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Western management accounting practices in Vietnamese enterprises

Adoption and perceived benefits

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Abstract

Purpose – This study aims to examine the experiences of Vietnamese enterprises with respect to the adoption and benefits of Western management accounting practices (MAPs) during a period when the economy was in transition toward a more market-oriented system.

Design/methodology/approach – Questionnaire responses were obtained from the head or vice-head of the accounting department in 181 enterprises, and follow-up interviews conducted with 20 of the respondents. The responses were analysed with simple statistical tests and ANOVA.

Findings – Two of the key findings are in line with results reported previously for other countries: adoption rates for “traditional” Western MAPs are higher than for “contemporary” ones; and state-owned enterprises tend to exhibit lower adoption rates than other enterprises. A third key finding represents new insight, but it may be applicable to only Vietnam (and possibly a limited number of other transition economies). This third finding arises from our identification of a group of Western MAPs which closely resemble the type of accounting and planning activities routinely undertaken under the former central planning (CP) system. These CP-compatible MAPs are adopted far more widely (even at present) than are other MAPs. Overall, the findings are broadly consistent with the diffusion of innovation theory.

Originality/value – This study examines the Western MAP adoption experiences of a developing economy in transition, one which has received relatively little attention in the MA literature to date.

Keywords Management accounting practice, Vietnam, Economic transition, Accounting systems

Paper type Research paper

1. Introduction

In the second half of the 1980s, Vietnam commenced a program of economic reforms, commonly known as “Doi Moi.” Since then, the country has been in the process of transforming itself from a centrally planned economy to a more market-oriented one. As a result, business enterprises at all levels have experienced major changes in the regulatory framework and increasing market competition. Vietnam’s accounting systems and practices have also evolved accordingly. Whereas their main purpose had

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been to serve the needs of state taxation authorities, they now must be able to address the needs of a wider range of users of accounting information, including investors and management (Adams and Linh, 2003). These factors have led to the introduction, and increasing adoption, of Western accounting practices and systems.

Despite such extensive changes, which would have been apparent to most interested observers, there is a relative lack of systematic and documented knowledge about the current usage of management accounting practices (MAPs) in Vietnam. This situation is consistent with a more general lack of detailed information and understanding regarding MAPs in developing countries and transition economies as a group. This general gap in knowledge has remained, despite a number of contributions in recent years, such as Rezaee *et al.* (1995), Joshi (2001), Haldma and Lääts (2002), El-Ebaishi *et al.* (2003), and Waweru *et al.* (2005).

From the viewpoint of developed countries, there are at least two reasons as to why it might be useful to fill the above gap in knowledge. First, in recent decades it has been the so-called emerging markets, comprising developing countries (such as India, Brazil, and some African countries) and transition countries (such as China and Vietnam) that have generated much excitement among international investors, in part due to their rapid economic growth. Second, by acquiring some knowledge of how MAPs are used in a developing country context, and by contrasting the developing and developed country experiences, it may be possible to gain a deeper understanding of factors underlying the use of MAPs in developed countries.

Accordingly, this study seeks to help fill part of the identified gap, by examining and documenting the experiences of Vietnamese enterprises with respect to MAP adoption. Specifically, we wish to pursue the following research questions:

RQ1. How prevalent has the adoption of Western MAPs been among Vietnamese enterprises?

RQ2. How beneficial have the adopted MAPs been for the adopting enterprises?

RQ3. What have been the major factors or developments underlying the above outcome?

While *RQ1* and *RQ2* are mainly about measurement, description and documentation, *RQ3* will require interpretation, theorizing and, where possible, hypothesis testing. Our main purpose in these endeavours is to *begin* the relevant explorations: we are very much aware that further research will be needed.

The remainder of this paper is organized as followed. Section 2 provides a very brief review of the relevant literature and some background information. Section 3 presents an outline of the analytical framework and the main hypotheses to be tested. The research method is then described in Section 4. Sections 5 and 6 present the findings relating to adoption rates and perceived benefits of MAPs, respectively, while Section 7 discusses some barriers to further adoption of Western MAPs. The last section (Section 8) provides a summary of the main findings and some concluding remarks.

2. Previous research and local background

Most of the MAPs that are currently used by enterprises in developed countries and presented in management accounting (MA) textbooks were developed prior to 1925 (Joseph, 2006) and can be characterized as “traditional” (Chenhall and

Langfield-Smith, 1998). Since the mid-1980s, however, a range of new MAPs have been proposed or become popular; these newer practices have been described as “contemporary” (Chenhall and Langfield-Smith, 1998). Whilst traditional practices tend to be internally oriented and based mainly on financial information, contemporary practices often have an explicitly strategic focus and rely on both financial and non-financial information, which is both past- and future oriented, and is obtained from sources that are internal as well as external to the enterprise.

2.1 Adoption of Western MAPs in developed countries

Chenhall and Langfield-Smith (1998) introduced a list of 42 MAPs to investigate the extent to which traditional and contemporary practices were adopted by manufacturing firms in Australia. These practices were divided into five main groups according to function: long-term planning, detailed budgeting, product costing, performance evaluation, and decision support systems. The authors found that most of the practices surveyed had been adopted by a majority of the firms surveyed. However, the adoption rates of traditional MAPs were higher than those of contemporary techniques. Subsequent studies in the same vein include Hyvönen (2005) and Abdel-Kader and Luther (2006).

In this literature, the benefits of MAPs are typically measured in terms of *perceived benefits*, i.e. the degree to which the respondents believe MAPs support an organisation’s operations. Using this approach, Chenhall and Langfield-Smith (1998) found that traditional MA techniques were perceived as providing more benefits to Australian manufacturing companies than contemporary techniques. Another study that applied the same approach (to companies in the UK) was Luther and Longden (2001).

2.2 Adoption of Western MAPs in developing and transitional countries

A number of researchers have chosen to work with the list of 42 MAPs developed by Chenhall and Langfield-Smith (1998) to investigate MAP adoption rates in developing and transition economies (Joshi, 2001; Wu *et al.*, 2007; Wu and Drury, 2007). Other researchers investigated the same question through the use of their own classification schemes (Waweru *et al.*, 2005; Szychta, 2002; El-Ebaishi *et al.*, 2003). Joshi (2001), Wu *et al.* (2007), Wu and Drury (2007), and Luther and Longden (2001) have also investigated the perceived benefits of MAP adoption in these countries. For the present purposes, it is of particular interest to note a finding that has emerged from this strand of the literature, namely that state-owned enterprises (SOEs) in China – like Vietnam, a transition economy – tend to report lower MAP adoption rates and benefits ratings than joint ventures (with foreign interests), especially with respect to contemporary MAPs (Wu *et al.*, 2007; Wu and Drury, 2007).

While formal comparative analyses of these questions across country groupings have been difficult to find, it would appear that reported adoption rates and benefits ratings for developing economies tend to be lower than for developed countries, especially where the relevant MAP is a “contemporary” practice. This observation – as well as the finding that traditional MAPs tend to be adopted more widely than are contemporary ones – is broadly consistent with the diffusion of innovation (DOI) theory, discussed in Section 3.

2.3 Economic reform and MA in Vietnam

Under the former central planning (CP) system, there was limited knowledge and zero adoption of Western MAPs in Vietnam. Nevertheless, staff in the statistics, accounting and planning areas of each enterprise routinely carried out a number of activities and tasks which were rather similar in nature to some current Western MAPs. For example, production planning under CP had much in common with the current Western MAP of production budgeting. Similarly, revenue planning under CP was similar to the current practice of sales budgeting. Table I provides a list of nine Western MAPs that closely resemble such former CP activities. For convenience, we shall refer to these as “central-planning-compatible” (CPC) practices.

