BUDGETING PRACTICE IN SINGAPORE – AN EXPLORATORY STUDY USING A SURVEY

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ABSTRACT

This study is conducted to better understand budgeting practice in Singapore which may be critical for increasing competitiveness and productivity for firms, and increasing value-add contribution for accountants. We obtained 356 valid responses from an online survey administered to members of a professional accounting organization. We found that most firms prepare budget and many (about 30%) incorporate significant strategy assumptions in budgets. The time spend on budgeting (10%-20%) is lower than what was reported in US studies, and more time is spent in preparing than using the budget. Budgeting problems (e.g. ratcheting and sandbagging behaviour) are well recognized, but firms preparing budgets with business plans generally deem pros for budgeting exceeding cons. Firms with annual revenue below $1m prepare budget primarily for forecasting cash flows; larger firms focus more on guiding and coordinating business activities, with increasing importance on variance analysis as firm size increases. For firms that prepare budgets with business plans, employee compensation based on budget performance is not as prevalent as expected. About 70% of the firms set budget targets to monitor strategy execution, about 50% set budget target for employee performance evaluation, and about 43% compensate by budget performance. The implications of these findings are discussed.

Keywords: budgeting process; budget gaming; strategic control; performance measure; time cost of budgeting; use of budget

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INTRODUCTION

Budgeting is a ubiquitous activity in business that accountants participate – supporting business unit heads in its preparation, assisting controllers and executives in its review, and even preparing and developing the operating budget itself. Businesses generally prepare two types of budgets – the capital budget and the operating budget. But for our purpose, budgeting refers to the preparation of recurring operating budgets. Capital budgeting, also known as investment appraisal, is non-recurring and uses a different set of tools.

There are two related objectives for businesses to prepare operating budgets. First, budgeting is an integral part of a business strategy where the budget assists managers to allocate resources, monitor progress, and provide feedback on how well the strategy is working (i.e., for strategic control and coordination). Second, budgets are used as performance targets to motivate behaviours supporting the strategy (i.e., for performance measurement). These objectives are related but distinct, and have different implications for the practice and research on budgeting.

A literature review on the practice of budgeting by Neely, Sutcliff and Heyns (2001) suggests that traditional budgeting is broken: Budgeting is found to take up a substantial amount of management time in preparation, revision, negotiation, and review. Yet, managers complain that budgets are negotiated outcomes that are rarely strategically focused. They appear to be based on implicit but invalid assumptions, reinforce departmental barriers rather than encourage collaboration, and misallocate resources based on positional power rather than strategic needs. Budgeting is perceived by managers to focus on cost reduction, ignore value creation and encourage gaming. Budgeting is found to be simply too inflexible: Planning assumptions are often outdated when budgets are finally completed. However, budgets are seldom revised in response to competitive changes and hence, constrain effective strategic responses.

Despite these well-known problems, budgeting is well and alive due to the lack of viable alternatives. Moreover, initiatives to fix budgeting problems have yet to gain traction. For example, Libby and Lindsay (2010) discusses two such initiatives: Activity Based Budgeting (Horngren, et al., 2002) attempts to fix budgeting problem by improving the budgeting process; Beyond Budget (Hope & Fraser 2003) abandons the traditional budgeting process and replaces it with concepts such as rolling forecast, relative performance measure and decentralization of decision control.

Anecdotally, there are wide variations in the effectiveness and practice of budgeting approaches. These variations indicate opportunities for adoption of best practices that enable accountants to value-add to their firms. Paradoxically, using the budget for performance measurement intensifies budget gaming which will ultimately reduce the effectiveness of budgeting for strategic coordination and control (Jensen, 2003). How firms handle the trade-off have a strong impact on their competitiveness. However, current budgeting practice in Singapore, which may well be the key to help firms unlock greater competitiveness and productivity, is largely unknown. This exploratory study analyses four aspects of budgeting practice: (a) how are budget prepared and used, (b) time spend, (c) usefulness of budgeting in general and for strategic planning and performance measure, and (d) challenges.

DATA: COLLECTION AND PROFILE

We administered an online survey to members of the Institute of Singapore Chartered Accountants from July to August 2015. We obtained 356 responses after eliminating three duplicate responses.

We collected information of the respondent's profile that may enables meaningful subgroup levels analysis. The information includes firm size (by revenue class), firm types (ownership and participation in equity market), firm structure (diversification and primary activity) and the respondents' roles in budgeting.

We collected data covering the four aspects of budgeting using a set of questions. Where agreement to a statement is required, we used a 4-point Likert scale (strongly agree, agree, disagree and strongly disagree) to discourage the respondents from sitting on the fence.

Respondent Profile

The mix of firms by size (measured by category of annual revenue) is diverse. About a quarter (26.4%) are very large firm with over $1b annual sales, another quarter (25.0%) are large firms with annual sales of $100m – $1b, and the remaining half (48.6%) are Small and Medium Enterprise (SME)[1] with annual sales below $100m. The pie chart below summarizes the size distribution with detailed breakdown of the SME:

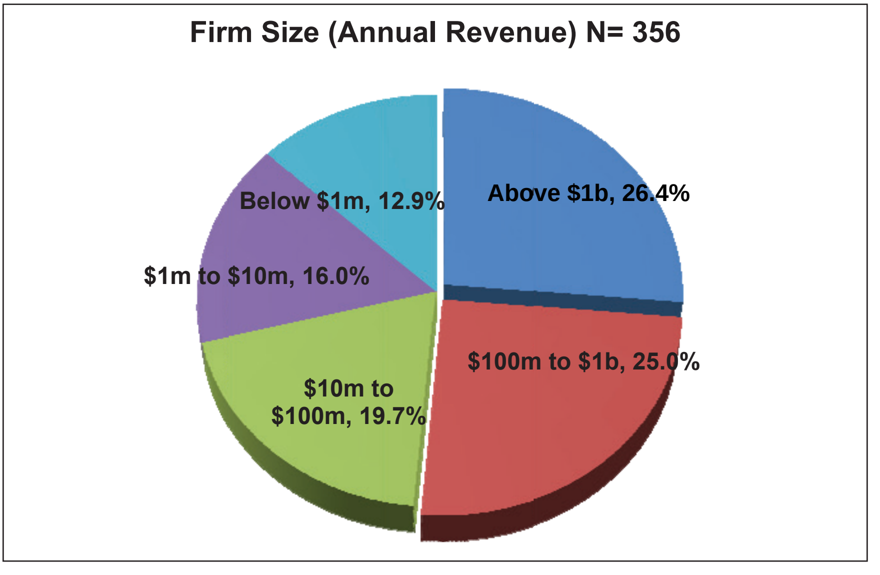

Figure 1: Distribution of Firm Size of Respondents

The respondents work in a wide variety of firms. The tabulated percentages below add up to more than 100% (N=356) because a firm can have multiple attributes (e.g., an organisation might be a multinational enterprise and listed in Singapore). The distribution is tabulated as follows:

