Pricing Decisions and the role of Cost Accounting Systems and Cost Information in Tourism Organisations

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ABSTRACT

The accounting literature reports that the ability to set prices efficiently for products and services is supported by an effective costing system. Prior research indicates the dominance of pricing methods using fixed and variable cost information and discusses the benefits of applying sophisticated costing methods to aid in pricing decisions. The purpose of this paper is to investigate the role of cost information and costing systems in the pricing decisions of tourism organisations. Data was collected via an online survey instrument from a range of Queensland tourism organisations. Full cost information was found to have relatively greater importance. Customer oriented and short-term survival objectives were found to be the more important pricing objectives. Several correlations were found between sophistication of the cost accounting system and choice of pricing method and objectives. This paper contributes to the literature by providing an analysis of the role of cost information and cost accounting systems in pricing decisions within tourism organisations.

Keywords: Cost information, pricing decisions, cost accounting systems, Tourism industry

INTRODUCTION

For an organisation, the decision to set prices has a direct impact on the revenue it can earn. Price and volume are the two components of the revenue equation, and the choice to focus on one will directly affect the other. The price of a business' product is an important part, but not the only part, of the marketing mix (Govindarajan & Anthony, 1983). If the price is set too high the customer may turn away, but a high price may also associate with desirability to the customer (Skinner, 1970). If a business can achieve an efficient price for their product they will maximise their revenue earned. According to economic theory an efficient price relies on market forces of demand, competition and costs (Claret & Phadke, 1995). The application of theory into practice however has not been so successful. Rather than doing the complex, and therefore expensive, process of identifying these market forces, businesses have been regularly observed to rely solely on costs for deciding their prices (Hall & Hitch, 1939; Skinner, 1970; Govindarajan & Anthony, 1983; Mills, 1988; Carson et al., 1998).

The cost accounting system is designed to provide information to managers for decisions pertaining to planning and control (Langfield-Smith, Thorne & Hilton, 2009). Various uses of the cost information provided include judging performance and inventory valuation (Brignall et al., 1991). The traditional design of cost accounting systems has been criticised for defining a distinction between fixed and variable costs (Cooper & Kaplan, 1988), despite observation of the volatile nature of fixed costs. An alternative design that has been considered by researchers is to distinguish short-term and long-term variable costs, and to allocate costs on the basis of activity (Cooper & Kaplan, 1988, Brignall et al., 1991).

Information provided by the costing system has been used to inform the pricing decisions of managers through a method known as cost-plus pricing (Guilding, Drury & Tayles, 2005). This method uses the costs of products as determined by the cost accounting system to form the base from which a price can be set. A margin is calculated that not only covers the costs of the product, but also provides a profit to the business. This method of pricing is simple to execute, but according to the economic theory is not efficient for setting prices (Lowell, 1967).

The context of the literature for this research topic has developed over time, with the field expanding in scope to cover wider ideas, and studies narrowing to focus on specific economic sectors. Earlier research into pricing practices was held in the domain of manufacturing, where cost accounting was primarily involved (Hall & Hitch, 1939; Schomer, 1966; Lowell, 1967; Shipley, 1981; Hall, Walsh & Yates, 1997). The homogeneous nature of products provided for the application of accounting techniques to determine their costs. Manufacturers could deal with overhead costs because of this nature. For service industries, the application of cost accounting was problematic due to their unique characteristics (Schlissel & Chasin, 1991). The costing of inventory could not apply for services due to: customer presence in the delivery, intangibility of the service, heterogeneity of performance, simultaneity of production and consumption, and perishability of services (Brignall et al., 1991). Despite this issue, costs remained a prominent base to price services. Later research identified this phenomenon, expanding their research from just manufacturing industries to also include service industries (Goetz, 1985; Mills, 1988; Morris & Fuller, 1989; Brignall et al., 1991; Schlissel & Chasin, 1991). The review of literature aims to examine the current body of knowledge regarding pricing decisions and evaluate the approaches of previous researchers.

LITERATURE REVIEW

Profit maximisation and pricing

Early research into the subject of pricing decisions had focused on the practices of manufacturing businesses. An important contribution to the literature is the research conducted by Hall and Hitch (1939), who conducted one of the first major studies into the use of full costs to base decisions. The research found that only a minority of entrepreneurs based their pricing according to marginal revenue and cost curves as espoused in the profit maximisation model (Lucas, 1999). Instead, the majority of responses indicated they based the price of products on full average cost with an additional margin for profit. The role of competition was minor in influencing changes in these prices even though the respondents would merely reduce their profit margin to maintain similarity in prices. Although these findings were significant, the authors acknowledged several limitations such as the small sample size (38 responses) of the interviews and the overrepresentation of manufacturers in the sample.

A follow-up to the research conducted by Hall and Hitch was Skinner's study of selling prices (1970). This study received responses from 179 companies, drawn from a variety of industries. Limitations that were present in the earlier research were addressed in this study by gathering a larger sample from a more balanced representation of industries. The findings received reaffirmed the dominance of cost based pricing by businesses, with 70% of respondents indicating its use. Unlike the previous study only 10% of these businesses primarily used full costs as the base for setting prices. The vast majority of cost-plus businesses instead used variable costs for the base of their prices. These results were different compared to Hall and Hitch's, but as noted by Skinner this may have been due to a failing in the wording of the earlier questionnaire (1970).