Vietnam began to experiment with limited departures from strict CP during the late 1970s and early 1980s (for more information, see for example Fforde and De Vylder, 1996). Enterprises began to be given greater flexibility in making decisions regarding output levels, product types, input sources, sale outlets and prices. To support such decision-making, access to relevant statistics and information became far more important for management than before.

After the mid-1980s, the economic reform process broadened and accelerated; for further information about this process (Hung, 1999; Pham and Duc, 2003; Luoc, 2004; Nam, 2007). In particular, the authorities began to allow new forms of enterprise ownership. In privately owned and foreign-owned enterprises, decision making would of course, be undertaken by the enterprise’s management (as opposed to external planners). Even in the case of SOEs, decision making and management functions also began to be decentralized and transferred to the local level (Quang, 2002). All these developments increased the need for MAPs, of some form or another, at the enterprise level.

By the mid-1990s, MA courses (in a form recognizable by Western academics) had begun to be offered at some universities. The Accounting Law, promulgated in 2003, formally recognizes MA as a part of the profession and discipline of accounting. Since 2007, MA has been one of the subjects included in annual examinations for candidates wishing to qualify for professional accreditation, such as the Auditor Certificate (*Chứng chỉ Kiểm toán viên*) or the Accounting Practitioner Certificate (*Chứng chỉ Hành nghề Kế toán*). For further information about the evolution of accounting in Vietnam (Adam and Linh (2003).

| Western MAPs | Former CP activities | Description in Vietnamese | Function |
|--|--------------------------------------|---|----------|
| Production budgeting | Production planning | Kế hoạch sản xuất | B |
| Budgeting for controlling cost (direct material, labour, overhead) | Cost planning | Kế hoạch chi phí | B |
| Sales budgeting | Revenue planning | Kế hoạch doanh thu | B |
| Profits budgeting/planning | Profit planning | Kế hoạch lợi nhuận | B |
| Absorption costing | Production costing | Giá thành sản xuất | C |
| Product profitability analysis | Profitability analysis | Phân tích lợi nhuận | D |
| Budget variance analysis | Plan-fulfillment variance analysis | Phân tích chênh lệch giữa thực tế và kế hoạch | P |
| Standard costs and variance analysis | Standard costs and variance analysis | Chi phí định mức và phân tích chi phí so với định mức | P |
| Long range forecasting | Long-term planning | Kế hoạch dài hạn | S |

Notes: B, budgeting; C, costing; D, decision support; P, performance valuation; S, strategic analysis

Table I.
CPC MAPs

Despite these recent changes, studies regarding the use of MAPs in Vietnam have been limited to several articles and university student dissertations; most of these have been written in Vietnamese. In brief, these studies have tended simply to introduce some particular MA models or MAPs, and explain how they can be applied in Vietnamese enterprises. To our knowledge, there has been no systematic and comprehensive study of MAP adoption in the country.

3. Analytical framework and hypotheses to be tested

The DOI theory serves as a useful conceptual framework for much of our analysis below. According to this theory, a key determinant of whether any given innovation (new idea, practice or product) is favourably received and ultimately adopted is the extent to which the potential adopter regards the innovation as being compatible with his or her previous experiences, practices and system of beliefs. In the current context, the newer a particular MAP, the less likely it is perceived by potential adopters as familiar and compatible with their previous experiences and practices. Other important determinants highlighted by the theory include the relative advantage (perceived net benefits), simplicity, trialability, and observability of the innovation (Rogers, 2003). Below we shall place emphasis on the compatibility and net benefits of any MAP as key determinants of whether it is adopted by Vietnamese enterprises.

More specifically, we shall use the available data to test the following hypotheses:

- H1.* The adoption rate of a given MAP increases over time. (The null hypothesis is that MAP adoption rates display no trend over time).
- H2.* The adoption rates of traditional MAPs are higher than those of contemporary MAPs. (The null hypothesis is that there are no differences).
- H3.* The adoption rates of CPC MAPs are higher than those of other MAPs. (The null hypothesis is that there are no differences).
- H4.* The adoption rate of a given MAP is positively correlated with its level of perceived benefits. (The null hypothesis is that there is zero correlation).
- H5.* The MAP adoption rates of SOEs are lower than those of joint stock enterprises, which in turn are lower than those of joint venture enterprises. (The null hypothesis is that there are no differences).
- H6.* The MAP adoption rates of medium-sized enterprises are lower than those of larger enterprises. (The null hypothesis is that there are no differences).
- H7.* The MAP adoption rates of old enterprises are higher than those of new enterprises. (The null hypothesis is that there are no differences).
- H8.* The MAP adoption rates of export-orientated enterprises are higher than those of domestic-orientated enterprises. (The null hypothesis is that there are no differences).
- H9.* The MAP adoption rates of enterprises in the trading sector are lower than those in the other (i.e., manufacturing and service) sectors. (The null hypothesis is that there are no differences).

H1 is about a possible relationship between the passage of time and MAP adoption rates. By comparison, Hypotheses *H2-H4* are about the impact of MAP attributes on these adoption rates, while *H5-H9* are about the effects of enterprise attributes on them.

H1 is based jointly on the observations that:

- competition has increased over time in the Vietnamese economy; and
- in general, managers who operate in more competitive environments tend to make more use of information provided by Western MAPs, especially contemporary ones.

As Gordon (2005) points out, managers in more competitive environments tend to face greater uncertainty in decision-making and, therefore, to require more information – *ex post* as well as *ex ante*, internal as well as external, and financial as well as non-financial.

H1 is also based on the compatibility of MAPs, as is *H2*. In both of these hypotheses, the extent to which a given MAP is perceived by potential adopters and users as familiar and, therefore, compatible with their prior practices and knowledge is proxied by the time that has elapsed since the MAP was first introduced: the assumption here is that the longer the elapsed time, the more familiar and compatible is the MAP.

By contrast, *H3* is related directly to the perceived compatibility of individual current MAPs with prior practices under the CP system. Also in line with the DOI theory is *H4*, which is based on an assumed link between the relative advantages of an MAP and its likelihood of being adopted.

H5 is based on the assumption that the relative advantages (net benefits) of MAPs are smaller for SOEs than for other enterprises, because the profit motive is less important to them than it is to other enterprises. This hypothesis is also based on the assumption that joint venture enterprises are more familiar than other enterprises with international business practices, and are therefore more likely to find Western MAPs compatible with their existing systems.

H6 is based on the assumption that larger enterprises can afford to devote more resources, both financial and human, to enhancing their management systems, as the costs involved can be spread across a larger volume of outputs. Larger enterprises may also have more complicated organizational structures and more complex internal dynamics, which in turn may increase the benefits of information that is provided by MAPs.

H7 is based on the notion that older enterprises are more established and therefore have had more opportunities to consider adopting MAPs, as well as better access to resources which would be required for setting up and implementing them. On the other hand, it may be that the owners and managers of many newer enterprises are more open to new ideas and more willing to adopt market-oriented business practices. If the latter tendency is dominant, the data should display a negative correlation between enterprise age and MAP adoption rates.

H8 is based on the assumption that export-oriented enterprises are more familiar with international business norms and practices than are domestically oriented enterprises. Thus, the former enterprises may find Western MAPs more compatible with their existing systems than do the latter enterprises. Western MAPs may also

be of greater benefit to the former than to the latter in meeting the requirements of their respective clientele.

H9 is based on the observation that the activities and operations of enterprises in Vietnam's trade sector tend to be less reliant on complex interactions between sub-units than enterprises in the manufacturing and service sectors. (The observation was supported by feedback obtained through interviews.)[1]

4. Research methods

4.1 Lists of MAPs considered

A list of all MAPs to be considered was generated from lists developed previously by Chenhall and Langfield-Smith (1998), Luther and Longden (2001), El-Ebaishi *et al.* (2003) and Wu *et al.* (2007). In total, 56 MAPs were included in this combined list[2]. It was recognized, however, that many of these practices were very unfamiliar in a developing/transition economy such as Vietnam. A criterion for excluding unfamiliar practices was developed for this study: MAPs that had not been taught by Vietnamese academic researchers and had not been used by many Vietnamese accountants were considered inappropriate for the main part of the research. Focus groups and in-depth interviews were conducted prior to the main study to identify which MAPs to include and which to exclude. An abbreviated list of 32 MAPs was produced at the end of this process; further information about this outcome is provided in Sections 5.1 and 5.2.

