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MANAGEMENT ACCOUNTING PRACTICES ADOPTION AND DETERMINANTS: A REVIEW OF WORLDWIDE EMPIRICAL EVIDENCES

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ABSTRACT

There is a common belief that the management accounting practices adoption offers relevant and timely information to mangers for making economic decisions and thereby improving an organization's performance. However, there are notable differences in the adoption of different MAPs, its extent, and determinants across different nations. Directed by this fact, the search for knowledge of the context that determines the adoption of MAPs is growing. To explore the intuition in understanding the MAPs' adoption across different countries worldwide, the objectives of this article are to review the prior empirical literature on the level of adoption and benefits of adopting MAPs, to identify the factors which determine MAPs' adoption across different countries, and to develop a conceptual framework that could be used for future research. There are forty-three research articles reviewed both from developed and developing countries, including evidence from the USA, UK, Europe, Japan, Australia, New Zealand, Taiwan, Malaysia, Singapore, China, Finland, Turkey, Vietnam, Barbados, Jamaica, Egypt, Libya, Iran, Bali, India, Estonia, Canada, Thailand, Jordan, Tehran, Kenya, Tunisian, the Czech Republic and Nigeria. The review reveals that the adoption of MAPs significantly differs across countries; the adoption of traditional MAPs is widely available worldwide, and the adoption of advanced MAPs such as activity-based costing and balanced scorecards is higher in developed countries. Further, the review identified national culture, size, competition, perceived environmental uncertainty, advanced manufacturing technology, organizational structure, organizational strategy, customer power, total quality management, the complexity of processing system, product perishable, organizational capacity to learn, industry type, the origin of organization, owner-manager commitment, Life cycle stage of the firm, interactive use, diagnostic use, dynamic tension, organizational DNA, rational capital with the supplier and interactive control as the determinants of MAPs. However, the review reports that these factors have mixed evidence concerning MAPs' adoption. Finally, a conceptual framework has been developed based on the contingency theory of management accounting related to the determinants of MAPs that could be empirically tested for future research.

Keywords: *Management accounting practices, adoption, benefits, determinants, empirical review*

1. Introduction

Accounting is the formal information processing system exists in organizations for mangers in their higher cognitive process (Roslender& Hart, 2002), specifically management accounting practices (MAPs) through which the managers gather, organize and communicate information about an organization's activities (Horngre, Sundem& Stratton 2008).Bainesand Langfield-Smith (2003) state that managers require detailed management accounting information that help them in making economic decision in uncertain situations and helps to monitor the progress of the strategies. Wilson andChua (1993)describe that MAPs are encompass techniques that offer information financially and non-financially to help those within an organization make the best decision, thereby attaining organizational control and improving organizational performance. Hence, management accounting's main objective is to offer financial and non-financial information to managers at all levels for planning, measuring performance, controlling and making decisions (Johnson & Kaplan, 1987).

All organizations tend to adopt MAPs despite profit or non-profit, small or large, market and operations, though the adoption is not permitted by law. Countries around the world are increasingly adopting MAPs, and there is evidence that those corporations have been successful and have dominated global competition by introducing automation, cost management, continuous improvement and collective decisions, to their strategic advantage. There is a common belief that the management accounting practices adoption offers relevant and timely information to mangers for making economic decisions and thereby improving an organization's performance. Tuanmat and Smith (2011) also indicates that it is important to confirm that organizations are practicing appropriate MAPs within the changing business environment. Luther and Longden (2001)claim that that the adoption of different MAPs, its extent, and determinants are different across other nations. Furthermore, Scapens (2006) argues that the dynamic interaction of interrelated forces that form individual, and organizational activities is essential for a sense of diversity in MAPs.

Therefore, in an effort to explore the intuition in understanding the MAPs' adoption across different countries worldwide, the objectives of this article are to review the prior empirical literature on the level of adoption, benefits of adopting MAPs, to identify the factors which determine MAPs' adoption across countries and to develop a conceptual framework that could be used for future research. This study's contribution would be beneficial to both academia and business managers to examine how and why there are different levels of adoption, benefit, and determinants of MAPs.