From the findings of the two previous studies, researchers wanted to understand the behaviours behind the setting of prices. Several research studies were conducted, exploring pricing behaviour by identifying the objectives attached to their policies (Shipley, 1981; Jobber & Hooley, 1987; Hilton, Swieringa & Turner, 1988; Tzokas et al., 2000). Each study sent out a questionnaire to manufacturing firms (Jobber & Hooley also included service firms in their sample) to gauge the primary pricing objectives of those managers. The results of each study indicated a primary importance is placed on the objectives of profit maximisation and financial targets. In addition, the findings also show that market based objectives were also of significant importance, with similarity to competitors (Shipley, 1981) and customer value (Tzokas et al., 2000) rating highly with the respondents. The observations from these articles show that profit maximisation is an important goal in price setting, even though the methods used do not align with the prescription set by the economic theory.

An important contribution to the literature came from the work of Govindarajan and Anthony (1983). The authors aimed to uncover evidence regarding the use of full cost pricing to affirm or reject the profit maximisation model. As an alternative, the authors endorsed the satisficing model which states businesses want to earn a satisfactory level of profit rather than maximise it, leading to the use of full cost pricing. Their questionnaire received around 500 responses from manufacturing companies, with around 80% of responses indicating a preference for full cost pricing methods. This was seen by the authors to conclusively quash the application of the profit maximisation model to explain business behaviour. A later study from Shim and Sudit (1995) re-examined this issue, surveying around 140 manufacturers. Their results were similar to the first, showing around 70% of the businesses used full cost pricing, but revealed

nearly a fifth used market based pricing methods such as target costing. These findings taken with the wider literature together indicates a trend of business transitioning from primarily full cost pricing to both variable cost and competitive pricing methods, contradicting the conclusions reached by Govindarajan and Anthony.

The first research article to triangulate the two strands of studies, originating from Skinner (1970) and Govindarajan and Anthony (1983), was authored by Mills (1988). In his 1986 study conducted with Sweeting, the findings showed that around 70% of manufacturing and service businesses surveyed used cost based pricing. Of those businesses, a majority preferred full cost pricing methods compared to variable cost methods. When compared with the other research, the use of full cost pricing is significantly less in this study, eschewed in favour of contribution pricing and market pricing. Similar studies by Durden and Kelly (1992), as well as Guilding et al. (2005) also explored the importance of cost-plus pricing methods. The study by Durden and Kelly revealed only half of the manufacturing businesses preferred full cost pricing compared to less than half for variable cost pricing. In the research by Guilding et al., manufacturing businesses considered cost based pricing as of only minor importance compared to other industries such as service and retail. While cost-based pricing methods continued to remain relatively important for businesses, the research has indicated a transition in the manufacturing sector more closely towards the profit maximisation model's prescription.

Research into the service sector

As the previous literature has indicated, service-based businesses have been found to use cost-plus pricing methods even though the research has primarily focused on manufacturing industries. Studies solely into service businesses regarding their pricing decisions include the research by Goetz in 1985, who studied around 100 dry-cleaning firms. Only 43% of the businesses surveyed based their prices primarily using cost information, with 39% solely using market information. The remaining businesses used a mix of cost and market information. The pricing objectives of most importance were found to be market share (72%) and profit (71%). Research by Brignall et al. (1991) used a case study approach to analyse how service businesses used their costing systems for pricing decisions amongst other planning and control activities. Of the five service businesses, only two utilised full costs for pricing decisions. This finding was explained by the researchers to be the result of difficulty in tracing costs and because of organisational strategy. Although the conclusions of these two studies appear to affirm the profit maximisation model, limitations that are evident include the narrow scope of Goetz's study into only one specific industry, and the small sample of the study by Brignall et al. The main strength of the second approach is the detailed examination of how information interacted with each level of decision-making.

Several studies of pricing policies can be found in the marketing literature, with Morris and Fuller (1989) and Avlonitis and Indounas (2006) examining the use of pricing information. Morris and Fuller found that most CPA firms considered costs and profit as the most important objectives, in line with their finding indicating 78% of firms were using cost-based pricing strategies. On the other hand, Avlonitis and Indounas found that from the six service industries they studied competitors' prices and customer attitudes outweighed profit margins and costs as the most important information for price setting. The later results appear to coincide with the wider literature showing a drift in business pricing behaviour away from cost information towards market information.

Pricing and small businesses

The small business literature contains several qualitative studies into the pricing decisions of small and medium sized enterprises. Cunningham and Hornby conducted case studies of 12 businesses from manufacturing, distribution and service sectors (1993). The pricing method of choice for each sector was distinct, with each manufacturing business primarily using full cost plus pricing. The service and distribution businesses used either variable cost pricing or customer based pricing. When assessed of their adherence to marginalist behaviour, the authors found each business exhibited at least one aspect of this behaviour.

Another article that examined how small businesses set prices was authored by Carson et al. in 1998. The authors conducted interviews with 40 small and medium sized enterprises to reveal meaningful insights into the rationale behind pricing decisions. Findings from this study include a propensity in businesses to using cost-plus pricing methods, yet also maintaining a keen awareness of their competitors. The manner in which businesses set prices was deemed haphazard and incoherent, with managers commonly using intuition to adjust their prices. Compared to the businesses surveyed by Morris and Fuller (1989) that identified themselves as price leaders, most of these businesses considered themselves price followers because of vulnerability to abide by the market's norms. Both articles by Cunningham and Hornby (1993) and Carson et al. (1998) acknowledge the importance of competition and costs as factors for pricing decisions, with Carson et al. revealing the possible influence of heightened competitive pressure and fixed costs when compared with large businesses.