1 SPRING defines SME in Singapore based on annual sales (below $100m) or employee number (below 200). The definition is used to access eligibility for SME grants. See http://goo.gl/xzAzQn.

Table 1: Respondents by Firm Type

Ownership and Equity Listing	N	%
Multinational	149	41.9%
Government Linked	31	8.7%
Local	130	36.5%
Non-profit	18	5.1%
SGX Listed	48	13.5%
Listed Overseas	26	7.3%

The budgeting process may be influenced by firm structure arising from the firm's diversification and by the nature of the product (whether the firm provides services or produces goods.). Generally, diversified firms are organized as product or geographical divisions with the possible – but rare – case of combining both in a matrix structure. Firms with low diversification – generally with more than 70% of the revenue arising from a single business[2] – are organized by functional departments. The distribution of the respondents' organisations (N=356) is as follows:

Table 2: Respondents by Firm Structure

Firm Structure	N	%
Diversified Product Divisions	104	29.2%
Diversified Geographic Divisions	56	15.7%
Primarily Manufacturing	41	11.5%
Primarily Service	155	43.5%

HOW ARE BUDGET PREPARED?

The majority of firms prepare operating budgets - only 6.7% of the firms where the respondents work do not prepare budgets. About 40.7% of firms prepares budgets by adjusting last year's budgets through negotiation and without business plans. About 52.5% of the firms prepare the budget base on their business plans, consisting of 23.0% preparing incremental budgets by adjusting from last year's budgets and 29.5% preparing zero based budgets using the business plan as the basis of preparation. There is a clear preference towards incremental budgeting over zero-based budgeting

2 This classification follows from the strategic management literature, specifically Rumelt (1974).

(63.7% vs. 29.5%). This is consistent with the view that the preparation cost for incremental budgets is lower than zero based budgets. Overall, more budgets are prepared based on a business plan than without (52.5% vs. 40.7%). The summarized data are as follows:

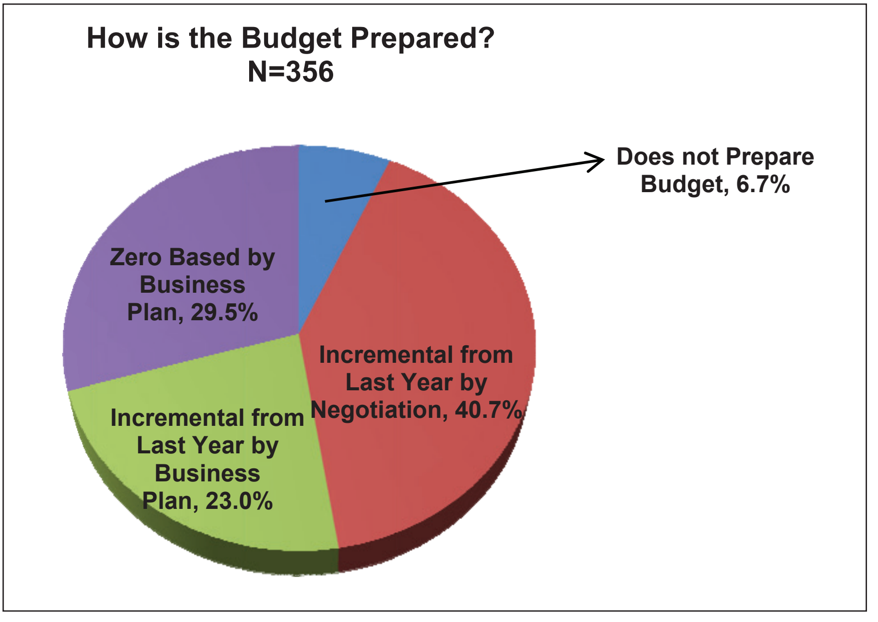

Figure 2: Distribution of the Basis of Budget Preparation

We examine if subgroup characteristics change the way budgets are prepared. The results are summarized in the following tables:

Table 3: Preparation of Budget – Analysed by Size

Size (Annual Revenue)	Above $1b	$100m to $1b	$10m to $100m	$1m to $10m	Below $1m
Does not Prepare Budget	2 (2%)	4 (5%)	2 (3%)	4 (7%)	12 (26%)
Incremental from Last Year by Negotiation	41 (44%)	33 (38%)	26 (37%)	27 (47%)	17 (37%)
Incremental from Last Year by Business Plan	24 (26%)	24 (28%)	17 (24%)	11 (19%)	6 (13%)
Zero Based by Business Plan	27 (29%)	26 (30%)	25 (36%)	15 (26%)	11 (24%)
	94 (100%)	87 (100%)	70 (100%)	57 (100%)	46 (100%)

While only 6.7% of all firms do not prepare operating budget, this group is heavily weighted towards small firms with annual revenue below $1m (26% vs. 2% to 7% in the other groups). For firms not preparing any budget, the differences between small firms and every other group are statistically significant[3].

For firms that prepare budgets, there is no clear indication that size is the cause for any difference in budgeting approach. As such, the sub-group analysis does not provide new insight as compared to aggregate analysis for firms that prepare budgets.