2. Methodology

The primary purpose of this article is to review the available empirical literature on the adoption and benefits of MAPs and to identify the determinants of MAPs. The online databases like Emerald Insight, Google Scholar, JSTOR, SAGE, Science Direct, Scopus, Springer, Taylor, and Francis and Wiley were used to collect the

literature for review. Scholars recommend online databases for scientific research (Dahlander& Gann, 2010). The search of prior literature was started with the keywords of "management accounting practices or management accounting or management accounting system". The initial search was carried out on the online databases with the defined keywords. There were 1231 records identified including abstracts and full texts. Then, articles were omitted that did not specifically discussing the MAPs' adoption, benefits and determinants through manual screening by referring the articles' keywords and title. Because, the author's keyword provides an outstanding predictor of the content of the article (Strozzi, Colicchia, Creazza& Noe, 2017) and the title outlines the subject of the article (Bavdekar, 2016). Then, the full text articles which were peer reviewed were selected for evaluation. For the final survey, a total of 43 papers were selected and reviewed. The review was done under two subsections: the level of adoption and benefits of MAPs and determinants of MAPs.

3. Level of MAPs Adoption and Benefits

Shields, Chow, Kato, and Nakagawa (1991) evaluated the similarities and differences between the MAPs of Japanese and U.S. firms utilizing the extant survey method. A list of 109 MAPs grouped into six areas of MAPs: short-term decision-making, cost accounting system, operational budgeting, capital budgeting, operational control, and management control. The analysis found many similarities in addition to differences in using MAPs between U.S. and Japanese firms. They realized that Japanese companies mostly use direct material and a smaller amount of overhead resources than U.S. companies as a part of their costing system. But firms from both countries utilize direct (variable) and full (absorption) costing in a very similar way despite Japanese firms reporting more widespread usage of process costing to collect costs of products. The majority of the companies in the U.S don't use any type of cost volume profit (CVP) analysis models.In contrast, most of the Japanese companies utilize basic liner CVP analysis as a short-term decision-making method. Their finding further states that firms in the U.S utilize discounted cash flow techniques, namely, internal rate of return and net present value. In contrast, Japanese firms use the payback period for capital budgeting decisions. Concerning operational budgeting, the study's finding implies that the budget director is the accountable person in Japanese firms. In contrast, the controller is the responsible person in U.S firms' for preparing an operational budget, and nearly all of the firms in Japan revise their budget in fixed intervals of semiannually or annually in which U.S. firms revise their operating budget diverse monthly or quarterly or as they needed in a mixed manner. Additionally, the findings reveal that the standard costing technique is used among the U.S firms. The actual costing method is used over Japanese firms as an operational control system. Finally, their findings suggest that Japanese firms mainly utilize sales and return on sales; in the meantime, U.S. businesses typically use return on investment as their performance evaluation technique under the aspect of management control.

Chenhall and Langfield-Smith (1998) researched the degree to which contemporary and traditional MAPs were embraced among 140 large business organizations engaged in manufacturing in Australia. They used 42 MAPs under five functional classes: product costing, decision support system, budgeting system, performance evaluation, and long-term planning. The product costing system comprises four MAPs: variable costing, absorption costing, target costing, and activity-based costing. The decision support system included a list of eleven MAPs such as product life cycle analysis, product profitability analysis, activity-based management, cost volume profit analysis, benchmarking of product characteristics, benchmarking of the management process, benchmarking of operational process, benchmarking carried out within broader organizations, benchmarking carried out within outside organizations and benchmarking of strategic priorities. The following seven MAPs like compensating manger, controlling costs, coordinates activities throughout the business unit, resources, and activities, plan a day to day operations, planning financial position joining finical position, and planning cashflows were comprised under the class of detailed budgeting systems. The long-term planning group includes five MAPs, such as formal strategic planning, capital budgeting techniques (NPV, IRR, and Payback). Strategic planning developed together with the budget; strategic planning developed separately from budget and long-range forecasting. Another seven MAPs such as compensating managers, controlling costs, coordinating activities across the business unit, linking financial position, resources and activities, planning financial position, planning day-to-day operations, and planning cash flows were included under the detailed budgeting system. Still another, thirteen MAPs like budget variance analysis, balanced scorecard, cash flow return on investment, divisional profit, controllable profit, quantitative measures, non-finical measures, employee attitudes, on-going supplier analysis, return on investment, residual income, and team performance were recoded under the performance evaluation. Finally, the group long-term planning comprises five MAPs like capital budgeting techniques (payback, IRR, and NPV), formal planning, strategic planning, developed along with the budget, long-range forecasting, and strategic planning developed separately from the budget. The finding of this study implies that the traditional MAPs' adoption rate was more than recently adopted practices. New techniques, notably benchmarking and activity-based costing, were adopted mainly by Australian businesses among the contemporary MAPs. Additionally, the study's finding implies that any large Australian firs have embraced a range of MAPs, emphasizing nom-financial information and requiring even more tactical attention.

