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Identifying Best Practice Integrated Design and Management Accounting Processes

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Overview of Project
As a direct result of a call for research proposals from CIMA (The Chartered Institute of Management Accountants) and the Design Council, a research proposal was developed that built on previous research by Larsen (1996a, 1996b) into product and business development strategies in small and medium-sized enterprises and later research into the success factors of high-growth medium-sized enterprises (Larsen, et al., 1998; Tonge, et al., 1998). The original research survey and preliminary analysis was conducted during the period January 2000 to March 2001 with ongoing reviews and analysis of findings up to May 2004.

Objective
The primary objective of the research project was to identify possible product and service design and management accounting factors that could provide some explanation for the improved performance of some medium sized enterprises and, in so doing, be exemplars to less successful medium sized enterprises.

To meet the primary objective, answers were sought to the following questions:
1. How important is design to your organisation?
2. Who are the designers in medium-sized enterprises and why?
3. What are the benefits of design for your enterprise?
4. Which factors activate new product or service development?
5. What is the level of involvement of management accountants in the design process in your enterprise?
6. Should there be greater involvement of management accountants in the design process?
7. How well are design and management accounting processes integrated?
8. Which factors might represent ‘integrated best practice’ design and management accounting processes?

Method
The research centred on a comparison between high-growth medium-sized enterprises and sporadic-growth medium-sized enterprises. The criteria for an enterprise to be included in the population surveyed required:
- Medium-sized enterprise to have an annual sales revenue turnover of between £5 million and £250 million over a four-year period.
- To be considered as high growth the enterprise must have a compound growth rate of at least 15 percent over a three-year period.
- Sporadic-growth enterprises were those that had a negative compound growth rate or a compound growth rate below 15 percent over a three-year period.

A mail survey questionnaire was chosen as the appropriate mechanism to collect data because it was deemed important to first identify a general consensus of opinion of the use of design in medium-sized enterprises before conducting in-depth interviews or case studies.

Findings
1. How important is design to your organisation?
In order to gauge the importance attached to design in the medium-sized enterprises, and to identify if there were any differences between the three specialist areas surveyed, the population were asked to rank on a scale of one (very important) to six...
The management accountants expressed the highest priority ranking of 1.56, the designers gave design a ranking of 1.67 and the MDs/CEOs the lowest ranking of 1.80. This could suggest that management accountants have accepted that design is important to medium-sized enterprises.

Looking at the high and sporadic-growth manufacturing and service sectors, all except one of the high-growth manufacturers considered design very important compared to less than half of the sporadic-growth manufacturers. In the service sector high-growth medium-sized enterprises design was very important to two thirds of respondents but in the sporadic-growth group this fell to nearly half, with a quarter seeing design as of no value at all. These results support the concept that successful businesses understand the value adding properties design can offer.

2. Who are the designers in medium-sized enterprises and why?

To answer this question, the survey population were asked to specify if the designers of products or services were:
- Internal - in-house designers.
- External - for example, consultants.
- Other - this was included should any organisation not have its own designers but use, for example, engineers, service planners, or marketing.

The following was found:
- High-growth manufacturers preferred to use only internal designers.
- Sporadic-growth manufacturers were more willing to use both internal and external designers.
- The manufacturing sector named additional designers as: manufacturing personnel, the executive team, suppliers, quantity surveyors, directors, production, sales and marketing.
- The service sector did not suggest any alternatives to internal or external designers.
- The high-growth service group were more likely to use a combination of internal and external designers.
- The sporadic-growth services preferred internal designers.

By position:
- MDs/CEOs chose ‘skill and expertise’, ‘quality’, and ‘cost effectiveness’ as the main reasons for using internal or external designers. However, ‘confidentiality’ was only attributed to internal designers.
- Management accountants fully supported internal designers for their ‘cost effectiveness’ but less than half the management accountants viewed ‘cost effectiveness’ to be a good reason to employ external designers. ‘Lead-time’ was a serious contender for using external designers and the worst reason for using internal designers. ‘Confidentiality’ was reasonably well supported for internal designers but not for external designers. ‘Quality’ was a major factor for employing both internal and external designers.
- Designers placed a greater emphasis on a wide range of reasons for using internal designers with ‘cost effectiveness’ at the fore. In using external designers ‘cost effectiveness’ and ‘quality’ lead closely followed by ‘reputation’ and ‘skill and expertise’. The designers, like the MDs/CEOs, saw ‘confidence’ as a poor reason for using external designers.

It would seem that the MDs/CEOs are not particularly concerned whether internal or external designers are used, provided they are cost effective and add value to products and services, but prefer using internal designers to maintain confidentiality. The management accountants see using internal designers as the most cost effective, if rather slow at delivery, but recognise that if they want faster lead-times then they need to use external designers at additional cost. The designers also support ‘cost effectiveness’ as a reason for using internal designers but accept that the reputation of external designers can be beneficial.

However, there were no discernable differences in growth rates dependent on whether internal, external or a combination of the two was used.