4.2 Data collection

In principle, the target population for the study consists of all enterprises registered under the Vietnamese Law of Enterprise. However, we decided to focus on medium-to-large enterprises only, as small enterprises in Vietnam tended to use rather simple accounting and management information systems. (The latter comment is based on our own observations and supported by the academic researchers and practitioners consulted.) Table II provides information about attributes of the respondent enterprises. The sample included: enterprises that were 100 percent owned by the state; enterprises described as "joint stock enterprises", whose shares could be owned by the state, domestic private investors or foreign investors; and "joint ventures", each of which involved a small number of key investors, including at least one from overseas. Participating enterprises were based in Ho Chi Minh City, Hanoi and Danang, which were the respective economic hubs of the country's three main regions. (The term "region" here should be understood in a geographical, rather than administrative, context, as the country formally comprises more than three administrative regions.)

Stratified sampling was conducted to obtain a reasonably representative sample for the study. The list of the total population (available from the Company Registration Department of the Ministry of Planning and Investment) was divided into three city-based groups. A sample from each of these groups was selected using a "snowballing" approach, where some associates of the authors were first approached to participate; they were then asked to recommend other senior accountants who might be willing to participate, and so on[3]. The final sample consisted of 181 respondents from the original 199 companies contacted, giving a response rate of nearly 91 percent.

Responses to the questionnaire were obtained from the head or vice-head of the accounting department of each participating enterprise in 2009[4]. Each of these senior accountants typically possessed at least a bachelor's degree and had received

| <i>Industry classification</i> | Number of enterprises | |
|---|-----------------------|---------------|
| | Surveyed | Interviewed |
| Electricity, water, and gas | 15 | 2 |
| Furniture | 22 | 2 |
| Pharmacy and chemicals | 13 | 2 |
| Printing | 5 | 1 |
| Transportation | 8 | 1 |
| Automobiles and mechanicals | 8 | 1 |
| Cement and material | 19 | 2 |
| General construction | 22 | 2 |
| Food and beverages | 25 | 2 |
| Tourism | 8 | 1 |
| Textile and footwear | 12 | 2 |
| Others | 24 | 2 |
| | $\Sigma = 181$ | $\Sigma = 20$ |
| <i>Size of enterprises (number of employees)</i> | | |
| 50-100 | 50 | 5 |
| 101-250 | 60 | 6 |
| 251 + | 71 | 9 |
| | $\Sigma = 181$ | $\Sigma = 20$ |
| <i>Age of enterprises (number of years)</i> | | |
| New (≤ 10 years) | 76 | 8 |
| Old (> 10 years) | 105 | 12 |
| | $\Sigma = 181$ | $\Sigma = 20$ |
| <i>Ownership form</i> | | |
| Joint stock enterprises (mixed state/private/foreign) | 99 | 11 |
| Joint ventures (state + foreign or private + foreign) | 34 | 3 |
| SOEs (100 percent state) | 48 | 6 |
| | $\Sigma = 181$ | $\Sigma = 20$ |
| <i>Market orientation</i> | | |
| Export | 73 | 7 |
| Domestic | 108 | 13 |
| | $\Sigma = 181$ | $\Sigma = 20$ |

Table II.
Attributes of respondent
enterprises

additional training to qualify for the Chief Accountant Certificate (*Chung Chi Ke Toan Truong*) issued by the Ministry of Finance.

Follow-up interviews were conducted in early 2010 with a subset of these respondent senior accountants to clarify issues and uncertainties that had emerged in the process of analyzing the questionnaire responses. Three respondent enterprises were selected at random from each of the 12 industry groupings listed in Table II. When we approached these 36 selected enterprises, 20 of the relevant heads/vice-heads agreed to be interviewed. The distribution of these interviewees across industry groups is shown in the rightmost column of Table II.

We wish to include, where relevant, data for 2003 as well as 2009 in order to assess the changes which may have occurred during these years of general economic and business transition. However, we know of no available longitudinal data set that would meet the present requirements. Accordingly, we asked respondents to use their own recollections, supplemented if necessary by those of their colleagues and company records, to provide us with relevant information for the year 2003. It is recognized that

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the quality of the data obtained in this way for 2003 is lower than that for 2009. Therefore, inferences based upon the 2003 data are regarded as indicative only and subject to uncertainty.

5. Rate of MAP adoption

5.1 MAPs that are excluded from the survey

Table III contains a list of the 24 MAPs that were well known in the West but were considered by accounting academics and practitioners in Vietnam to be very unfamiliar. Responses from focus groups and interviews suggest that very few Vietnamese enterprises adopted any of these MAPs; i.e. their rates of adoption were expected to be negligible or very low. In keeping with the usual practice in the literature (Wu *et al.*, 2007) these MAPs were excluded from the main part of the study. As shown in Table III, these “unfamiliar” MAPs tended to be concentrated in three functional groups: decision support (D), performance evaluation (P), and strategic analysis (S).

It is perhaps not surprising that some of these MAPs – such as zero-based budgeting, back flush costing, shareholder value analysis, and various benchmarking practices – were not widely adopted in Vietnam: these practices also tend to have low adoption rates

| MAPs | Type | Function | Australia (1998) (%) | India (2001) (%) | China (2007) |
|---|------|----------|----------------------------|------------------------|-----------------|
| Budgeting for compensating managers | T | B | 86 | 25 | |
| Zero-based budgeting | T | B | | 5 | |
| Back flush costing | Cont | C | | 15 | |
| Customer profitability analysis | T | D | | | |
| Operations research techniques | T | D | 55 | 38 | |
| Shareholder value analysis | T | D | 64 | 20 | |
| Stock control models | T | D | | | |
| Benchmarking of management processes | Cont | D | 91 | 30 | |
| Benchmarking of operational processes | Cont | D | 93 | 65 | |
| Benchmarking of product characteristics | Cont | D | 87 | 32 | |
| Benchmarking of strategic priorities | Cont | D | 91 | 23 | |
| Benchmarking within the wider organisation | Cont | D | 84 | 38 | |
| Benchmarking with outside organisations | Cont | D | 77 | 32 | |
| Performance evaluation: customer satisfaction surveys | T | P | 88 | 80 | Y |
| Performance evaluation ongoing supplier evaluation | T | P | 86 | 88 | |
| Performance evaluation: employee attitudes | T | P | 88 | 22 | |
| Performance evaluation: team performance | T | P | 87 | 70 | Y |
| Performance evaluation: qualitative measures | T | P | 87 | 37 | |
| Analysis of competitive position | T | S | | | |
| Analysis of competitors' strengths and weakness | T | S | | | |
| Industry analysis | T | S | | | |
| Formal strategic planning | T | S | 91 | 63 | Y |
| Strategic plans developed with budgets | T | S | 87 | 37 | |
| Strategic planning separate from budgets | T | S | 70 | 53 | |

Table III.

MAPs excluded from the survey (considered very unfamiliar in Vietnam) and rates of adoption in selected other countries

Notes: T, traditional MAP; Cont, contemporary MAP; B, budgeting; C, costing; D, decision support; P, performance valuation; S, strategic analysis; Y, included in the China survey

Source: Data are obtained from Chenhall and Langfield-Smith (1998) for Australia, from Joshi (2001) for India, and from Wu *et al.* (2007) for China

in India and China (two other developing countries). More noteworthy is the fact that both performance evaluation: customer satisfaction surveys and performance evaluation: team performance were seldom adopted in Vietnam, despite having high adoption rates in India (80 and 70 percent, respectively) and in China (where the adoption rates were not reported but were sufficiently high to justify these MAPs being included in the sample). Similarly, whilst Formal strategic planning was adopted by 91 percent of responding companies in Australia (in 1998), 63 percent in India (2001) and a considerable percentage in China (2007), its adoption rate remained negligible in Vietnam.