Guilding, Lamminmaki and Drury (1998) analyzed the standard costing and budgeting practices of manufactures in United Kingdom (UK) and New Zealand. Finding with the study suggest that standard costing techniques is widely used over both countries and many accountants surveyed don't expect the desertion of

standard costing and variance analysis in the surrounding. Furthermore, the study shows that both countries, NZ and UK employ standard costing and budgeting at a high level. There are only a few differences also observed between the practices of budgeting and standard costing within these two countries. They are a larger percentage of performance reports utilized in NZ budget centers and controllable and non-controllable costs are not differentiated in those reports; manufactures in NZ tend to be somewhat more reliant on historical data when estimating standard cots; and there isn't larger propensity when dividing fixed and variable costs and only treat overhead costs as fixed costs and direct costs as variable costs at NZ. Hence, the study concludes that NZ manufactures are much behind in practicing budgeting and standard costing as opposed to UK manufactures.

Wijewardena and De Zoysa (1999) in their analysis on comparative investigation of MAPs of both 231 Australian and 217 Japanese manufacturing firms over 1997 identified the subsequent MAPs; (i) budgets, (ii) standard costing, (iii) historical accounting statements, (iv) cost volume profit analysis, (v) activity-based costing, (vi) variable costing, (vii) responsibility accounting, (viii) ratio analysis, (ix) target costing, (x) quality cost reports and (xi) transfer pricing. The analysis finds lots of essential differences between the two states from the use of aforementioned MAPs. Firstly, Australian companies mostly use historical accounting statements, budgets, and standard costing for the point of preparing financial statements, planning and controlling cots whereas Japanese firms largely utilize target costing for the purpose of reducing costs at the time of planning and designing a new product and cost control tool at the time of manufacturing. In contrast, cost planning and cost control is done by Japanese firms at the time of new product design. Secondly, companies in Japan give more awareness to implement greater and frequent adjustments to MAPs than companies in Australia.

Chowa, Shields, and Wu (1999) analyzed the impact of national culture on the design of firms and employees' preferences for management controls at multinational firms working in Taiwan. Data were gathered from 159 Taiwanese managers employed in six larger electronic/computer international organizations from the U.S., Taiwan, and Japanese owned companies established in Taiwan. Firms' design and management control were quantified by structuring activities, decentralization, participative budgeting, participative performance evaluation, standard tightness, performance contingent, controllability filters, and financial rewards. At the same time, national culture was measured with uncertainty avoidance, individualism, masculinity and power distance. The study found that national culture affects firms' design and employees' preferences for management control in six multinational organizations operating in Taiwan.

Rahman, Omar, and Abidin (2003) analyzed the MAPs of Malaysian-owned and Multinational corporations out of the manufacturing and service sectors. Akira's 'Four-Phase' model, which comprises the drifting approach stages, traditional

management accounting, quantitative approach, and integrated management approach, was adopted to estimate the level of MAPs among the sampled organization. The survey included traditional MAPs like budgetary control, standard costing, variance analysis, absorption costing, and cost volume profit analysis. In contrast, activity-based costing, just in time, total quality cost report, statistical analysis, were used under the integrated management accounting approach. The finding of this study indicates that the application of MAPs is low compared to financial accounting information for planning, controlling, and decision making. This is due to the mandatory statutory requirement of financial accounting in Malaysia. The finding further sate that very few companies use merely traditional MAPs such as budgetary control and standard costing and created the post of management accountant in Malaysia.

Sulaiman, Ahmed, and Alwi (2004) analyzed the extent of MAPs in four Asian countries like Malaysia, Singapore, India, and China. Traditional MAPs such as cost volume profit analysis, standard costing, budgets, return on investment, and advanced MAPs, namely activity-based costing, total quality management, balanced scorecard, and target costing, are considered with this particular study. The study indicates a lack of using advanced MAPs, whereas traditional MAPs strongly leftovers in all four countries.

Mahfer and Omar (2004) explored the extent of MAPs among selected Malaysian companies. The four stages model of the International Federation of Accountant (IFAC) (1998) was used to analyze the level of MAPs in this specific study. IFAC's (1998) four stages include "cost determination and financial control, information for management planning and control, reduction of waste of resources in business processes and creation of value through effective resources used." There are twenty-eight MAPs such as income statement, budget, balance sheet, cash flow analysis, cost and benefit analysis, financial ratio analysis, product costing, SWOT analysis, statement of equity, standard costing, NPV analysis, CVP analysis, absorption costing, bench marking, process costing, statistical analysis, total quality management, ERP, balanced scorecard, target costing, ABC, batch costing, JIT, MRP, Zero-based budgeting, EOQ for inventory, multiple regression and kaizen costing used to measure the MAPs. The study's finding implies that Malayan firms dominantly adopted using stage 1 (financial accounting data) and stage 2 (traditional MAPs), of which budget is mostly used. Their finding shows that some of the firms reached the fully adopting stage 2 MAPs and evolved into step 3 MAPs such as bench marking, total quality management balanced sore cards, target costing, just in time, and activity-based costing.