Table 4: Preparation of Budget – Analysed by Ownership

Ownership	Multinational	Local Companies	GLC	Non Profit	SGX Listed	Foreign Listed
Does not Prepare Budget	3 (2%)	16 (13%)	2 (6%)	0 (0%)	3 (6%)	0 (0%)
Incremental from Last Year by Negotiation	62 (43%)	48 (38%)	10 (32%)	10 (59%)	23 (48%)	7 (28%)
Incremental from Last Year by Business Plan	37 (26%)	25 (20%)	9 (29%)	3 (18%)	10 (21%)	9 (36%)
Zero Based by Business Plan	43 (30%)	39 (30%)	10 (32%)	4 (24%)	12 (25%)	9 (36%)
	145 (100%)	128 (100%)	31 (100%)	17 (100%)	48 (100%)	25 (100%)

Comparing multinationals with local companies, local companies are more likely not to prepare a budget (13% vs. 2%; statistically significant). Multinationals are more likely to use incremental budget and equally likely to use the zero-based budget as compared to local companies. As seen from the comparisons of GLC with multinational and local companies which are privately held, the introduction of government shareholding appears to increase the use of business plan in budgeting. The non-profit status of the firm has an opposite effect whereby there is a decreased use of business plan in budgeting, and an increased practice of incremental budgeting by negotiation. Interestingly, when a company is listed in Singapore instead

3 We will use the 5% level throughout this report; see http://www.jerrydallal.com/LHSP/p05.htm for a discussion of the rationale and historical background for using the 5% level as cut off.

of overseas, it appears to increase the probability of using incremental budgeting and reduce the link of the business plan with the budget.

Table 5: Preparation of Budget – Analysed by Firm Structure

Organization Structure	Diversified Group by Product	Diversified Group by Country	Manufacturing	Service
Does not Prepare Budget	3 (3%)	1 (2%)	3 (7%)	17 (11%)
Incremental from Last Year by Negotiation	47 (46%)	25 (45%)	14 (34%)	58 (38%)
Incremental from Last Year by Business Plan	22 (21%)	13 (23%)	10 (24%)	37 (24%)
Zero Based by Business Plan	31 (30%)	17 (30%)	14 (34%)	42 (27%)
	103 (100%)	56 (100%)	41 (100%)	154 (100%)

Table 5 shows that diversification affects budgeting in aggregate. The diversification effects are not seen at the detailed level of product or geographical diversification. It also does not extend to the detailed level of whether und iversified firms supply products or services. Diversified firms are less likely not to prepare a budget (2%-3% vs. 7%-11%) and are more likely to use incremental budget by negotiation (45%-46% vs. 34%-38%). There is little difference in the use of business plan for budgeting between the groups.

Respondents who claimed not to prepare budgets were requested to disclose the reason. The most common reasons are that the firms are small whereby the extreme case is a “one man show”. Other reasons include firms in transition (such as start-ups or undergoing restructuring). Some of these firms claim to be able to cope by using cost-benefit analysis for decision making, or claim to use a proforma budget (implying an informal budget that is frequently revised). Companies whose business consists of large, discrete projects prepare project budgets instead of operating budgets. Some companies chose not to prepare budget due to management judgment and gave reasons such as staff turnover and morale problem with budget preparation.

For firms that prepared budget, we examined how the first draft is established by the following three choices:

1. **Top-Down Target Setting**: Top management sets certain targets and allocates these targets to individual business units to develop their draft budgets
2. **Top-Down Budget Setting**: Top management prepares the draft budgets and conveys them to the individual business units for their inputs
3. **Bottom-Up Approach**: Individual business units prepare the draft budgets that are aggregated up the hierarchy

The budget numbers are anchored by the first draft, hence the one who prepares the first draft influences whether the final budget is closer to the ambition of the management or feasibility of the business unit. This outcome is explained by the concept of framing and anchoring in negotiation theory (Bazerman & Neale, 1993). For our sample, some firms do not prepare budget (N=24) and others skip this question by choice (N=12), resulting in 320 usable responses. The breakdown of the budgeting approach is as follows:

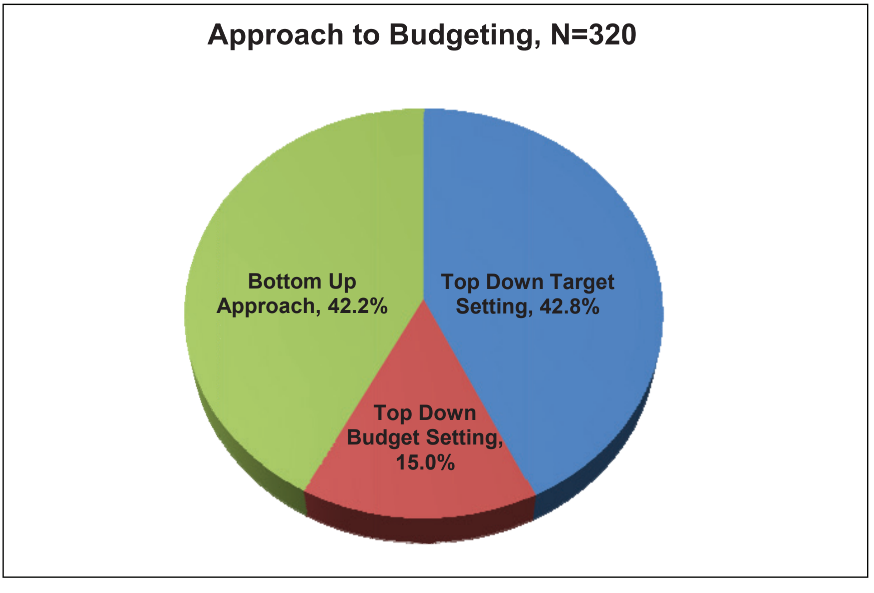

Figure 3: Distribution of Budgeting Approach

The figure above shows that the top-down approach is more prevalent than the bottom up approach (57.8% vs. 42.2%). Target setting is more common than budget setting (42.8% vs. 15.0%) in the top-down approach. This result is expected as setting budgets require more effort than setting targets. We examine if subgroup characteristics has any impact. The results are summarized in the following tables (N=320):

Table 6: Distribution of Budgeting Approach by Firm Size

Size (Annual Revenue)	Above $1b	$100m to $1b	$10m to $100m	$1m to $10m	Below $1m
Top Down Target Setting	36 (43%)	39 (48%)	26 (38%)	18 (35%)	17 (52%)
Top Down Budget Setting	7 (8%)	8 (10%)	13 (19%)	10 (19%)	9 (27%)
Bottom Up Approach	41 (49%)	34 (42%)	29 (43%)	24 (46%)	7 (21%)
	84 (100%)	81 (100%)	68 (100%)	52 (100%)	33 (100%)

Budgeting in companies below $1m annual turnover is distinct from larger companies. About 79% of companies below $1m annual turnover adopt the top-down approach compared to around 50% in larger companies. The results are consistent with the view that management in small companies is more involved in the budgeting process because it is feasible to do so. This hypothesis is supported by the observation that top-down budget setting is observed to decrease with company size in the sample.