Tourism and hospitality pricing

One industry that heavily features service-based businesses is the tourism and hospitality sector. The accounting literature exploring pricing in this context is sparse, with limited papers analysing pricing in tourism and hospitality enterprises. A case study conducted by Pellinen (2003) into six Finnish tourism enterprises aimed to discover whether costs were related to pricing decisions in tourism, and if so how that would be the case. The study found that unlike the findings of Carson et al. where businesses engaged in haphazard pricing strategies (1998), the tourism businesses would realise their pricing structures in a predetermined basis. The connection between the accounting system and price setting however was different for each business. The smaller businesses mainly used variable costs to identify a floor price, changing their prices according both customer and competitor psychology. For the larger business, full costs played a greater role in setting prices.

A study by Friel (1999) into 1359 small tourism and hospitality businesses explored the practices of marketing managers, including pricing decisions. The findings of the study indicated half of the businesses employed cost-plus pricing methods, less than a third used flexible market-based pricing methods and the remaining fifth of businesses followed the lead of competitors. The choice of pricing method was found to be different according to the type of business, with tourism attractions and restaurants employing cost-plus predominantly whereas accommodation enterprises employed flexible pricing methods (Friel, 1999).

In the specific context of hotel businesses, Makrigiannakis and Soteriades (2007) used a quantitative survey to evaluate management accounting practices in that sector. This study found most of the hotels extensively monitored cost information for managing

budgets, performance, and decision making. Pricing decisions in hotels were found to be influenced by the costing system for both tactical and strategic decisions.

Each of these studies rendered contributions to the literature. The study by Pellinen (2003) provided a detailed exploration of pricing practices in tourism businesses, and the research by Friel (1999) revealed substantial quantitative data regarding pricing method selection in the tourism sector. Pricing decisions were a minor inclusion in the study by Makrigiannakis and Soteriades (2007) to quantify the accounting policies of hospitality businesses, but provided additional insight into the application of accounting information.

Costing systems and pricing

Accounting researchers have sought to identify flaws in the traditional model of costing systems. A prominent argument by Johnson and Kaplan (1987) proposed that cost allocation bases built around production volume would no longer accurately represent resource usage in modern organisations. Alternative costing systems were developed to address this concern, with the concept of cost allocation according to activity proposed by Cooper and Kaplan (1988). By defining the allocation base for a given cost as the causal activity, the Activity-Based Costing system (ABC) attempted to trace resource consumption to the specific product or service (Cooper & Kaplan, 1992). This systematic costing model permitted the use of cost drivers unrelated to the production process (Brignall et al., 1991), which Cooper and Kaplan argued would provide information more relevant to the decisions being considered by managers (1992). Bromwich and Hong (1999) perceived a low implementation rate of Activity-Based Costing in organisations. Increasing the quality of accounting information would result notionally in better pricing decisions by managers.

Researchers have discussed the merits of applying alternative costing systems for cost-based pricing decisions on both a theoretical basis (Brignall et al., 1991; Cooper & Kaplan, 1992; Goebel, Marshall & Locander, 1998; Bromwich & Hong, 1999; Lucas, 2003), as well as on an experimental basis (Briers, Luckett & Chow, 1997; Cardinaels, Roodhooft & Warlop, 2004), but few have sought to study business use of a system for pricing empirically. Bright et al. (1992) conducted research into the deployment of Activity-Based Costing, finding a ‘surprisingly’ high adoption rate in the manufacturing businesses surveyed in addition to a high usage of the costing system for pricing. Further investigation by the researchers found most of the positive response was due to erroneous and speculative perceptions of adoption by the respondents.

A study by Shim and Sudit (1995) attempted to discover a link between Activity-Based Costing implementation and pricing method in manufacturing companies. The implementation of, and intention to implement, such a system was found to be slightly related with the use of variable cost pricing and market-based pricing. Conversely, users of full cost pricing methods were more likely to not implement Activity-Based Costing systems. The main limitation of extrapolating the findings of this study is the representation of only manufacturing companies.

Brignall et al. argue that a systematic costing structure provides benefits for decision-making in service companies as well as manufacturing companies (1991). On the other hand, Lucas asserts that there are not sufficient grounds for the use of alternative costing systems for pricing because of distortions arising from inappropriate cost pools and drivers (2003). Whether the traditional costing system or an alternative system

remains the most suitable for informing pricing decisions has yet to be conclusively determined by researchers.

RESEARCH AIMS

Several research gaps have been identified in the pricing literature. The first is the lack of recent studies in the accounting literature concerning how organisations use accounting information for pricing decisions. The important studies in this area were conducted in the 1980s and '90s, with few research studies conducted in the past decade. The second research gap is the lack of examination of pricing in the context of the tourism and hospitality sector. Efficient price setting is important for sustaining the sector in an increasingly globalised economy. The third research gap identified is the knowledge of applying systematic costing models for improving pricing decisions in service organisations (including tourism and hospitality organisations). Although theoretical benefits have been identified in the literature, the evidence has only been gathered for manufacturing businesses. Each of these gaps provide worthy avenues for investigation.