Hyvonen (2005) assessed the adoption and perceived advantages of 45 MAPs on the list of 132 larger organizations from forest, metal, and electronic manufacturing Finland utilizing using a questionnaire survey. The outcome of the analysis implies that all of the companies surveyed The results of the study indicate that all most all the companies surveyed utilize budget for

various reasons of which budgeting for controlling costs practice, budgeting for evaluating the performance of the managers, and budgeting for cashflows are signaled as the essential techniques while budgeting for the financial planning position is cited as the last position embraced by most of the companies. The finding further demonstrates that depending on the long-term planning practice of capital budgeting methods like the payback period and return on investment were highly adopted. In contrast, absorption costing was adopted moderately, and activity-based costing was adopted at a lower rate.

Abdel-Kader and Luther (2006) researched the extent of MAPs usage within 122 firms belonging to the UK's food and drinks industry using a questionnaire survey. Their survey comprised 48 MAPs classified into five classes: budgeting, costing system, information for decision making, performance evaluation, and strategic analysis. Their survey concluded that firms out of the UK Food and Drink industry widely utilize traditional MAPs. Further, evidence of differences between practices listed in the organizations' textbook and practices is also presented within this study.

Wu, Boateng, and Dury (2007) analyzed the adoption, perceived benefits, and expected future emphasis of Western MAPs among 115 Chinese state-owned enterprises (SOE) and 64 joint ventures (JV). In line with the data collected with a questionnaire survey, the analysis finds that type of ownership is mostly influenced the degree of adoption of MPAs compared to the nature of MAPs of their enterprise (SEO or JV). Profit and sales budgeting, budgeting for controlling cost, and target costing are considered the very best MAPs in SOEs compared with JVs is also indicated as the significant finding of this study. Furthermore, the survey results suggested that accounting for decision-making and responsibility accounting is regarded as less beneficial to SOEs than JVs.

Moreno and Montemayor (2008) did a comparative study on the usage and implementation of MAP, specifically activity-based costing (ABC) in Europe and Mexico. The survey was conducted among 227 logistic companies using a questionnaire. This study indicates that the adoption of ABC in Mexican companies is at a low rate compared with some European countries. Lack of knowledge is the reason for the low adoption of ABC in Mexico. The study's finding further indicates that Mexican companies newly started the adoption of ABC, whereas European companies began the implementation of ABC in the mid-nineties.

Mat, Smith and Djajadikerta (2010) investigated the level of adoption of MAPs among 41 Malaysian manufacturing companies with a list of 15 MAPs (full or absorption costing, variable or marginal costing, budgetary control, cost-volume-profit analysis, total quality management, standard costing, activity-based costing, target costing, product life cycle analysis, value chain analysis, customer profitability analysis, product profitability analysis, benchmarking and shareholder value analysis employing IFAC framework over the development of MAPs. The study demonstrates that the degree of MAPs in

Malaysian production organizations comes under the IFAC framework on MAPs evolution. However, the findings suggest that the mean score for traditional MA techniques is slightly more significant than advanced techniques.

Uyar (2010) examined the cost and MAPs of sixty-one small, medium, and large production organization in Turkey. The analysis comprises twenty-nine cost and MAPs categorized into three classes: overhead allocation bases, product costing, and costing information application. MAPs like process costing, job costing, and activity-based costing are comprised of product costing. In contrast, direct labour hours, direct labour cost, machine hour, units produced, direct material cost, prime cost, and others are included under the overhead allocation bases. Besides, customer profitability analysis, pricing decisions, performance measurement, make or buy decisions, activity analysis, adding or deleting products, product mix decision, competitor cost assessment, value chain analysis, product life cycle analysis, competitive position monitoring, and process costing are contained beneath the overhead allocation bases. The study implies that job costing is the most commonly used product costing method; budgeting would be the predominantly applied MAP, units produced, prim costs, and direct cost are the popular overhead allocation bases. Under the pricing decision, the cost information is broadly employed. Furthermore, the analysis implies that companies realize that traditional MAPs are perceived as essential MAPs than new MAPs like strategic planning and transfer pricing.