It is recognized that the above international data are not strictly comparable, as they were obtained from different studies which were completed in different years with potentially different data collection methods. Nevertheless, a broadly consistent pattern does emerge from them, and it is plausible that this pattern may be indicative of the actual situation.

Interestingly, the adoption rate of performance evaluation: ongoing supplier evaluation was very low (considered negligible) for both China and Vietnam, despite being 86 and 88 percent in Australia and India, respectively. A similar comment applies in the case of benchmarking of operational processes.

In summary, Vietnam's adoption rates for the following MAPs were low compared with rates for China and India: performance evaluations (customer satisfaction surveys, team performance, and ongoing supplier evaluation), formal strategic planning, and benchmarking of operational processes. In future years, as Vietnam's integration with the global economy deepens, it will be of interest to observe whether these particular practices begin to enjoy rapid increases in adoption rates.

5.2 Adoption rates of MAPs that are included in the survey

Tables IV-VII summarize the survey results with regard to the adoption rates of the 32 Western MAPs which were sufficiently well known in Vietnam to be included in the questionnaire. These practices are classified by function into five groups, namely budgeting (eight practices), costing (four), decision support (six), performance evaluation (seven), and strategic analysis (seven). In Table IV, the practices are listed in descending order, from those with the highest adoption rates in 2009 to those with the lowest adoption rates.

The adoption rates of some individual MAPs (such as sales budgeting and profits budgeting/planning) were close to 100 percent, and 14 (out of 32) practices had adoption rates above 90 percent. For example, 90.1 percent of the responding enterprises adopted the practice long range forecasting (ranked equal 13). At the other extreme, the two MAPs with the lowest adoption rates were activity-based costing (ABC) (32.0 percent, ranked 32) and balanced scorecard (38.1 percent, ranked 31).

Subject to the caveat noted in Section 4.2 (regarding the quality of the data for 2003), it is of interest to note that an increase in the adoption rate between 2003 and 2009 was reported for 31 of the 32 MAPs surveyed. The exception was profit budgeting/planning (ranked 2), which had already enjoyed a 98.9 percent adoption rate in 2003 and remained at this very high level in 2009. Substantial rises in adoption rate were registered for some MAPs, such as non-financial measures (from 65.2 to 71.8 percent), calculation and use of cost of capital (from 84.5 to 90.6 percent), responsibility accounting (from 84.0 to 90.1 percent), and total quality management (from 67.4 to 72.9 percent). A *t*-test based on paired observations

| MAPs | Type | Function | 2003 (%) | 2009 (%) | Change (%) | Rank of change |
|---|------|----------|----------|----------|------------|----------------|
| 1. Sales budgeting | T | B | 99.4 | 100.0 | 0.6 | 28 |
| 2. Profits budgeting/planning | T | B | 98.9 | 98.9 | 0.0 | 32 |
| 3. Budgeting for controlling cost (direct material, labour, overhead) | T | B | 96.1 | 97.2 | 1.1 | 21 |
| 4. Budget variance analysis | T | P | 94.5 | 96.7 | 2.2 | 15 |
| 5. Production budgeting | T | B | 95.0 | 95.6 | 0.6 | 28 |
| 6. Cash budgeting | T | B | 94.5 | 95.6 | 1.1 | 21 |
| 7. Product profitability analysis | T | D | 93.4 | 95.6 | 2.2 | 18 |
| 8. Standard costs and variance analysis | T | P | 93.9 | 95.0 | 1.1 | 21 |
| 9. Absorption costing | T | C | 92.8 | 93.9 | 1.1 | 21 |
| 10. Budgeting for planning financial position | T | B | 92.8 | 93.4 | 0.6 | 28 |
| 11. Cost volume profit analysis | T | D | 91.2 | 92.3 | 1.1 | 21 |
| 12. Calculation and use of cost of capital | T | S | 84.5 | 90.6 | 6.1 | 2 |
| 13. Long range forecasting | T | S | 87.3 | 90.1 | 2.8 | 12 |
| 14. Responsibility accounting | T | P | 84.0 | 90.1 | 6.1 | 2 |
| 15. Divisional profit | T | P | 72.9 | 76.8 | 3.9 | 7 |
| 16. Capital budgeting (payback, ROI) | T | S | 75.1 | 75.7 | 0.6 | 28 |
| 17. JIT | Cont | D | 71.3 | 74.6 | 3.3 | 10 |
| 18. Flexible budgeting | T | B | 72.4 | 74.0 | 1.6 | 19 |
| 19. TQM | Cont | D | 67.4 | 72.9 | 5.5 | 4 |
| 20. Capital budgeting (NPV, IRR) | T | S | 70.7 | 71.8 | 1.1 | 21 |
| 21. Non-financial measure(s) | Cont | P | 65.2 | 71.8 | 6.6 | 1 |
| 22. Controllable profit | T | P | 67.4 | 70.7 | 3.3 | 10 |
| 23. Variable costing | T | C | 56.9 | 61.3 | 4.4 | 6 |
| 24. Activity-based budgeting | Cont | B | 59.7 | 60.8 | 1.1 | 21 |
| 25. Activity-based management | Cont | D | 55.8 | 59.7 | 3.9 | 7 |
| 26. Product life cycle analysis | Cont | S | 55.2 | 57.5 | 2.3 | 14 |
| 27. Transfer pricing | T | D | 51.9 | 56.4 | 4.5 | 5 |
| 28. Economic value added or residual income | Cont | P | 50.8 | 53.0 | 2.2 | 15 |
| 29. Value chain analysis | Cont | S | 47.5 | 51.4 | 3.9 | 7 |
| 30. Target costing | Cont | C | 40.9 | 43.6 | 2.7 | 13 |
| 31. Balanced scorecard | Cont | S | 35.9 | 38.1 | 2.2 | 15 |
| 32. ABC | Cont | C | 30.4 | 32.0 | 1.6 | 19 |
| Average (unweighted) percentage | | | 73.3 | 75.8 | | |
| Standard deviation percentage | | | 20.3 | 19.7 | | |

Table IV.
Rates of MAP adoption
among all respondent
enterprises

Notes: T, traditional MAP; Cont, contemporary MAP; B, budgeting; C, costing; D, decision support; P, performance valuation; S, strategic analysis

confirmed that, on average, adoption rates in 2009 (mean = 75.8 percent) were significantly higher than in 2003 (mean = 73.3 percent)[5],[6]. Of course, in view of the uncertain quality of the 2003 data, undue weight should not be placed upon the precise numerical values reported. Nevertheless, the pattern that emerged is indicative of a general increase in adoption rates over time, and is supportive of *H1*.

