rounding error added to Domestic 'collecting rent' line)		32,976		512		2,384		128		36,000
Workmen (major case work) salaries										44,000
- repairing & refurbishing public equipment	611.11/major case	38	23,222	15	9,167	13	7,944	6	3,667	44,000
Workmen (major case work) Allocation (\$1 rounding error added to Domestic 'collecting rent' line)		23,222		9,167		7,944		3,667		44,000
Workmen (minor case work) Salaries										32,000
- repairing & refurbishing in-house	145.45/minor case	161	23,419	22	3,200	21	3,054	16	2,327	32,000
Workmen (minor case work) Allocation (\$ rounding error added to Domestic 'collecting rent' line)		23,419		3,200		3,054		2,327		32,000
Clerical Officer Salaries										18,000
- handling documents	54.63/document	260	14,203	24	1,311	24	1,311	8	437	17,262
- answering telephones	13.93/call	40	557	3	42	8	111	2	28	738
Clerical Officer Allocations (\$1 rounding error subtracted from Domestic 'handling documents' line)		14,760		1,353		1,422		465		18,000
Total Cost		114,286		25,426		21,262		9,025		170,000

\*No. of Units stands for number of times an Activity is done/performed \*\*Rounding errors were added to or subtracted from the activities listed in each Domestic Cost Center Employee category to balance with total column

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