From these research gaps the following aims are developed:

1. To identify the relative importance of cost information for pricing decisions by tourism business;
2. To identify the relative importance of cost-based pricing methods by tourism businesses;
3. To explore the motives and objectives behind pricing decisions by tourism businesses; and
4. To test for a correlation between systematic cost accounting practices and the selection of pricing information, methods and objectives.

METHODOLOGY

Sampling method

The data for this study was collected using a questionnaire distributed through the SurveyMonkey™ website to tourism and hospitality businesses in Cairns, Queensland. This method was adopted to survey a large population of businesses at a relatively low cost. The sampling frame of businesses comprised members of Tourism Tropical North Queensland (TTNQ), a not for profit organisation representing businesses involved in the local tourism industry. Two phases of survey distribution were conducted between the months of July and September. Firstly, the 450 membership of TTNQ were invited to participate in the questionnaire through the organisation's newsletter. Secondly, a subsample of 172 members with available contact information was directly invited to participate in the questionnaire. Both phases involved follow-up reminders sent in subsequent weeks. The survey received 54 responses across both phases, representing a 12% total response rate. Descriptive statistics, after adjusting for missing values and consolidating classes, show 61% of respondents were businesses with 20 or fewer employees and 39% were businesses with 21 or greater employees. The type of business classification was discarded from analysis due to a sufficiently high occurrence of missing values.

Measures of variables

Five groups of variables were designed to achieve the research aims of the study. Each variable was a five point Likert scale ranging from 'strongly disagree' to 'strongly agree', measuring the business' usage of each variable.

The first group consisted of five Pricing Information variables: variable costs, fixed costs, profit margins, competitor prices, and customer feedback. These variables measured the importance of each type of information for pricing decisions.

The second and third groups consisted of five Pricing Method variables: full cost-plus pricing, variable cost-plus pricing, market-based pricing, unstructured pricing, and other methods. The second group measured the degree of usage of each method during the introduction of new products and services, whereas the third group measured the degree of usage of each method when re-evaluating the prices of existing products and services.

The fourth group of variables consisted of seven Pricing Objectives variables: target profit, return on investment, market share, stable cash flow, competitiveness, customer value, and customers' willingness to pay. These variables measured the importance of each objective for influencing pricing decisions.

The fifth group of variables consisted of five Costing System variables: allocation by sales volume, allocation by revenue, direct tracing of overheads, allocation by other activities, and non-relevance of overheads. These variables measured the treatment of overheads by the business' accounting system in the process of pricing decisions.

Two classification variables were included in the instrument to categorise each business for the purpose of obtaining descriptive statistics. The first classification was the type of business, which classified businesses according to tourism (activities, tours, or attractions) or hospitality (accommodation or dining) groups, each with subgroups. The second classification was the size of the business, which distinguished businesses into four groups according to number of employees: 20 or fewer, between 21 and 100, between 101 and 200, and 201 or greater.

RESULTS AND DISCUSSION

Kolmogorov-Smirnov goodness of fit tests were conducted to ascertain the appropriateness of conducting parametric tests on the data. Each of the 27 variables were tested for normality, and only one variable failed to reject the null hypothesis that the data was drawn from a normally distributed sample, indicating that the sample of data does not satisfy the assumption of normality in parametric tests. Non-parametric tests were utilised to analyse the data in the absence of sufficient representative power. A sign test was conducted to identify significant differences between pricing methods at two stages of pricing, and Kendall's tau-b and Spearman's rho test statistics were calculated between variables to identify significant correlations.

Pricing information

Data was collected concerning the use of pricing information to answer the first research aim. Table 1 details the frequency distributions of the pricing information variables on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Full cost information ranks highest with a mean score of 4.13, aligning with the early literature which indicated a preference towards full costs. Customer-based information and variable cost information follow with mean scores of 4.02 and 3.98 respectively. These results indicate a relatively high degree of awareness of these two types of information but are less utilised than full cost information. The fourth and fifth ranked types of information are profit margin and competitor-based information with mean scores of 3.85 and 3.72 respectively. These scores indicate that internal accounting metrics and

competitor prices are considered less relevant for pricing decisions than cost and customer information.

Table 1: Pricing Information Frequency Distribution

Type of Information	Mean	SD	*1*	*2*	*3*	*4*	*5*
Full Cost	4.13	0.825	0	5.6	11.1	48.1	35.2
Customer	4.02	0.942	1.9	7.4	9.3	50.0	31.5
Variable Cost	3.98	0.981	1.9	7.4	14.8	42.6	33.3
Profit Margin	3.85	0.763	0	5.6	20.4	57.4	16.7
Competitor	3.72	0.940	3.7	5.6	22.2	51.9	16.7

These results echo the findings of Goetz (1985), but are contrary to the findings of Avlonitis and Indounas (2006) which found competitor and customer information ranked higher than internally sourced information. With reference to the first research aim, these findings suggest tourism businesses regard costs and customer information as the most important types of information for setting prices, and that competitor information is relatively less important for price setting purposes.

Table 2 presents a contingency table between the importance of pricing information and number of employees. The data would indicate that there is a skew towards cost information in larger businesses and a skew towards market information in smaller businesses, but the size of organisation variable has not been found to have a significant relationship with the importance of any information type.