Table 7: Distribution of Budgeting Approach by Ownership

Ownership	Multinational	Local Companies	GLC	Non Profit	SGX Listed	Foreign Listed
Top Down Target Setting	59 (42%)	55 (50%)	7 (25%)	5 (31%)	14 (33%)	12 (50%)
Top Down Budget Setting	22 (16%)	17 (15%)	2 (7%)	4 (25%)	4 (9%)	3 (13%)
Bottom Up Approach	59 (42%)	39 (35%)	19 (68%)	7 (44%)	25 (58%)	9 (38%)
	140 (100%)	111 (100%)	28 (100%)	16 (100%)	43 (100%)	24 (100%)

Table 7 indicates that there is a higher proportion (68%) of government-linked companies (GLC) practicing the bottom up approach than multinational, local or non-profit entities (35%-44%). This is a surprising result with no known theory explaining it, and is an interesting question for further research.

Table 8: Distribution of Budgeting Approach by Firm Structure

Organization Structure	Diversified Group by Product	Diversified Group by Country	Manufacturing	Service
Top Down Target Setting	41 (43%)	25 (45%)	17 (47%)	53 (40%)
Top Down Budget Setting	15 (16%)	7 (13%)	5 (14%)	20 (15%)
Bottom Up Approach	40 (42%)	23 (42%)	14 (39%)	58 (44%)
	96 (100%)	55 (100%)	36 (100%)	131 (100%)

The results in Table 8 show that the choice of budgeting approach is not affected by whether a firm is diversified or not. Furthermore, the choice of budgeting approach in undiversified firm is not affected by whether the firm is primarily in manufacturing or service industry.

TIME COST OF BUDGETING

There is no doubt that budgeting is time-consuming. Budgeting is reported to take 20%-30% of managers' time in Hope and Fraser (2003) and 21%-40% in Umapathy (1987). These results are generally accepted as representative of US companies and appear to indicate a trend of reduced time cost over the years. Our survey shows a lower time cost for budgeting where the median lies in the 10%-20% range compared to the US studies. The detailed results are tabulated below.

Table 9: Distribution of Time Spend on Budgeting

	N	%
None at all	39	12%
Up to 10%	81	24%
10% to below 20%	67	20%
20% to below 30%	59	18%
30% to below 40%	45	14%
40% to below 50%	16	5%
More than 50%	24	7%
Total	331	100%

We requested the respondents who prepare the budget with a business plan to allocate their time spent on budgeting activities over a total of 100 points. The results are as follows:

Table 10: Distribution of Mean Time Allocation on Budgeting Activities

	Mean	SD
Developing the Basis	22.4	11.2
Negotiate and Revise Budget	20.5	9.5
Review and Approve Budget	15.7	7.4
Communicate Budget	11.2	6.0
Monitor Budget	14.2	7.0
Budget Variance	16.0	7.9
Total	100.0	

The table illustrates the ratio of time spent in preparing a budget (developing the basis, negotiating and revising, reviewing and approving, communicating the budget) to time spent in using the budget (monitoring budget and analysing variance) is approximately 7:3.

We investigated if the activity allocation varies with the time spent on budgeting in the following figure (the vertical axis is the time spent on budgeting):

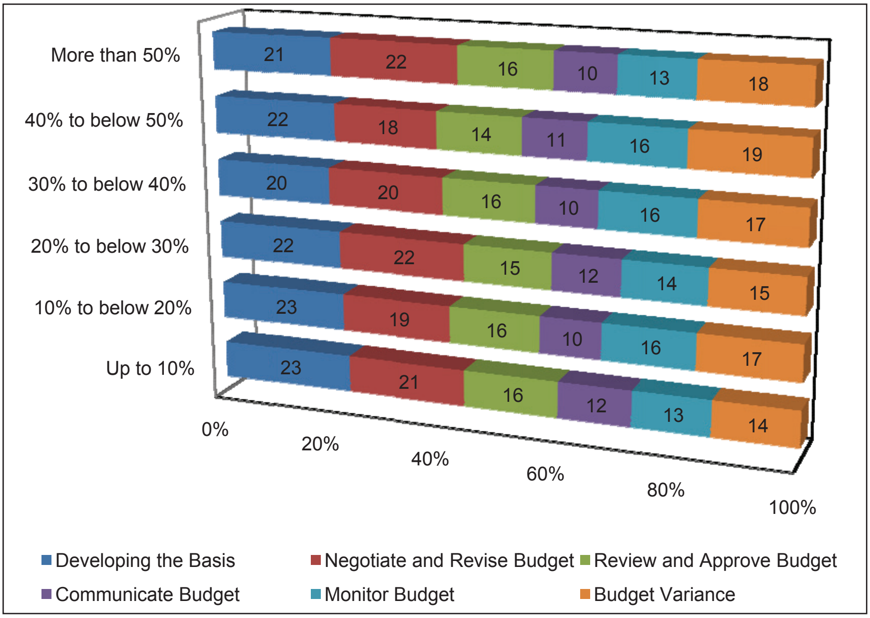

Figure 4: Analysis of Time Allocation of Budgeting Activities by Time Spend on Budgeting

The results show that firms spending less time on budgeting appear to allocate more time in developing the basis of the budget and firms spending more time on budgeting appear to allocate more time for analysing variances. Therefore, firms spending more time in budgeting adopt a more sophisticated use of the budget.