For an international perspective, Table V provides estimates for MAP adoption rates in Vietnam and two other countries, one of which is a developing economy (India) and the other a developed country (Australia). While the data are not strictly

| MAPs | Type | Function | Vietnam (2003) | India (2001) | Australia (1998) |
|---|------|----------|-------------------|-----------------|---------------------|
| Sale budgeting | T | B | 99 | | |
| Profits budgeting/planning | T | B | 99 | | |
| Budgeting for controlling cost | T | B | 96 | 93 | 99 |
| Budget variance analysis | T | P | 95 | 100 | 95 |
| Production budgeting | T | B | 95 | | |
| Cash budgeting | T | B | 94 | 95 | 99 |
| Standard costs and variance analysis | T | P | 94 | | |
| Product profitability analysis | T | D | 93 | 82 | 89 |
| Absorption costing | T | C | 93 | 50 | 80 |
| Budgeting for planning financial position | T | B | 93 | 91 | 100 |
| Cost volume profit analysis | T | D | 91 | 65 | 88 |
| Long range forecasting | T | S | 87 | 58 | 90 |
| Calculation and use of cost of capital | T | S | 85 | | |
| Responsibility accounting | T | P | 84 | | |
| Capital budgeting (payback, ROI) | T | S | 75 | | |
| Divisional profit | T | P | 73 | 100 | 90 |
| Flexible budgeting | T | B | 72 | | |
| JIT | | D | 71 | | |
| Capital budgeting (NPV, IRR) | T | S | 71 | | |
| TQM | Cont | D | 67 | | |
| Controllable profit | T | P | 67 | 83 | 89 |
| Non-financial measure(s) | Cont | P | 65 | 53 | 92 |
| Activity-based budgeting | Cont | B | 60 | 7 | 78 |
| Variable costing | T | C | 59 | 52 | 76 |
| Activity-based management | Cont | D | 56 | 13 | 68 |
| Product life cycle analysis | Cont | S | 55 | 45 | 70 |
| Transfer pricing | T | D | 52 | | |
| Economic value added or residual income | Cont | P | 51 | | |
| Value chain analysis | Cont | S | 48 | 25 | 49 |
| Target costing | Cont | C | 41 | 35 | 38 |
| Balanced scorecard | Cont | S | 36 | 40 | 88 |
| ABC | Cont | C | 30 | 20 | 56 |

Notes: T, traditional MAP; Cont, contemporary MAP; B, budgeting; C, costing; D, decision support; P, performance valuation; S, strategic analysis

Source: Data are obtained from the current study for Vietnam, from Joshi (2001) for India, and from Chenhall and Langfield-Smith (1998) for Australia

Table V.
Comparative MAP
adoption rates in selected
countries (percent)

comparable, it can be seen clearly that for some of the MAPs in the top half of the table, Vietnam's adoption rates were not much lower (if they were lower at all) than those of India or Australia. Examples include budgeting for controlling cost (96 percent compared with 93 percent for India and 99 percent for Australia), product profitability analysis (93 percent compared with 82 and 89 percent), and absorption costing (93 percent compared with 50 and 80 percent).

By contrast, the adoption rates for some of the MAPs in the lower half of the table were much lower for Vietnam and India than for Australia. Examples include ABC (30 percent for Vietnam and 20 percent for India, compared with 56 percent for Australia), balanced scorecard (36 and 40 percent, compared with 88 percent), and product life cycle analysis (55 and 45 percent, compared with 70 percent).

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Table VI.
Rates of adoption for
different groups of MAPs

| MAP groups | 2003 | | 2009 | |
|-----------------------------|------------------------|------|------------------------|------|
| | % | Rank | % | Rank |
| Traditional MAPs (SD) | 84.1 (14.0) | | 86.3 (13.1) | |
| Contemporary MAPs (SD) | 52.7 (13.2) | | 56.0 (14.1) | |
| | $t = 6.265, p = 0.000$ | | $t = 5.907, p = 0.000$ | |
| CPC MAPs (SD) | 94.6 (3.6) | | 95.9 (2.9) | |
| Non-CPC MAPs (SD) | 65.0 (17.8) | | 68.0 (17.8) | |
| | $t = 7.606, p = 0.000$ | | $t = 7.296, p = 0.000$ | |
| Budgeting (SD) | 88.6 (14.5) | 1 | 89.4 (14.2) | 1 |
| Performance evaluation (SD) | 75.5 (16.1) | 2 | 79.2 (15.8) | 2 |
| Decision support (SD) | 71.8 (17.4) | 3 | 75.3 (16.2) | 3 |
| Strategic analysis (SD) | 65.2 (19.4) | 4 | 67.9 (19.8) | 4 |
| Costing (SD) | 55.2 (27.3) | 5 | 57.7 (27.0) | 5 |
| | $F = 2.751, p = 0.049$ | | $F = 2.547, p = 0.062$ | |

Note: SD, standard deviation

Table VII.
Rates of MAP adoption
and enterprise attributes,
2009

| | <i>n</i> | All MAPs | | Non-CPC MAPs | |
|---|----------------|------------------------|-------|------------------------|-------|
| | | Mean (%) | SD | Mean (%) | SD |
| <i>Ownership form</i> | | | | | |
| SOEs | 48 | 68.55 | 23.33 | 59.23 | 20.74 |
| Joint stock | 99 | 77.52 | 18.89 | 69.96 | 16.99 |
| Joint-venture | 34 | 81.07 | 18.96 | 74.42 | 18.46 |
| | $\Sigma = 181$ | $F = 3.168, p = 0.047$ | | $F = 3.967, p = 0.024$ | |
| <i>Enterprise size (no. of employees)</i> | | | | | |
| < 101 | 50 | 74.25 | 20.56 | 66.26 | 18.82 |
| 101-250 | 60 | 72.97 | 20.83 | 64.35 | 18.14 |
| 250 + | 71 | 79.13 | 18.94 | 71.95 | 17.66 |
| | $\Sigma = 181$ | $F = 0.837, p = 0.436$ | | $F = 1.086, p = 0.344$ | |
| <i>Enterprise age</i> | | | | | |
| New (≤ 10 yrs) | 76 | 75.04 | 20.42 | 67.22 | 18.86 |
| Old (> 10 yrs) | 105 | 76.25 | 19.61 | 68.32 | 17.43 |
| | $\Sigma = 181$ | $t = 0.241, p = 0.810$ | | $t = 0.206, p = 0.838$ | |
| <i>Market orientation</i> | | | | | |
| Export | 73 | 76.97 | 19.73 | 69.39 | 18.19 |
| Domestic | 108 | 74.91 | 20.15 | 66.83 | 18.04 |
| | $\Sigma = 181$ | $t = 0.412, p = 0.682$ | | $t = 0.479, p = 0.635$ | |
| <i>Industrial sector</i> | | | | | |
| Trading | 27 | 63.89 | 24.76 | 55.07 | 23.35 |
| Others (manufacturing and service) | 154 | 76.22 | 20.12 | 68.03 | 17.84 |
| | $\Sigma = 181$ | $t = 2.187, p = 0.033$ | | $t = 2.115, p = 0.041$ | |

Notes: *n*, number of enterprises; SD, standard deviation

This is consistent with the observation made earlier in Section 2.2, namely that MAP adoption rates in developing economies tend to be lower than in developed countries.

5.3 Adoption rates of traditional vs contemporary Western MAPs

Table VI sheds some light on the question of whether there have been material differences between the adoption rates of traditional and contemporary Western

MAPs (*H2*). From the first and third data rows of this table, it can be seen that the average adoption rate for traditional MAPs as a group was 86.3 percent in 2009, compared with 56.0 percent for contemporary MAPs. A *t*-test confirmed that the difference was statistically significant, thus supporting *H2*.

As detailed in Table IV, all of the 16 highest ranked MAPs were traditional practices. By contrast, eight of the nine lowest ranked MAPs were contemporary practices. It appears that a similar pattern of differentials existed between adoption rates for traditional and contemporary MAPs in 2003, notwithstanding the reservations about the quality of the data for 2003. The finding that traditional MAPs tend to have higher adoption rates than contemporary MAPs is consistent with the results reported by Chenhall and Langfield-Smith (1998), Joshi (2001), and Pavlatos and Paggious (2008).

5.4 Adoption rates of CPC vs non-CPC Western MAPs

Table I provides a list of nine Western MAPs that are compatible with Vietnam's former CP activities and, therefore, are highly familiar to Vietnamese accountants. All of these "CPC" practices are "traditional" Western MAPs, where the term "traditional" is defined by Chenhall and Langfield-Smith (1998). They include production budgeting (corresponding to production planning under CP), absorption costing (production costing), product profitability analysis (profitability analysis), long range forecasting (long-term planning) and the likes. In the follow-up interviews, respondents emphasized that although the new MAPs were similar to their CP counterparts in terms of the technical tasks being performed, the motivation was clearly different. The old activities had been geared to meeting targets set by CP authorities, whereas the new practices were oriented toward meeting the requirements of the enterprise's own managers.