Table 2: Contingency Table of Organisation Size and Pricing Information

Pricing Information	Number of Employees	% of Total *1*	*2*	*3*	*4*	*5*	*Total*
Full Costs	20 or Fewer	0	6.06	12.12	54.55	27.27	100
	21 or Greater	0	4.76	9.52	38.10	47.62	100
Variable Costs	20 or Fewer	0	6.06	18.18	48.48	27.27	100
	21 or Greater	4.76	9.52	9.52	33.33	42.86	100
Profit Margin	20 or Fewer	0	6.06	21.21	54.55	18.18	100
	21 or Greater	0	4.76	19.05	61.90	14.29	100
Competitor	20 or Fewer	0	0.00	24.24	57.58	18.18	100
	21 or Greater	9.52	14.29	19.05	42.86	14.29	100
Customer	20 or Fewer	0	0.00	15.15	48.48	36.36	100
	21 or Greater	4.76	19.05	0.00	52.38	23.81	100

Pricing methods

Two variables describing the use of pricing methods were evaluated to answer the second research aim. Table 3 details the frequency distributions of the pricing method variables at the initial pricing stage. Full cost method ranks highest with a mean score of 4.04, variable cost and market based methods rank equal second with a mean score of 3.26. These results suggest the sample primarily uses full costs to set the price for a new product or service. The use of other pricing methods is ranked fourth with a mean score of 1.94, indicating the sample is reluctant to use methods other than cost-plus or market based. The unstructured pricing method variable has a mean score of 1.81, which suggests the sample does not set initial prices in a haphazard or incoherent manner. This is consistent with the findings by Pellinen (2003), where tourism businesses realised prices in a structured manner.

Size of organisation has been found to have a significant positive correlation with the degree of use of the full cost pricing method during the initial stages of pricing ($p = 0.01$, $\alpha = 0.05$), which indicates that larger organisations view full cost-plus pricing with greater importance on average compared with smaller organisations. The other methods have not been found to have a significant relationship with size.

Table 3: Pricing Method (Initial Stage) Frequency Distribution (%)

Pricing Method	Mean	SD	*1*	*2*	*3*	*4*	*5*
Full Cost	4.04	0.931	0	3.7	29.6	25.9	40.7
Variable Cost	3.26	1.334	13.0	18.5	18.5	29.6	20.4
Market Based	3.26	1.231	14.8	14.8	27.8	29.6	16.7
Other	1.94	1.089	50.0	16.7	22.2	11.1	0
Unstructured	1.81	0.933	46.3	31.5	18.5	1.9	1.9

Table 4 presents the frequency distributions of the pricing method variables at the adjustment stage. The full cost method again ranks highest, but with a lower mean score of 3.76. Market based methods rank second with a mean score of 3.50, and variable cost methods rank third with a mean score of 3.37. Other pricing methods remain ranked fourth with a mean score of 1.96. The unstructured pricing method variable maintains a low mean score of 1.89. These results suggest the sampled businesses continue to primarily use full costs for revising prices, while the utility of market based methods increases. Size of organisation has not been found to have a significant relationship with pricing methods at the adjusting stage.

Table 4: Pricing Method (Adjusting Stage) Frequency Distribution (%)

Pricing Method	Mean	SD	*1*	*2*	*3*	*4*	*5*
Full Cost	3.76	1.008	1.9	9.3	25.9	37.0	25.9
Market Based	3.50	1.145	5.6	14.8	24.1	35.2	20.4
Variable Cost	3.37	1.336	13.0	14.8	16.7	33.3	22.2
Other	1.96	1.115	50.0	16.7	20.4	13.0	0
Unstructured	1.89	1.040	46.3	29.6	14.8	7.4	1.9

The results from both sets of variables suggest full cost-plus pricing methods are relatively more important for tourism businesses than variable cost-plus and market based pricing methods. This finding supports the trend identified in the literature of full cost pricing methods remaining dominant (Guilding et al., 2005), with variable cost and market based methods holding a relatively active role in pricing decisions (Cunningham and Hornby, 1993; Carson et al., 1998; Friel, 1999).

Sign tests were conducted on paired pricing method variables. The null hypothesis of the test is that there is an equal probability that either variable will be greater than the other. The alternative hypothesis of the test is that this probability is unequal, indicating one variable is more likely to be greater than the other. Two pairs of variables were found to reject the null hypothesis. The full cost method pair identified thirteen trials where the score for the adjusting stage was less than the score for the initial stage, compared with no trials with positive signs ($p < 0.01$, $\alpha = 0.05$). The market based method pair identified ten trials where the score for the adjusting stage was greater than the score for the initial stage, compared with no trials with negative signs ($p < 0.01$, $\alpha = 0.05$). The three other pairs did not reject the null hypothesis. These findings suggest tourism businesses use different pricing methods when re-evaluating the prices of

existing products and services, with market based methods superseding full cost-plus methods in importance.