USE OF BUDGET WHEN PREPARED WITH BUSINESS PLAN

We surveyed a subset of the respondents, the firms that prepared budgets with business plans (N=187) on how budgets are used for strategic planning. The common uses (with the proportion of firms for each usage in bracket) are: forecasting cash flow (70%), guiding and coordinating business during the budget period (73%), identifying variances (e.g., price and volume variances) and where necessary, following up (66%), monitoring any changes in business conditions and revising budgets to reflect the changed business conditions when necessary (63%), setting performance targets and evaluating subsequent actual performance against the budgets for future planning purposes (71%), setting performance targets and evaluating subsequent actual performance against the budgets for employees' performance evaluation purposes (51%), and setting performance targets and evaluating subsequent actual performance against the budgets for employees' performance compensation purposes (43%). We examined whether these uses vary by firm size as shown in the figure below:

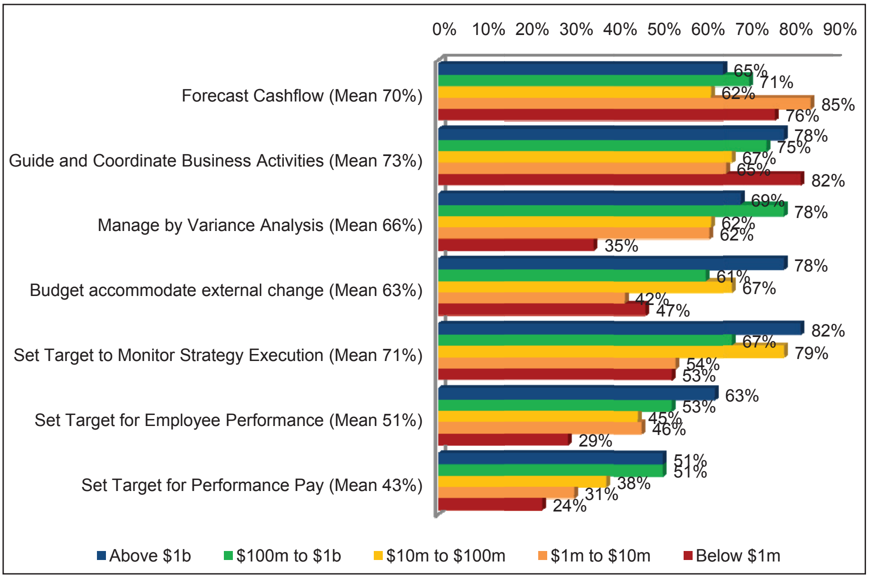

Figure 5: Analysis of Use of Budget in Strategic Planning By Firm Size (N=187)

Forecasting cash flow is a common use (by 70% of all firms) for firms that prepare budgets with business plans. This use is especially important in smaller firms with annual turnover below $10m (used by 76%-85% of the firms). The lower importance of using budget for cash flow forecasting in larger firms (used by 62%-71% of the firms) may arise because these firms use other forecasting methods such as regression models from interim financial statements.

The budget also serves as an important guidance and coordination mechanism for strategy implementation (used by 73% of all firm). With the exception of very small firms earning annual revenue below $1m, use of budget to guide strategy appears to increase with firm size. The anomaly may indicate a different approach used by very small firms. For example, firms generally use the budget to guide and coordinate business activities, and larger firms are more proficient in doing so. However, very small firms use budgets to guide and coordinate business activities with liquidity as the primary constraint. This pattern is consistent with the greater focus of using the budget for cash flow forecasting in small firms.

About 66% of the firms that prepare budgets with business plans also use variance analysis. There appears to be two groups – a minority of very small firms earning annual revenue below $1m (35% use variance analysis), and a majority of larger firms (62%-78% use variance analysis). Variance analysis provides insight on the contribution of price and volume variations to budget deviations. When this information is interpreted with known business activities, it helps to explain the outcome of business strategy. The low use of variance analysis in very small firms probably indicates that maintaining liquidity, as opposed to value maximization, is the primary objective of strategy execution in these firms. It is comforting to note that a majority of the larger firms analyse their variances.

Generally, we expect larger firms to be more sophisticated and extensive in using budgets as a strategic planning tool. Our results suggest that as organisation size increases, firms are more likely to monitor changes in business conditions and revise their budgets accordingly. For instance, only 47% of the firms with annual revenue below $1m use budgeting as a strategic planning tool as compared with 78% of the firms with annual revenue above $1b.

Overall, a clear majority of the firms uses budgets to set targets to monitor strategy execution (71%). This happens less in small firms with annual revenue below $10m (53%-54%), and much more when annual revenue is above $10m (67%-82%). The results are generally consistent with expectation.

Using budgets for setting targets for strategy execution is not equivalent to setting targets for employee performance evaluation, which in turn is not equivalent to paying employee when the performance targets are met. Approximately 30% of the firms that use the budget to set targets for strategy execution do not use the budget to set targets for employee performance evaluation[4]

About 16% of the firms that use the budget to set targets for employee performance evaluation do not use budgets for employee performance compensation[5]. Using the budget results to compensate employee performance is less prevalent than expected, only about 43% of the surveyed firms pay for performance based on budget target achievement.

The prevalence of use of budgets for performance compensation varies with firm size. For firms with above $100m annual revenue, 51% compensates performance based on achievement of budget targets; for firms with $1m to $100m annual revenue, it is approximately a third; for firms with below $1m annual revenue, it is about a quarter.

USEFULNESS OF BUDGET PREPARED WITH BUSINESS PLAN

We use the same subset of respondents whose firms prepare budgets with business plans (N=187) to examine the usefulness of the operating budgets. The results (with the number of respondents in bracket) are summarized as follows:

4 Figure 5 shows that 71% of 187 firms set budget to monitor strategic performance, and 51% of the same 187 firms set target to monitor employee performance. Therefore, of the firms that use budget to monitor strategic performance, 51/71 = 72% also use budget to monitor employee performance. About 30% (more precisely 28%) of the firms that use budget to monitor strategic performance do not use budget to monitor employee performance