3. What are the benefits of design for your enterprise?

High-growth manufacturers
The most commonly selected benefits of design were ‘opening up of new markets’, ‘enhancing product brand image’ and ‘forging closer links with customers’. This is very much a customer focused view suggesting that the high-growth manufacturers see design as a competitive tool to meet customer needs and increase sales to customers. A point borne out by the secondary selections of ‘enhances organisation’s image’, which would highlight to customers the competitive standing of an organisation, and ‘increases profitability’ confirms the benefits derived from improved sales.
Sporadic-growth manufacturers
All the sporadic-growth manufacturers resoundingly opted for ‘open up new markets’ as the main benefit of design with ‘increases profitability’ and ‘forges closer links with customers’ as close runner-ups. This potentially highlights the need for the sporadic-growth manufacturers to find methods to increase sales to overcome their variable growth patterns.

High-growth services
This group view the benefits of design to be focused towards adding value to the services they provide, as shown by the selection of ‘enhances service and organisation’s brand image’. This is a very positive stance towards design and suggests that those service sector medium-sized enterprises that do use designers have found that design can assist in gaining competitive advantage.

Sporadic-growth services
‘Enhancing service brand image’, ‘forging closer links with customers’ and ‘maintain profits’ were seen as the main benefits of design. This selection suggests that this group is not so convinced of the company-wide value adding aspects of design.

4. Which factors activate new product or service development?
High-growth manufacturers
The most important design activator for this group was ‘customer requests, complaints and surveys’. The second most important covers two approaches, ‘incremental improvement’ and ‘need to introduce conceptual designs’. The former activator is a less risky approach to new product development while the latter could emphasise to the customer that a company is producing new and exciting products.

Sporadic-growth manufacturers
‘Competitor threats’ was the primary design activator here, with ‘customer requests, surveys and complaints’ and ‘the need to enter niche markets’ as the second most important. These three design activators, coupled with the low priority given to ‘the introduction of new conceptual designs’, suggests that they are reacting to more aggressive dominant competitors.

High-growth services
High-growth services place ‘company strategy is design focused’ and ‘incremental improvement’ as the two main design activators suggesting that they recognise the value adding aspects of design but have opted for a low risk strategy to new product development. The selection of ‘introduction of new technology’ as the second most important design activator suggests that to stay competitive the high-growth services recognise the need to use new technology.

Sporadic-growth services
‘Competitor threats’ and ‘customer requests, surveys and complaints’ are seen as the two main design activators for this group, which is similar to the sporadic-growth manufacturers suggesting that they too are reacting rather than initiating new services.

5. What is the level of involvement of management accountants in the design process in your enterprise?
Manufacturers
The majority of sporadic-growth manufacturers tend not to actively involve management accountants in the design process preferring to request cost and budgetary data instead. Where they are involved, it is only in some of the stages. In the case of the high-growth manufacturers there is a greater emphasis on involving management accountants in some or all of the design stages. These findings would suggest that greater involvement of management accountants in the design process amongst manufacturing medium-sized enterprises has a positive effect on performance.

Services
In the case of the service sector medium-sized enterprises both growth groups show a preference for non-involvement with the management accountants providing cost and budget data, although in the high-growth services there was slightly greater support for involvement in some stages of the design process.

6. Should there be greater involvement of management accountants in the design process?
The greatest difference between designers and management accountants (see table 1) lies with the first statement. The negative impact on decision-making contained in this statement is strongly refuted by the management accountants, but is strongly agreed with by the designers. The second statement is again disputed by management accounts and strongly agreed with by designers and, in so doing, emphasises how designers feel that ‘design’ has been under-valued and further supports a feeling of negativity. These first two statements could account for the perceived reluctance of designers to involve management accountants more actively in the design process as shown by statements three and four.
7. How well are design and management accounting processes integrated?

**High-growth manufacturers**
Management accountants in the high-growth manufacturers preferred measuring a design's performance based on 'profit and cost achievement' and 'sales revenue turnover'. The designers in the high-growth manufacturers tended to use a wider range of measures covering; payback period, ROI, DCF, profit and cost achievement, sales revenue turnover, or number of new products produced in a set period. This suggests that there is a reasonable degree of integration.

**Sporadic-growth manufacturers**
In the case of the sporadic-growth manufacturers the designers and management accountants selected a wider spread of both financial and non-financial measurement systems. The similarities lie in the 'number of new products reaching customers' and or 'number of new products completed in a given time horizon', 'customer satisfaction surveys', 'profit and cost achievement' and 'sales revenue turnover'. It is the designers who appeared to be more intent on using financial measures than do the management accountants who appear almost indecisive on which measures to use, but there does seem to be a reasonable level of compatibility between the two specialist areas suggesting partial integration.

**High-growth services**
Designers here appeared to be using a very wide spread of measurements but it is only 'customer satisfaction surveys' and 'profit and cost achievement' that are selected by all the designers. The responses from the management accountants in the high-growth services are less widely spread but match those measurement systems selected by most of the designers suggesting that there is some integration taking place.