Pricing objectives

Data was collected about pricing objectives to answer the third research aim. The frequency distribution of the pricing objectives variables is detailed in Table 5. Stable cash flow has the highest mean score of 4.48, which indicates that a high importance is placed on ensuring the business' short-term survival. The next highest scores are customer value, willingness of customers to pay and similarity to competitors' prices at 4.19, 3.98 and 3.87 respectively. These market oriented objectives rank lower than the immediate-term consideration of cash flow, but on the other hand rank higher than the long-term objectives of target profit, market share and return on investment. These findings are similar to those observed by Morris and Fuller (1989) in CPA firms, where short term objectives were more frequently cited as objectives for pricing decisions. Goetz (1985) and Tzokas et al. (2000) find alternative results, with Goetz noting high importance in market share and profits and Tzokas et al. observing customer value and long-term survival as the objectives with highest importance.

Table 5: Pricing Objective Frequency Distribution (%)

Objective	Mean	SD	*1*	*2*	*3*	*4*	*5*
Stable Cash Flow	4.48	0.574	0	0	3.7	44.4	51.9
Customer Value	4.19	0.892	1.9	1.9	14.8	38.9	42.6
Willingness to Pay	3.98	0.835	1.9	1.9	18.5	51.9	25.9
Competitive Price	3.87	0.778	1.9	0	25.9	53.7	18.5
Target Profit	3.72	0.834	0	7.4	29.6	46.3	16.7
Market Share	3.35	0.805	1.9	9.3	46.3	37.0	5.6
Return on Investment	3.30	0.717	0	11.1	51.9	33.3	3.7

Significant positive correlations observed between pricing objectives and size include target profit ($p = 0.01$, $\alpha = 0.05$) and return on investment ($p = 0.03$, $\alpha = 0.05$), indicating that larger businesses in the sample rated these objectives on average higher than smaller businesses. When addressing the third research aim, the findings indicate cash flow stability and customer oriented objectives are ranked higher for pricing decisions by tourism businesses than competitor oriented and profit oriented objectives.

Systematic costing systems

The evaluation of costing systems was conducted by collecting data on the overhead allocation methods employed by the sample. Table 6 details the frequency distribution of the overhead allocation base variables. The sales volume allocation base variable has the highest mean score of 3.13. The next highest allocation base is total revenue at a mean score of 2.57. These two results show less complex, traditional treatments for overhead costs remain prominent in the tourism businesses surveyed. The other allocation base variable is third highest with a mean score of 2.00, and the direct tracing of overheads variable follows with a mean score of 1.76. These two variables, designed as proxies to identifying systematic costing systems, show the surveyed businesses are reluctant to use complex methods of product and service costing. Significant correlations were not observed between the overhead allocation variables and number of employees.

Table 6: Overhead Allocation Base Frequency Distribution (%)

Allocation Method	Mean	SD	*1*	*2*	*3*	*4*	*5*
Sales Volume	3.13	1.289	16.7	11.1	29.6	27.8	14.8
Total Revenue	2.57	1.238	27.8	16.7	31.5	18.5	5.6
Other Activity	2.00	0.991	42.6	20.4	31.5	5.6	0
Direct Tracing	1.76	0.950	53.7	22.2	18.5	5.6	0
No Allocation	1.69	1.025	61.1	18.5	13.0	5.6	1.9

Two non-parametric test statistics, Kendall's tau-b and Spearman's rho, were calculated between the five overhead allocation variables and each of the remaining 22 variables to identify correlations. These two statistics have been selected to construct correlation coefficients as a result of the survey's insufficient response rate. The statistic with the most significant probability for a given correlation is presented in the following findings (Siegel & Castellan, 1988). No significant correlations were identified between the overhead allocation variables and the five pricing information variables.

Positive signed correlations are identified in Table 7 between initial pricing method variables and overhead allocation variables. These identified correlations suggest: businesses that do directly trace overhead costs to products and services are less likely to use cost-plus pricing methods to set initial prices; businesses that allocate costs using non-sales allocation bases are less likely to use market based pricing methods at the initial stage; and businesses that do not allocate overhead costs are more likely to employ unstructured pricing methods at the initial stage. The significant correlation coefficients range from 0.245 to 0.388, indicating the statistics explain a low amount of the correlation.

Table 7: Correlation Coefficients - Initial Pricing Method and Allocation Base

Pricing Method		Sales Volume	Total Revenue	Other Activity	Direct Tracing	No Allocation
Full Cost	Coefficient	0.058	0.228	0.291*	0.071	-0.056
	p	0.62	0.05	0.02	0.61	0.64
Variable Cost	Coefficient	0.069	0.014	0.245*	0.23	0.018
	p	0.54	0.90	0.03	0.09	0.90
Market Based	Coefficient	-0.064	0.019	0.067	0.259*	0.183
	p	0.57	0.87	0.56	0.03	0.12
Other	Coefficient	-0.076	0.255	0.266*	0.388**	0.235
	p	0.51	0.06	0.03	<0.01	0.05
Unstructured	Coefficient	-0.255	0.184	0.259*	0.370**	0.357**
	p	0.06	0.18	0.03	<0.01	0.01

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Significant correlations are found in Table 8 between the adjusting pricing method variables and the overhead allocation variables. These identified correlations suggest: the volume allocation base is associated with structured pricing methods; the revenue allocation and other allocation bases are associated with full cost-plus methods when adjusting prices; direct tracing of overheads is associated with other and unstructured methods for adjusting prices; and business that do not allocate costs are more likely to use unstructured pricing methods to revise prices. The significant correlation coefficients range from 0.227 to 0.395, indicating the statistics account for a low amount of the variability.