5 The logic is similar to footnote 4

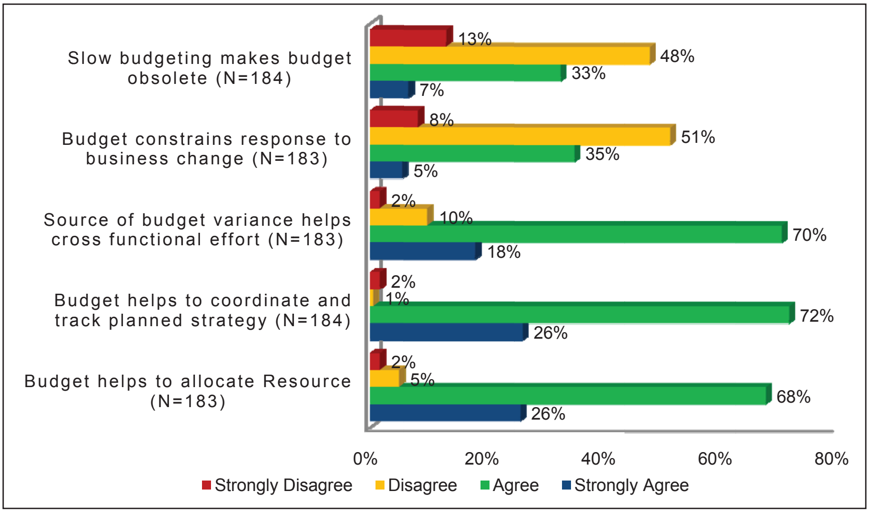

Figure 6: Analysis of Response to Usefulness of Operating Budget

Only about 40% of the respondents agree or strongly agree with the statement that "budgeting takes so long that by the time the budget is ready, it is already obsolete". This result shows that while a significant portion of the respondents think that the slow process makes budgets obsolete, the majority (60%) does not think so.

Similarly, only about 40% of the respondents agree or strongly agree with the statement that "budgeting is too inflexible to keep up with business changes and lock us in for the budget period". This result not only shows that a significant portion of the respondents think that budgets constrain effective response to environmental change, but also busted the myth that this is a majority view.

The value of variance analysis as a business tool is clearly recognized. About 88% of the respondents agree or strongly agree with the statement that "Identifying the source of budget variances helps to initiate cross-functional effort to solve business problems".

There is almost unanimous agreement on the usefulness of budget to coordinate and track planned strategy. About 98% of the respondents agree or strongly agree with the statement that "budget is a useful tool to coordinate and track the progress of planned strategy".

The importance of the budget for resource allocation is well recognized. Approximately 94% of the respondents agree or strongly agree with the statement that "budgeting helps to allocate resources (people and funding) to the departments that need them".

In conclusion, the majority of the respondents, whose firms prepare budgets with business plans, view operating budgets as generally useful.

USEFULNESS OF BUDGET IN PERFORMANCE EVALUATION AND REWARD

We surveyed the respondents whose firms prepared budgets (N=332) about the usefulness of budget for performance evaluation and reward, and the prevalence of known problems.

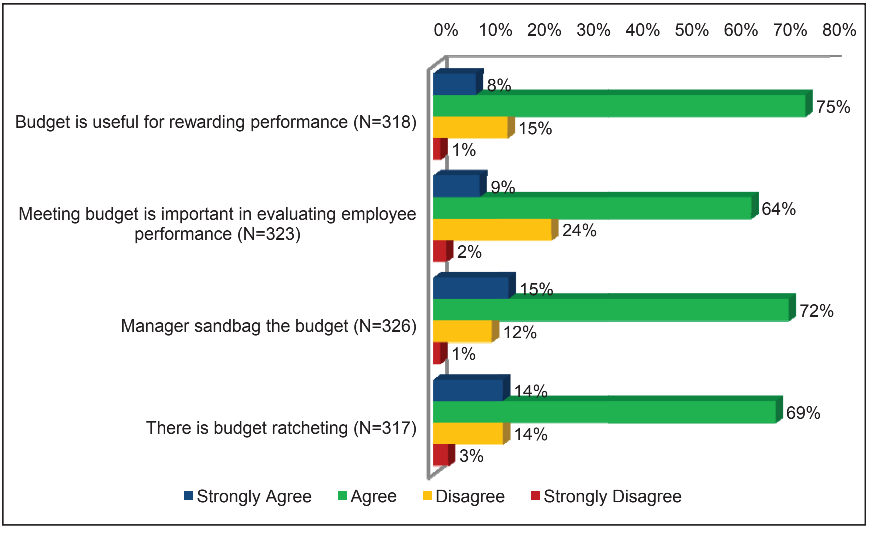

Figure 7: Budget Usefulness for Performance Evaluation and Reward

The usefulness of the budget to reward performance is well recognized. About 83% of the respondents agree or strongly agree with the statement "Budget is a useful tool to measure performance and determine rewards (e.g. bonus, promotion)"

The importance of meeting the budget in performance evaluation is also well recognized. About 73% of the respondents agree or strongly agree with the statement "Meeting the budget is very important in evaluating and assessing an employee's performance".

The problems of budget manipulation are also prevalent. About 87% of the respondents agree or strongly agree with the statement "Managers who develop budget and are responsible for its achievement often build slack into the budget". This problem is commonly called sandbagging (or padding) the budget which distorts true estimates on revenues and expenses.

Budget ratcheting is related to the sandbagging problem. About 83% of the respondents agree or strongly agree with the statement "Managers who review and approve budget often increase the targets over time when targeted performance has been achieved in the past". Budget ratcheting not only counters the slacks built into the operating budget, but also promote behaviours such as unnecessary end-of-period spending so that the budgeted amount remains for the following year.