**Sporadic-growth services**
In the case of the sporadic-growth service sector the management accountants and designers' selection suggests that 'payback period' and 'sales revenue turnover' are important and to a slightly lesser degree 'return on investment' and 'conformance to plan', suggesting that designers and accountants are well integrated.

8. Which factors might represent 'integrated best practice' design and management accounting processes?

Arthur Andersen (1999) suggested that best practices could be identified by comparing current operating practices in one company with those practices employed by leading companies and those practices that the leading companies do better than the other company are best practices. On that basis, the practices of the sporadic-growth medium sized enterprises when compared with those of the high growth should offer an insight in to those practices that differentiate the high growth medium sized enterprises from the rest and therefore could be possible best practice. However, it must be noted that the best practices suggested are exploratory and would require further testing to validate their authenticity.
From an interrogation of the findings, the authors suggest that 'integrated best practice' design and management accounting processes would require a medium-sized manufacturer to practice a new product development process:

- Where management accountants (as well as designers) are actively involved in all stages of the design process.
- Where the MD/CEO, designers and management accountants consider design to be very important to the enterprise.
- That is based on understanding customer needs – as proven by the drivers of design being customer requests, surveys or complaints.
- That seeks to instigate new products based on incremental improvements and the need to introduce conceptual designs.
- That looks to use design to add value – as shown by using design to enhance an enterprise’s product brand image, encourage joint ventures, forge closer links with suppliers, and to at least maintain profits.
- That is measured by both designers and management accountants through profit and cost achievement and sales revenue turnover.
- Where there is a high level of usage of the same design and design management tools, techniques and technologies by both designers and management accountants.

In the service sector medium-sized enterprise the identification of ‘integrated best practice’ (design and management accounting processes) raises a serious question:

‘Do management accountants need to be actively involved in all the design stages of the new product development process in order to represent ‘integrated best practice’?’

None of the high-growth services actively encouraged involvement of management accountants in all of the design stages of the new product development process. However, the findings do suggest that there is some integration between designers and management accountants based on the overlap of measurement factors of the new product development process, but this must be tempered by the lack of use of the same design and design management tools, techniques and technologies. Consequently, the authors hypothesise that in the case of the high-growth service sector while it may be possible to suggest ‘best practices’, it is not possible to suggest that their processes represent, based on the 2000 findings, ‘integrated best practices’.

Therefore, from an interrogation of the findings regarding the medium-sized services, the authors suggest that ‘best practice’ design and management accounting processes would require a medium-sized service to practice a new product development process:

- Where the MD/CEO, designers and management accountants consider design to be very important to the enterprise.
- That is based on the enterprise having a strategy that is design focused.
- That seeks to instigate new services based on incremental improvements and the need to introduce conceptual designs.
- That looks to use design to add value – as shown by using design to enhance an enterprise’s brand image and services brand image, improves quality, extends shelf-life of services, motivates employees, and increases profits.
- That is measured by both designers and management accountants through profit and cost achievement and customer satisfaction surveys.

Conclusions and Recommendations

The research project sought to identify integrated best practice design and management accounting processes. The method used a mail survey questionnaire to gain information on design and accounting factors in medium-sized enterprises. However, although ‘integrated best practices’ are suggested for the manufacturers and ‘best practices’ are suggested for the services, these must be seen as exploratory. Further in-depth case study research would be required to test if they are plausible.

Suggested ‘To Do’ List for Management Accountants

- Detail the tasks that management accountants can provide at each stage of the design process.
- Co-ordinate with design on the measurement systems for evaluating the product and service design functions so that everybody is using the same evaluation and cost justification systems.
Suggested ‘To Do’ List for Designers

- Ask management accountants what information would assist them to better determine the viability of new products and services.
- Encourage pre-design process involvement of management accountants, for example, in compilation of the customer surveys used at the idea generation stage of the design process.
- Provide management accountants with an enterprise’s ‘design specification document’, which explains, in detail, the information that designers use in developing a new product or service so that the management accountants are aware of the accuracy and type of data required, when, and in which format.
- Co-ordinate with management accountants on the measurement systems for evaluating the product and service design functions so that everybody is using the same evaluation and cost justification systems.

Recommendations for Further Research

A number of areas for further research have been identified that could support greater involvement of management accountants in the design process.

- Expose the mystique surrounding the activities of management accountants to provide a comprehensive list of the tasks they can offer those involved in new product and service design at various stages of the design process.
- Conduct case studies of medium-sized enterprises that have integrated design and management accounting processes to test if the best practices suggested in this report are feasible.
- Undertake research into tools, techniques and technologies for use by designers and management accountants that can better assist the different operating structures that are inherent in service sector enterprises.
- Conduct research into smaller growth enterprises that have not yet brought in management accountants to ascertain how such businesses develop accounting tools, techniques and technologies to support their growth.

References:


CIMA (The Chartered Institute of Management Accountants) represents members and supports the wider financial management and business community. Its key activities relate to business strategy, information strategy and financial strategy. Its focus is to qualify students, to support both members and employers and to protect the public interest.