As summarized in the relevant data rows in Table VI, the differences in adoption rates between CPC and other practices were striking. On average, each of the CPC practices was adopted by 95.9 percent of the respondent enterprises in 2009, compared with an average of 68.0 percent for other MAPs; the difference was found to be highly significant, thus supporting *H3*. Detailed information presented in Table IV indicates that of the nine CPC practices, none had an adoption rate lower than 90.1 percent, which was the adoption rate for long range forecasting (ranked equal 13).

5.5 Differences in adoption rates across and within functional groups

The lower rows of Table VI show that there were considerable variations in the average rate of MAP adoption across functional groups. In 2009 the budgeting MAP group had the highest average adoption rate, followed by the performance evaluation, decision support, and strategic analysis groups, with the costing group having the lowest rate. However, these inter-group differences were not as large as the variations within individual groups, as indicated by the relevant standard deviations (in brackets). Below, we discuss briefly some key differences in adoption rates within functional groups.

Budgeting MAPs. The average rate of adoption for the Budgeting MAP group was 89.4 percent in 2009 (Table VI). Indeed, four of the five highest ranked practices in Table IV were in this group: sales budgeting (100 percent), profits budgeting/planning (98.9 percent), budgeting for controlling cost (97.2 percent), and production budgeting (95.6 percent). These four practices were compatible with activities undertaken by Vietnamese enterprises under CP. By contrast, activity-based budgeting –

a contemporary Western budgeting practice that would have been unfamiliar to most Vietnamese enterprises under CP – had a rather low adoption rate (60.8 percent, ranked 24 in Table IV). Such differences in the adoption rate accounted for the sizable standard deviation within the group.

Costing MAPs. Table VI shows that, on average, the costing MAP group had the lowest adoption rate (57.7 percent in 2009). However, there was substantial variation among the individual practices in this group. For example, Table IV shows that absorption costing (ranked 9) was adopted by 93.9 percent of the respondent enterprises in 2009. Whilst many textbooks criticize this costing method as inaccurate in allocating manufacturing overheads (Hilton, 2003), the use of a similar practice (production costing, see Table I) had been mandatory among all Vietnamese manufacturing enterprises under the CP system. Although this practice has become optional since 1995, its Western counterpart has remained widely adopted by Vietnamese enterprises. By contrast, contemporary costing practices such as ABC and target costing have not gained widespread acceptance, with 2009 adoption rates of 32.0 and 43.6 percent, respectively, (Table IV).

Performance evaluation MAPs. The average adoption rate for the performance evaluation group was 79.2 percent in 2009 (Table VI). Within this group, respondent enterprises tended to favour traditional financial measures, such as standard costs and variance analysis (ranked 8 in Table IV), responsibility accounting (ranked 13), and divisional profit (ranked 15). contemporary practices, such as non-financial measure(s) and economic value added, were adopted less widely (ranked 20 and 28, respectively). The rightmost columns of Table IV suggest that the adoption rates of some of these MAPs, such as non-financial measure(s) and responsibility accounting, may have increased considerably. Such a tendency would be consistent with Gordon's (2005) suggestion that managers in more competitive environments tend to face greater uncertainty and to require more information of various kinds.

Decision support MAPs. The average adoption rate for the Decision support group was 75.3 percent in 2009 (Table VI). Of the six MAPs included in this group, four were adopted widely. They included two traditional practices, namely Product profitability analysis (95.6 percent in Table IV) and cost volume profit analysis (92.3 percent). While the other two practices were contemporary, they were also very well known in the business world generally: JIT (74.6 percent) and TQM (72.9 percent). Interestingly, transfer pricing – a well-known, traditional MAP – was adopted by only 56.4 percent of respondent enterprises (ranked 27). Transfer pricing is appropriate for enterprises whose structure is complicated and divided into divisions (Coombs *et al.*, 2005). It would appear that relatively few Vietnamese enterprises consider that they fit these conditions, as illustrated by the following comments from two accounting department heads:

Our products pass through multiple stages, but we only sell the final products to the market. Therefore, we do not assess the performance of each production unit/stage, and transfer pricing is not suitable for us – Interviewee B (Pharmacy and chemicals enterprise).

Our enterprise is organized into a number of factories/manufacturing units, but we evaluate performance for the whole enterprise, rather than for each factory/unit, and that is why we have not yet adopted transfer pricing – Interviewee C (Textile enterprise).

Strategic analysis MAPs. The average adoption rate for the Strategic analysis group was 67.9 percent in 2009 (Table VI). Of the seven MAPs included in this group, three

were adopted by less than 60 percent of respondent enterprises (ranked 26, 29, and 31 in Table IV). This may be because all three are contemporary practices, but it may also reflect a tendency by many Vietnamese enterprises to focus mainly on short-term rather than strategic considerations (Le and Nguyen, 2009). As an interesting contrast, consider the case of calculation and use of the cost of capital, a traditional MAP which was ranked 12 overall in 2009. Between 2003 and 2009, this MAP enjoyed a relatively large increase in its adoption rate, from 84.5 to 90.6 percent. Although there is some reservation about the quality of the data for 2003, the overall picture portrayed is consistent with important changes that were occurring in the business environment around that time. In particular, as part of the economic transition process, many SOEs were transformed into joint stock enterprises, with mixed public-private ownership (53 out of 181 enterprises in this sample fit this description). For them, the cost of capital became a critical criterion in identifying financing sources.

Summary. From the above discussion, the functional group that an MAP belongs to appears to be less important as a determinant of its adoption rate than whether:

- it is CPC;
- it is traditional (as opposed to contemporary); and
- its use has been heavily influenced by some specific changes in the business environment.

5.6 Adoption rates and enterprise attributes

While Sections 5.3-5.5 have investigated the possible relationships between an MAP's attributes (e.g., whether it is traditional or CPC, or to which functional group it belongs) and its adoption rate, in this sub-section we consider whether the attributes of the enterprises making the adoption/non-adoption decision have a systematic effect on the rates at which they adopt MAPs. For example, it may be argued that SOEs are less driven than other enterprises by the profit motive, and therefore they are less receptive to innovations. In the present context, this argument implies an expectation that MAP adoption rates are lower for SOEs than for other enterprises. Similarly, a case can be made that joint ventures (with significant foreign interests) are more familiar than other enterprises with Western business systems and practices, and therefore they are more likely to consider Western MAPs compatible with their existing practices. This implies an expectation that MAP adoption rates are higher for joint ventures than for other enterprises. Given that in our sample, enterprises are classified as SOEs, joint stock, or joint ventures (Table II), the above two expectations combine to underpin *H5*. In Table VII, we use ANOVA to test this hypothesis as well as a number of other possible relationships.

As can be seen from Table VII, the average rate of adoption for all MAPs by all SOEs in the sample was 68.55 percent in 2009, compared with 77.52 percent for joint stock enterprises and 81.07 percent for joint ventures. The *F*-test indicates that these differences were statistically significant, thus supporting *H5*. In the two rightmost columns of Table VII, this analysis is repeated, but for non-CPC MAPs rather than for all MAPs. We do this because the legacy effects of the former CP system ensured that CPC MAPs were highly prevalent among Vietnamese enterprises, to the extent that there was little variation across enterprises in the adoption rates of such CPC MAPs. The results for non-CPC MAPs show sharper differences between SOEs, joint stock enterprises

and joint ventures, and provide strong support for *H5*. This finding is broadly consistent with the results of Firth (1996), O'Connor *et al.* (2004), and Wu and Drury (2007).