We surveyed the respondents whose firms prepared budgets (N=332) on whether performance bonus in their firm is linked to budgets and 192 (or 58%) indicated that performance bonus was linked to budget performance. We also surveyed this group of respondents (N=192) about features of the bonus plan. The results are summarized as follows:

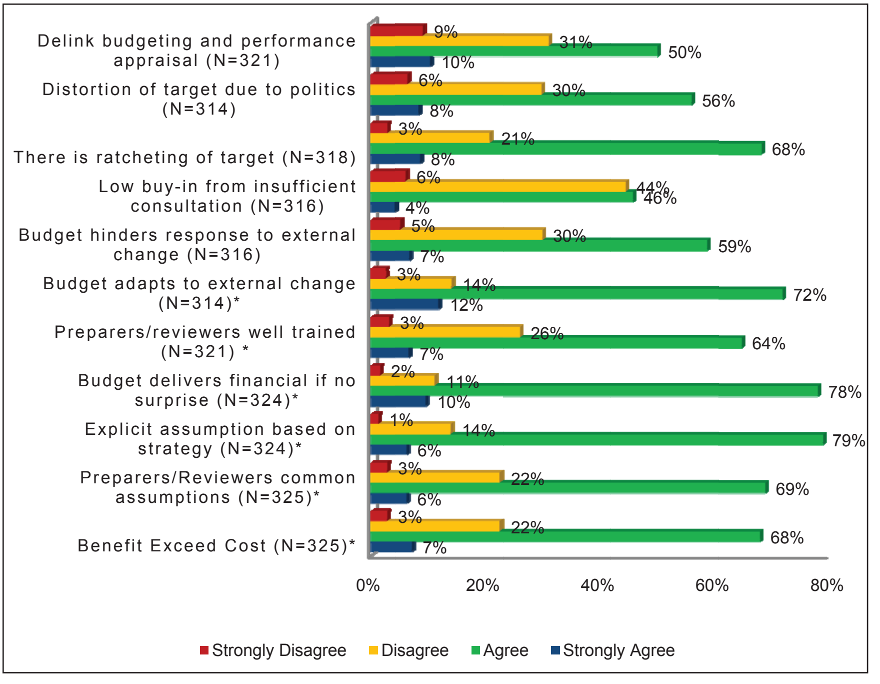

Figure 8: Use of Budget in Bonus Plan

The majority (58%) of the respondents indicates that their bonus is linked to meeting budget. The 42% that claimed otherwise is surprising as anecdotal evidence appears to suggest that bonus is almost always tied to budget performance.

The common features of bonus plan include the presence of a cap (70%), bonus increasing with performance (67%) and bonus payable after exceeding a minimum target (59%).

CHALLENGES IN BUDGET PREPARATION

We surveyed the respondents whose firms prepared budgets (N=332) and explored the challenges in preparing them. The results are as follows:

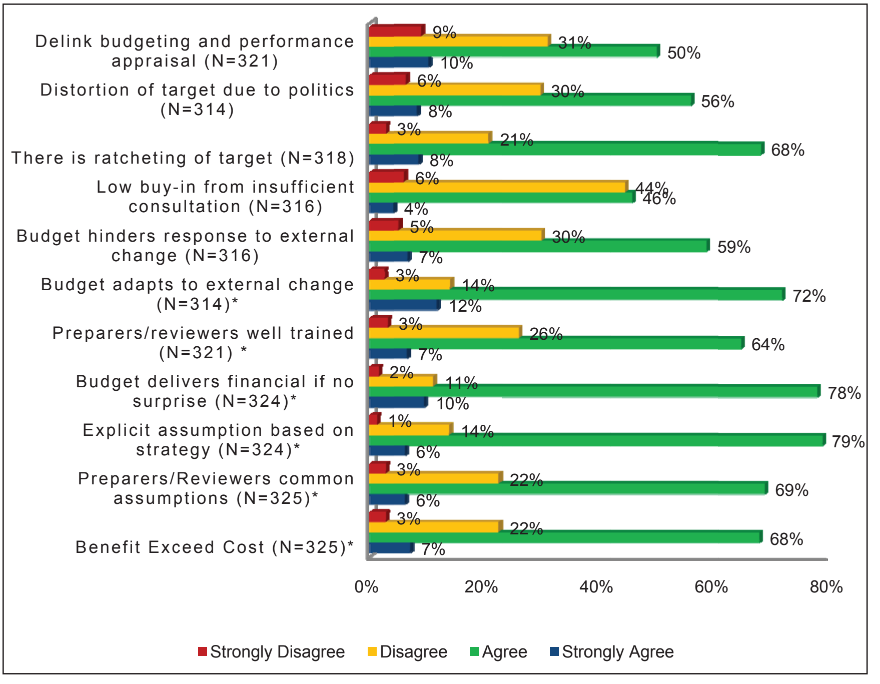

Figure 9: Distribution of Response to the Challenges in Budget Preparation

From the survey results, about 60% of the respondents agree or strongly agree with the statement that "For a firm's operating budget to serve as a more effective tool for strategic planning and coordination, employee compensation should not be linked to budget achievement". Therefore, a majority of the respondents think that budget should not be linked to performance appraisal.

About 64% of the respondents agree or strongly agree with the statement that "There is often so much politics involved in the budgeting process that render the final budget less than an accurate depiction of what the firm can actually achieve". This suggests that the problem that politics degrade the reliability of budget estimates is well recognized.

Budget ratcheting is also a well-recognized problem. Approximately 76% of the respondents agree or strongly agree with the statement that "Expected budget performance is constantly ratcheted upwards when past budgets are met".

The lack of budget buy-in is a common complain. However, only about 50% of the respondents agree or strongly agree with the statement that “There are insufficient consultations and agreement before the budget is finalized, resulting in inadequate buy-in during implementation”.

Changes in the external environment are inevitable and pose a major problem for budgeting as the underlying assumptions may become invalid. For respondents whose firms prepare a budget, a majority perceives the budget to hinder effective response. Approximately 66% agree or strongly agree with the statement that “When there are unexpected changes in business conditions, the budget hinders resource mobilization needed to respond to the changes”. This is a similar question that we asked respondents who prepared budgets with the business plan “Budgeting is too inflexible to keep up with business changes and lock us in for the budget period” of which only about 40% of the respondents agree or strongly agree with the statement.

Another aspect of the effect of external change on budgeting is to revise the budget. This is surprisingly prevalent. About 85% of the respondents that prepare budget agree or strongly agree with the statement that “When there are unexpected changes in business conditions, my firm requires the budget to be revised in light of the changes”. However, only 63% of the respondents who prepare a budget with business plan claimed, “to monitor any changes in business conditions and where necessary, revise budgets to reflect the changed business conditions”. The results captured a subtle difference where approximately two third of the firms actively monitor business changes and make the necessary changes. But a larger 85% of respondents would revise the budget when their organisations know and require changes in budget to changed business conditions.

There is a clear majority view that budget preparers and reviewers are well trained. About 71% of the respondents that prepare budget agree or strongly agree with the statement that “Budget preparers and reviewers are well versed and trained in variance analysis and the use of static/flexible budget”.