Significant correlations between the pricing objective variables and the overhead allocation variables are found in Table 9. These identified correlations suggest: use of the sales volume allocation base is positively correlated with using the return on investment pricing objective; other allocation bases are negatively associated with the target profit objective; direct tracing is positively associated with the competitive price objective; and businesses that do not allocate overhead costs are less likely to utilise the target profit and return on investment objectives during pricing decisions. The significant correlation coefficients range from 0.289 (negatively signed) to 0.411, indicating a low to moderate amount of correlation is explained by the statistics.

Table 8: Correlation Coefficients - Adjusting Pricing Method and Allocation Base

Pricing Method		Sales Volume	Total Revenue	Other Activity	Direct Tracing	No Allocation
Full Cost	Coefficient	-0.078	0.314**	0.357**	0.195	0.053
	p	0.49	<0.01	<0.01	0.16	0.71
Variable Cost	Coefficient	0.068	-0.009	0.229*	0.207	-0.035
	p	0.54	0.94	0.05	0.13	0.76
Market Based	Coefficient	-0.014	-0.019	-0.083	0.142	0.079
	p	0.90	0.89	0.48	0.23	0.50
Other	Coefficient	-0.078	0.227*	0.274*	0.395**	0.248*
	p	0.50	0.05	0.02	<0.01	0.04
Unstructured	Coefficient	-0.274*	0.193	0.250*	0.354**	0.339**
	p	0.02	0.16	0.04	<0.01	<0.01

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The previous correlations have been evaluated to answer the fourth research aim. The result of the data analysis has not been able to identify a significant correlation between systematic accounting practices and the selection of pricing information. Significant correlations are identified between costing system variables and some of the pricing method and objective variables, but the strengths of the correlations identified are weak in predictive power.

Table 9: Correlation Coefficients - Pricing Objective and Allocation Base

Pricing Objective		Sales Volume	Total Revenue	Other Activity	Direct Tracing	No Allocation
Target Profit	Coefficient	0.174	0.060	-0.300*	-0.261	-0.325*
	p	0.13	0.61	0.03	0.06	0.02
Return on Investment	Coefficient	0.411**	0.083	0.049	0.139	-0.289*
	p	<0.01	0.48	0.69	0.26	0.03
Market Share	Coefficient	0.028	-0.150	-0.119	0.135	0.126
	p	0.81	0.20	0.32	0.27	0.30
Stable Cash Flow	Coefficient	-0.017	-0.032	0.135	-0.113	-0.005
	p	0.89	0.79	0.29	0.37	0.97
Competitive Price	Coefficient	-0.076	0.065	0.206	0.290*	0.177
	p	0.52	0.59	0.09	0.02	0.15
Customer Value	Coefficient	0.045	-0.209	-0.009	0.158	0.187
	p	0.70	0.13	0.95	0.20	0.13
Willingness to Pay	Coefficient	-0.101	-0.205	0.007	0.069	0.207
	p	0.39	0.14	0.95	0.57	0.09

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

CONCLUSION

Management accounting researchers have long considered the impact that a business' costing system has on the way pricing decisions are reached. This study has been conducted to explore this relationship within the context of the tourism and hospitality industries, with the aim of comparing evidence from these industries to the existing literature. The proposition held in the literature was that the selection of pricing information differed between small and large tourism business, with smaller businesses preferring variable costs plus market information and larger businesses preferring both fixed and variable costs (Pellinen, 2003). Concepts of pricing objectives and systematic costing systems have also been included in the study to integrate multiple strands of pricing and costing research.

The results of the study partially support the proposition that the size of a business influences the importance placed on the types of pricing information. Although the data tentatively shows cost information more preferred by larger businesses and market information more preferred by smaller businesses, no statistically significant correlations are identified. Across the sample full costs are considered with higher importance when compared to variable costs, customers and competitors in terms of both information and pricing method. The use of cost-plus pricing is not universal, with some businesses changing pricing methods when modifying the prices of existing products and services. Two motives, ensuring short-term survival and maximising customer perceptions, are rated by the business as the more important considerations when making pricing decisions. The complexity of a business' costing system did not have strong associations with the selection of pricing information, methods or objectives, but several weak correlations are found between the costing system and both methods and objectives. The study suggests that costs remain a major factor for pricing decisions by tourism businesses.

This study contributes to the literature an appraisal of the role of accounting in pricing decisions that integrates knowledge from multiple disciplines. A suggested avenue of further research includes evaluating performance indicators of a business to discover whether the type of pricing processes and costing systems used has a significant effect on the outcomes of the business, expanding the scope of the research conducted by Jobber & Hooley (1987). A limitation of the study is the low response rate rendering the data insufficient for parametric analysis. To address this limitation, it is recommended that further research employing surveys consider the procedure outlined by Dillman (1978) to improve the validity of generalising findings to a greater population. Limitations to consider with the study include the narrow context of the study only covering tourism businesses, the limited number of objectives covered by the research instrument, and the approximation of a business' costing system by the instrument as opposed to explicitly identifying the system being employed.