Data presented in the middle part of Table VII suggest that there was no clear relationship between MAP adoption rates and the size, age, or export orientation of enterprises. Thus, the survey responses are not supportive of *H6*, *H7*, and *H8*. Data at the bottom of the table do indicate, however, that on average MAP adoption rates for enterprises in the trading sector were lower than those in the service and manufacturing sectors; the difference was statistically significant. Similar conclusions are reached whether the analysis is carried out for all MAPs, or for non-CPC MAPs only. These results are supportive of *H9*.

6. The perceived benefits of MAP adoption

Tables VIII and IX summarize the survey results relating to *RQ2*, i.e. "how beneficial have MAPs been for adopting enterprises?" As part of the survey, each MAP was given a score by each respondent based on a five-point Likert-type scale, with 1 indicating a very low level of benefit being perceived as accruing from adoption, and 5 a very high level of benefit. In Table VIII, the practices are ranked according to their mean perceived benefit scores in 2009. To conserve space, the standard deviations around these mean scores are not shown; they ranged from about 1.00 to about 1.20 for most of the 32 practices listed.

As Table VIII shows, the mean benefit score for every surveyed MAP increased over the period 2003-2009. (There is some reservation about the reliability of the data for 2003, as noted previously.) Individual MAPs with relatively large increases in mean benefit score included calculation and use of cost of capital (from 3.47 to 3.88), and cost-volume-profit analysis (from 3.45 to 3.95). Statistical testing based on paired observations[7] indicated that for every listed MAP except ABC, the 2009 benefit scores were (on average) significantly higher than the corresponding 2003 scores. Further testing, again based on paired observations[8], indicated that the 2009 mean benefit scores for the 32 practices were, on average, significantly higher than the 2003 mean scores. Despite these increases, the average benefit score for all surveyed MAPs in 2009 was only 3.62, indicating a rather moderate level of perceived benefit from MAP adoption.

6.1 Traditional vs contemporary MAPs

Table IX provides additional information which is of some relevance to *H2*. The first and third data rows in this table show that the mean benefit score for traditional MAPs as a group (3.70 in 2009) was higher than the corresponding figure for contemporary MAPs (3.45); this difference was statistically significant. As detailed in Table VIII, all of the ten highest ranked MAPs in 2009 were traditional MAPs. By contrast, seven of the 11 lowest ranked MAPs were contemporary MAPs. This pattern of differentials between contemporary and traditional MAPs also applied in 2003.

6.2 CPC vs other MAPs

The relevant data rows in Table IX show that adopting enterprises found CPC practices, as a group, to be clearly more beneficial than other practices, with a mean benefit score of 3.90 in 2009, compared with 3.51 for the other MAPs. The difference proved highly significant. Indeed, seven of the nine CPC practices were placed among the 10 top-ranked practices in Table VIII.

| MAPs | | Type | Function | Mean | |
|------|--|------|----------|------|------|
| | | | | 2003 | 2009 |
| 1 | Sales budgeting | T | B | 3.72 | 4.06 |
| 2 | Budgeting for controlling cost (direct material, labour, overhead) | T | B | 3.65 | 4.01 |
| 3 | Product profitability analysis | T | D | 3.55 | 3.97 |
| 4 | Profits budgeting/planning | T | B | 3.58 | 3.96 |
| 5 | Cost volume profit analysis | T | D | 3.45 | 3.95 |
| 6 | Production budgeting | T | B | 3.65 | 3.94 |
| 7 | Absorption costing | T | C | 3.60 | 3.92 |
| 8 | Calculation and use of cost of capital | T | S | 3.47 | 3.88 |
| 9 | Variable costing | T | C | 3.56 | 3.85 |
| 10 | Standard costs and variance analysis | T | P | 3.43 | 3.82 |
| 11 | JIT | Cont | D | 3.44 | 3.77 |
| 12 | Budget variance analysis | T | P | 3.36 | 3.75 |
| 13 | Cash budgeting | T | B | 3.38 | 3.74 |
| 14 | TQM | Cont | D | 3.45 | 3.73 |
| 15 | Responsibility accounting | T | P | 3.36 | 3.65 |
| 16 | Long range forecasting | T | S | 3.26 | 3.64 |
| 17 | Controllable profit | T | P | 3.34 | 3.62 |
| 18 | Activity-based management | Cont | D | 3.22 | 3.55 |
| 19 | Budgeting for planning financial position | T | B | 3.23 | 3.54 |
| 20 | Target costing | Cont | C | 3.07 | 3.51 |
| 21 | Divisional profit | T | P | 3.11 | 3.49 |
| 22 | Balanced scorecard | Cont | S | 2.82 | 3.46 |
| 23 | Product life cycle analysis | Cont | S | 3.06 | 3.45 |
| 24 | Non-financial measure(s) | Cont | P | 3.03 | 3.41 |
| 25 | Activity-based budgeting | Cont | B | 3.12 | 3.34 |
| 26 | Flexible budgeting | T | B | 3.19 | 3.33 |
| 27 | Capital budgeting (NPV, IRR) | T | S | 2.95 | 3.31 |
| 28 | Economic value added or residual income | Cont | P | 2.95 | 3.29 |
| 29 | ABC | Cont | C | 3.21 | 3.28 |
| 30 | Capital budgeting (payback, ROI) | T | S | 2.97 | 3.28 |
| 31 | Value chain analysis | Cont | S | 2.75 | 3.13 |
| 32 | Transfer pricing | T | D | 2.97 | 3.06 |
| | Average (unweighted) | | | 3.28 | 3.62 |
| | Average (weighted by adoption rate) | | | 2.44 | 2.78 |

Notes: T, traditional MAP; Cont, contemporary MAP; B, budgeting; C, costing; D, decision support; P, performance valuation; S, strategic analysis

Table VIII.
Perceived benefits of
MAPs to adopting
enterprises

6.3 Differences across functional groups

In general, the perceived level benefit of MAP adoption did not vary greatly across functional groups, as shown in the lower rows of Table IX. In comparison with these inter-group differences, variations within each functional group (as indicated by the standard deviations) were often larger.

6.4 Perceived benefits and adoption rates

As an implication of the DOI theory in the current context, one would expect to see a positive relationship between the perceived benefit ("relative advantage") of a given Western MAP and its adoption rate (*H4*). It turned out that the simple correlation

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Table IX.Perceived benefits of
different groups of MAPs

| MAP groups | 2003 | | 2009 | |
|-----------------------------|------------------------|------|------------------------|------|
| | Mean | Rank | Mean | Rank |
| Traditional MAPs (SD) | 3.37 (0.23) | | 3.70 (0.28) | |
| Contemporary MAPs (SD) | 3.10 (0.22) | | 3.45 (0.19) | |
| | $t = 3.186, p = 0.004$ | | $t = 3.051, p = 0.005$ | |
| CPC MAPs (SD) | 3.53 (0.15) | | 3.90 (0.13) | |
| Non-CPC MAPs (SD) | 3.18 (0.22) | | 3.51 (0.24) | |
| | $t = 5.148, p = 0.000$ | | $t = 5.827, p = 0.000$ | |
| Budgeting (SD) | 3.44 (0.24) | 1 | 3.74 (0.30) | 1 |
| Decision support (SD) | 3.35 (0.21) | 3 | 3.67 (0.34) | 2 |
| Costing (SD) | 3.36 (0.26) | 2 | 3.64 (0.30) | 3 |
| Performance evaluation (SD) | 3.23 (0.19) | 4 | 3.58 (0.19) | 4 |
| Strategic analysis (SD) | 3.04 (0.25) | 5 | 3.45 (0.25) | 5 |
| | $F = 3.213, p = 0.028$ | | $F = 1.143, p = 0.357$ | |

coefficient between the mean benefit scores for the 32 MAPs being studied and the corresponding adoption rates was 0.735 for 2009 and 0.714 for 2003. Both of these are statistically significant, indicating support for *H4*.