About 88% of the respondents that prepare budget agree or strongly agree with the statement that “The budget is a reliable financial projection of the business outcome that will be achieved if things go according to expectations". This result is surprising given that there is also a clear majority that thinks that budget manipulation is common. A possible explanation is that the business outcome will be achieved with a comfortable surplus when the environment is stable. This means that target ratcheting cannot fully compensate for the effect of sandbagging. The validity of this interpretation requires further research.

There is also a clear majority view that the budget is based on explicit assumption derived from strategy. About 85% of the respondents that prepare budget agree or strongly agree with the statement that "the budget assumptions are explicit and arise from an agreed strategy". The result is incongruent with the Neely et al. (2001) which states that budgets are "rarely strategically focused and based on implicit but invalid assumptions". The difference in these two results may arise as the respondents are from different countries and time period.

About 75% of the respondents that prepare budget agree or strongly agree with the statement that "Budget preparers and reviewers share the same understanding of the budget assumptions". The high percentage is indicative of a well-functioning budgeting process in Singapore.

The litmus test whether budgets should continue to exist depends on whether their benefits exceed budgeting costs. About 75% of the respondents that prepare budget agree or strongly agree with the statement that "the benefits outweigh the costs (time and resource spent) of the budgeting process". The results show that budgeting would continue to exist in Singapore on its own merits and not due to the lack of viable alternatives or tools.

DISCUSSION AND CONCLUSION

Budgeting is a ubiquitous business activity that holds the key to greater competitiveness and productivity, but there are some concerns that traditional budgeting is broken. The accountant's role need not be limited to coordinating budget preparation – such as designing the template and aggregating department budgets to the firm level – but can be elevated to higher value-adding activities such as analysing variance, educating managers on using variance for decision making, supporting analysis such as breakeven, costing, tracking strategy implementation and performance. Our motivation for this study is to better understand this lever and identify where accountants can help.

We found that about 7% of Singapore firms do not prepare budgets, and nearly 30% incorporate business strategy assumptions in budgets to a large extent. About a quarter of the firms with annual revenue below $1m do not prepare budgets, which is much higher than the overall average of 7%. Expectedly, incremental budgeting is more popular than zero based budgeting because it demands less resource.

About 40% of Singapore firms prepare budgets without any business plan compared with 14% in the US. These firms are likely to benefit from discussing about the business strategy and programs before preparing budgets when sequencing the business planning process. Accountants who are involved in the planning stage can better help managers to assess the financial impacts of their plans. The rewards for the accountants come later when the basis of the budget is more easily understood and the managers will be more cooperative in meeting the deadlines for submitting budget drafts.

Multinational companies are more likely to prepare budgets than local companies; diversified firms are more likely to prepare budgets than non-diversified firms. These results allude to more extensive use of budget for strategic control as firms operate in more locations and have more significant business units. The prevalence of the top down approach to bottom up approach to budgeting is approximately 60:40. Top down approach is especially common in small firms while the bottom up approach is more common in GLC.

The median amount of time Singapore managers spend on budgeting is 10%-20% -- lower than the 20%-40% median reported by US studies where there is a decreasing trend over the last three decades. One reason is the automation of the budgeting process using software such as the one pointed out to us by a respondent (see http://www.ptos.com.sg/budget.html). Such automation is helpful as it frees accountants from routine coordination and allows them to advise managers on the financial aspects of their operations and strategy.

Analysing the average time allocated to budgeting activities reveals that about 70% of the time is spend on developing the budget and about 30% on using it. Disaggregated analysis shows that as managers spend more time on budgeting, a higher proportion of the time is spend on activities for using the budget, which is where the real benefits lie.

Our findings show that for firms that prepare budgets with business plans, managers generally consider budget a useful management tool where pros outweigh the cons. About 40% of the respondents recognize the problems that slow budgeting can make budget obsolete and budget can constrain response to business changes. However, an overwhelming 88%-98% of the respondents recognize the value of budget to allocate resource, coordinate and track strategy, and coordinate cross functional effort via budget variance. The Singapore results, therefore, show that when budgets are prepared with business plans, the prescription of the Beyond Budgeting initiative may be too radical. Instead, improvement of budgeting practice through training and adoption of best practices would be a more pragmatic approach.

Our findings suggest that the use of budgeting in strategic planning appears to be divided into two groups. For very small firms with annual revenue below $1m, the primary objective appears to be maintaining liquidity where there is a strong focus on forecasting cash flows, guiding and coordinating business activities, and low importance associated with variance analysis. In the other group, there appears to be a greater focus on using budget for strategic planning as firm size increases. We observe that as size increases for this group, there is less use of budget for forecasting cash flows, more use for guiding business activities, more management by variance, and more budget revision in response to external changes. Therefore, the budgeting needs in the two groups are different, and designing training programs for budgeting needs to consider the differences.

Our findings suggest that employee compensation based on budget performance is not as prevalent as suggested in literature for firms that prepare budgets with business plans. It turns out that only about 70% of the firms set budget targets to monitor strategy execution, about 50% set budget target for employee performance evaluation, and about 43% compensate by budget performance. At the disaggregated levels, these percentages generally increase with firm size. For example, a quarter of the firms with annual revenue below $1m compensate by budget performance, while half of the firms with revenue above $100m do so. Not compensating by budget performance can mean firms are not paying for performance at all, or are using other measures to pay for performance. Other measures to pay for performance include using market indicators like share price, subjective ratings or rankings, peer or subordinate ratings and combinations of indicators.

Our results on challenges in budgeting appear to be less disheartening than suggested by extant literature. Responses agreeing or strongly agreeing to the problems of low buy-ins of budget, target distortions due to politics, budget hindering strategic response and budget ratcheting range from 50% to 76%, but responses agreeing or strongly agreeing to positive aspects like well-trained preparers and reviewers, common assumptions in budgeting, budgets are adapted to external changes, and assumptions are based on strategy range from 71% to 88%. The litmus test that budget benefits exceed costs elicits agreement or strong agreement from 75% of the respondents. The finding means that accountants may be receptive to receive training in how to be more effective in the budgeting process.

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