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Tourism and Hospitality Pricing Decisions Survey Exit this survey

The Influence of Cost Information on Pricing Decisions in Tourism and Hospitality Enterprises

1. Of the following types of information,

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I often use variable costs for setting prices.	○	○	○	○	○
I often use fixed costs for setting prices.	○	○	○	○	○
I often use profit margins for setting prices.	○	○	○	○	○
I often use the prices of my competitors for setting prices.	○	○	○	○	○
I often use my customers' feedback and opinion for setting prices.	○	○	○	○	○

2. When a product or service is first introduced,

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I often use cost-plus pricing methods with both fixed and variable costs.	○	○	○	○	○
I often use cost-plus pricing methods with only variable costs.	○	○	○	○	○
I often use market-based pricing methods.	○	○	○	○	○
I often use other* pricing methods.	○	○	○	○	○
I do not use structured pricing methods.	○	○	○	○	○

*Other (please specify)

3. When adjusting the price of existing products or services,

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I often use cost-plus pricing methods with both fixed and variable costs.	○	○	○	○	○
I often use cost-plus pricing methods with only variable costs.	○	○	○	○	○
I often use market-based pricing methods.	○	○	○	○	○
I often use other* pricing methods.	○	○	○	○	○
I do not use structured pricing methods.	○	○	○	○	○

*Other (please specify)

4. The following factors are important when I set the price of my products or services:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Reaching a target profit.	○	○	○	○	○
Return on investment.	○	○	○	○	○
Market share.	○	○	○	○	○
Stable cash flow.	○	○	○	○	○
Similarity with competitors' prices.	○	○	○	○	○
Value as seen by customers.	○	○	○	○	○
Willingness of customers to pay.	○	○	○	○	○

5. When calculating the costs of my products or services,

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I allocate overhead costs based on the number of the product or service sold.	○	○	○	○	○
I allocate overhead costs based on the revenue received from the product or service.	○	○	○	○	○
I allocate overhead costs based on other* activities related to the product or service.	○	○	○	○	○
I directly trace overhead to products or services.	○	○	○	○	○
Overhead costs are not relevant when I calculate the cost of my products or services.	○	○	○	○	○

*Other (please specify)

Thank you for participating in this survey. You may answer the following demographic question including as much detail as you are comfortable with.

6. Please describe the type of business you operate.

7. How many people does your business employ?

- 5 or fewer.
- Between 6 and 20.
- Between 21 and 100.
- Between 101 and 200.
- 201 or greater.

8. Please provide any additional comments or feedback you may wish to contribute in the field below.

Prev Done

Appendix 3: Additional Statistics

Table 10: Correlation Coefficients - Information and Allocation Base

			Variable Cost	Full Cost	Profit Margin	Competitor	Customer
Kendall's tau_b	Sales Volume Allocation Base	Coefficient	0.076	0.15	0.059	-0.112	0.153
		Sig. (2-tailed)	0.512	0.202	0.617	0.331	0.19
		N	54	54	54	54	54
	Revenue Allocation Base	Coefficient	0.096	0.061	0.024	0.039	-0.063
		Sig. (2-tailed)	0.41	0.607	0.835	0.736	0.59
		N	54	54	54	54	54
	Other Activity Allocation Base	Coefficient	-0.059	0.091	-0.033	0.061	-0.078
		Sig. (2-tailed)	0.623	0.456	0.782	0.609	0.515
		N	54	54	54	54	54
	Direct Tracing of Overheads	Coefficient	-0.018	-0.012	-0.029	0.126	0.142
		Sig. (2-tailed)	0.882	0.921	0.811	0.295	0.24
		N	54	54	54	54	54
	No Allocation of Overheads	Coefficient	-0.111	-0.055	-0.066	0.224	0.059
		Sig. (2-tailed)	0.357	0.654	0.591	0.063	0.627
		N	54	54	54	54	54
Spearman's rho	Sales Volume Allocation Base	Coefficient	0.097	0.172	0.064	-0.136	0.18
		Sig. (2-tailed)	0.483	0.214	0.648	0.328	0.193
		N	54	54	54	54	54
	Revenue Allocation Base	Coefficient	0.121	0.072	0.03	0.039	-0.081
		Sig. (2-tailed)	0.383	0.606	0.831	0.777	0.561
		N	54	54	54	54	54
	Other Activity Allocation Base	Coefficient	-0.068	0.102	-0.038	0.069	-0.092
		Sig. (2-tailed)	0.627	0.465	0.787	0.621	0.51
		N	54	54	54	54	54
	Direct Tracing of Overheads	Coefficient	-0.02	-0.01	-0.031	0.146	0.163
		Sig. (2-tailed)	0.889	0.942	0.824	0.293	0.24
		N	54	54	54	54	54
	No Allocation of Overheads	Coefficient	-0.12	-0.059	-0.075	0.255	0.067
		Sig. (2-tailed)	0.389	0.671	0.592	0.063	0.629
		N	54	54	54	54	54

Table 11: Correlation Coefficients - Size of Organisation and Allocation Base

			Sales Volume	Revenue	Other	Direct Tracing	No Allocation
Kendall's tau_b	Size of Organisation	Coefficient	0.111	0.097	0.097	0.192	-0.103
		Sig. (2-tailed)	0.345	0.412	0.423	0.115	0.399
		N	54	54	54	54	54
Spearman's rho	Size of Organisation	Coefficient	0.129	0.113	0.11	0.215	-0.122
		Sig. (2-tailed)	0.353	0.418	0.43	0.119	0.38
		N	54	54	54	54	54