In this connection, several individual MAPs deserve special mention. As can be expected, the Western MAP of Variable costing, for which there had been no close counterpart under CP in Vietnam, was adopted by relatively few enterprises. In 2003 it was adopted by only 56.9 percent of the respondent enterprises (Table IV), giving it a rank of 24th out of the 32 MAPs considered. Yet those enterprises that did adopt it considered it to have been quite beneficial. In 2003 its mean benefit score (3.56; see Table VIII) was the sixth highest among all the MAPs considered, making it one of the most useful MAPs at the time. As knowledge about such usefulness spread to potential users, its adoption rate underwent one of the sharpest increases reported for the 2003-2009 period (4.4 percentage points, ranked sixth; see Table IV).

Similarly, the MAP Calculation and use of cost of capital was given a mean score of 3.47 for perceived benefit in 2003 (Table VIII) which translated to a rank of eighth out of 32. Its usefulness, or relative advantage, then helped to increase its adoption rate by a large increment between 2003 and 2009 (6.1 percentage points, ranked equal second; Table IV). Similar comments apply to the case of the MAP TQM, which received a mean benefit score of 3.45 in 2003 and registered an increase of 5.5 percentage points (ranked fourth) in its adoption rate. Cases like these suggest that the spreading of Western MAPs has resulted in the introduction of some genuinely new practices with genuine benefits, rather than a mere recycling of old practices under new guises.

7. Constraints to further MAP adoption

In the follow-up interviews, heads of accounting departments were asked whether, in view of the benefits accruing from past MAP adoption, Vietnamese enterprises are likely to increase the rates of MAP adoption in the near future. Many respondents indicated that a key constraint to further MAP adoption to date had been a shortage of staff who were qualified to carry out MA tasks. Typically, the same accounting staff would have to handle both financial and MA work in each enterprise. The financial accounting responsibilities were usually predetermined on a regular, on-going basis

and occupied most of the time available to the staff involved. Thus, MA reports tended to be completed only when enterprise managers specifically requested them, rather than as a matter of routine.

In particular, SOEs generally appeared unwilling to invest large amounts of resources to enhance their MA capabilities, because for them the objective of higher efficiency was less critical than managing their relationship with higher authorities within the state system. The following comment was typical:

For SOEs today, the main purpose of enterprise reporting is still to respond to demands from the higher authorities. Accountants may see MAPs as useful, but what SOE management is most concerned about is fulfillment of targets set externally, rather than pursuing true efficiency. Therefore, the use of MAPs has yet to become essential in many enterprises. If more SOEs become privatized in the near future, MAP usage will certainly increase – Interviewee D (SOE)

Responses from Interviewees E, F, and G are supportive of the above prediction. All three were heads of accounting departments at joint stock enterprises that had been transformed recently from SOEs. After the transformation, all three enterprises actively engaged in drawing up their own budgets and began focusing on enterprise efficiency and performance as their top priority.

From the above, it can be expected that as more and more SOEs become joint stock (with mixed public-private ownership), and as foreign ownership of domestic enterprises increases, investment in MA capabilities is likely to accelerate. Responses from follow-up interviews suggest that a diverse range of additional MAPs will then be considered, with different enterprises likely to adopt different new practices to suit their respective needs.

8. Summary of findings and concluding remarks

In addressing *RQ1*, this study finds that the adoption of commonly used Western MAPs has been quite prevalent among medium-to-large Vietnamese enterprises: on average, 75.8 percent of the surveyed enterprises had adopted a representative Western MAP by 2009. With regard to *RQ2*, it has been found that enterprises that did adopt Western MAPs have generally found them to be of moderate benefit: on a scale from 1 to 5, the average perceived benefit score was 3.62.

As for *RQ3*, the study has adopted an analytical framework based on the DOI theory to investigate a number of possible determinants of MAP adoption.

First, there is some evidence that adoption rates for individual Western MAPs have tended to increase in Vietnam over the past few years (*H1*); the trend is likely to continue.

Second, “traditional” Western MAPs, i.e. practices that have been widely known since before the mid-1980s, were found to be more widely adopted than “contemporary” practices (*H2*), in line with findings from previous studies. Further, the results suggest that traditional practices have also been perceived as of greater benefit than contemporary practices.

Third, as part of the analysis, we have identified a group of Western MAPs that are highly compatible with activities routinely performed by Vietnamese enterprises under the former CP system. We found that these “CPC” MAPs were adopted much more widely (*H3*) and with greater perceived net benefit.

Fourth, there is evidence that MAPs with high levels of perceived benefits tended to have high adoption rates (*H4*) or to experience rapid increases in such rates.

Fifth, the survey results support the prior expectation that rates of Western MAP adoption were lower for SOEs than for joint stock enterprises which, in turn, were lower than for joint ventures with significant foreign interests (*H5*).

Sixth, we found no clear relationship between the size, age or export orientation of enterprises and their MAP adoption rates (i.e. *H6*, *H7*, and *H8* were not supported).

Finally, the results support the prior expectation that the MAP adoption rates of enterprises in the trading sector were lower than those in the manufacturing and service sectors (*H9*).

The increases in adoption rates reported for most individual MAPs during recent years suggest that further increases are likely in the near future. This conclusion is supported by feedback obtained through follow-up interviews. As more and more SOEs become joint stock companies, and as foreign investment in the domestic economy deepens, Vietnamese enterprises can be expected to become more familiar with Western accounting practices and more willing to adopt and apply them in order to enhance their overall performance.

While the primary purpose of the study has been to describe, document and analyze the adoption of Western MAPs in Vietnam, it has also served to highlight the potential usefulness of the DOI theory as an analytical framework for investigating the diffusion of MA innovations in other contexts. Indeed, a possible line of further research would be to use this theory to develop testable hypotheses about differences between developed and developing economies with respect to MAP adoption rates, and to collect suitable comparative data to test such hypotheses formally. Another direction for future research would be to delve more deeply into the determinants of MAP adoption in Vietnam and elsewhere. We intend to pursue both these lines of research.

Notes

1. The following is a comment from Interviewee A (food wholesaler): "Our company operates in the trading sector, so our operations are rather straightforward. Although the company's turnover is fairly large, many of the MAPs listed in the questionnaire form are not relevant to our needs, for example absorption costing, target costing, and the likes."
2. This procedure does not take into account the suggestion made by some authors in recent years about the merits of abandoning the budget and replacing it with rolling forecasts. However, it is consistent with the approach taken by recent studies of MAP adoption, such as El-Ebaishi *et al.* (2003) and Wu *et al.* (2007). Moreover, consultations with Vietnamese accounting academics and practitioners indicate that to date the budgeting-vs rolling-forecasts debate has not made a big impact on MA practice in Vietnam.
3. This sampling method was adopted to ensure a good response rate within a reasonable time frame. To check for robustness of the findings, additional questionnaires were also sent by mail to enterprises that were selected totally at random; the response rate from the latter sample was very low (around 19 percent). The main findings reported in this paper apply in the smaller (random) sample as well as the larger (snowball) sample.
4. The questionnaire instrument is available from the authors upon request as an unpublished appendix to the current paper.
5. Unless otherwise indicated, all statistical tests in this paper were conducted at the 5 percent significance level.
6. Each pair referred to an MAP, and comprised an adoption rate for 2003 and another for 2009.

7. Each pair referred to a respondent enterprise, and consisted of a benefit score for 2003 and another for 2009.
8. In this instance, each pair referred to an MAP, and comprised a mean benefit score for 2003 and another for 2009.

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Further reading

- Waweru, N.M., Hoque, Z. and Uliana, E. (2004), "Management accounting change in South Africa: case studies from retail services", *Accounting, Auditing & Accountability Journal*, Vol. 17 No. 5, pp. 675-704.

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