Anh and Mia (2011) analyzed the adoption and advantages of MAPs in Vietnamese organizations. There are thirty-two MAPs like absorption costing, variable costing, cost volume profit analysis, budgeting for planning financial position and controlling cost, profit budgeting, sales budgeting, production budgeting, budget variance analysis, cash budgeting, standard costing and variance analysis, product profitability analysis, long-range of forecasting, calculation, and usage of cost of capital, capital budgeting, divisional profit, responsibility accounting just in time, total quality management, flexible budgeting, controllable gain, non-financial measures, activity-based budgeting, product life cycle analysis, activity-based management, transfer pricing, value chain analysis, economic value-added, target costing, activity-based costing, and balanced scorecard. Data were obtained from 181 respondents of the accounting department head and vice head, utilizing questionnaires, and 20 follow up interviews. Applying the ANOVA test, the analysis implied that traditional MAPs are embraced more than contempered MAPs, and a lesser adoption rate is reported among state-owned businesses.

Alleyne and Weekes-Marshall (2011) investigated the MAPs within a public limited group of companies in Barbados. Data were collected among the financial controller, production/operations manager, and supervisors of all three companies using semi-structured interviews. A list of 38 MAPs under five categories like budgeting, costing system, information for decision making, strategic analysis, and

performance evaluation are included in this study. This study concluded that cash flow budgeting is used as a control technique for the planning process and monitoring. This study also found that these three companies use most of the MAPs. Still, no complicated management accounting software is utilized to build information besides the ordinary accounting software. The analysis also signifies that MAPs adopted among these three entities are perceived to become rather powerful and contributed towards the excellent achievement of those entities. Those MAPs are consistent and standardized across the group.

Zheng (2012) analyzed the MAPs at medium and small-size organizations in China concerning MAPs, namely internal financial analysis, cost volume profit analysis, product pricing, comprehensive budgeting, inventory, capital investment, responsibility accounting, and activity-based costing. The finding shows that the application of MAPs and its usages is weaker and limited among China's SMEs than large corporations. This study's conclusion further suggests that China should develop its MAS to incorporate the continuous development of the organizations towards its privatization and market-oriented economy.

James (2012) investigated how innovative MAPs like target costing and activity-based costing are implemented in Jamaica's manufacturing sector. Five companies were analyzed employing a qualitative case study method within this research. The study finds that manufacturing companies in Jamaica utilize more traditional MAPs than innovative MAPs. The results further specify that organizations adopting modern MAPs have significantly more reliable information for making decisions, a tremendous amount of profitability, and competitiveness than the companies that do not adopt.

Mohamed (2013) researched the EI Araby corporation in Cairo, Egypt. Employing a qualitative approach of case study, the analysis assessed whether the specific company adopted traditional and advanced MAPs, namely budgeting, costing system, strategic analysis, and information for decision making and performance evaluation. Using the case study approach, the study evaluated whether the particular company adopted traditional and advanced MAPs, specifically costing systems, budgeting, performance evaluation, decision-making, and strategic analysis. Cost classification into variables and fixed, direct, and indirect, using multiple overhead rates for assigning indirect costs, cost volume profit analysis, budgets, and inventory control model are the essential traditional MAPs adopted. In contrast, product life cost, activity-based costing, benchmarking, balanced scorecards, and customer accounting are the advanced MAPs used by the El Araby Company. The study also examined the association between fluctuations within the industry environment and the degree of both MAPs. Business environment changes were quantified with the intensity of competition and development in technology. In contrast, MAPs were classified into budgeting, costing system, decision-making, performance evaluation, and strategic analysis in this research. The

study revealed the intensity of competition and advancement in technology destined for the adoption of MAPs. The application of modern technology in most activities, specifically in the production system, experienced the ferocious price competition that leads to the adoption of current MAPs in El Araby Company. The study further realizes that the degree of MAPs substantially impacts its capacity to accomplish competitive advantages.

Brierley (2013) examined the application of product cost for making decisions in the British manufacturing industry. Data were collected from 280 management accountant utilizing a questionnaire survey as well as 56 interviews. The finding obtained in this study indicates that product costs possess an essential part in deciding to encourage the profit motive among the investment centers and to retrain cost centers. However, his finding further demonstrates that when there is a much greater sway of the market in making decisions, product cost usage is not as usually utilized.

Yap, Lee, Said, and Yap (2014) investigated the adoption rate of strategic MAPs of 118 companies in Malaysia using forty-five MAPs grouped into product costing and performance evaluation, decision support, budgeting systems, and long-term planning. The analysis reveals that the adoption rate for MAPs by Malaysian businesses is comparatively less than in many other countries. These businesses use much of traditional MAPS, and cash flow tends to be more conspicuous. The finding also demonstrates several organizations commencing strategic MAPs like activity-based costing, product profitability analysis, benchmarking, and balanced scorecards.

Ahmad (2014) examined the implementation of MAPs among 160 small-medium sized manufacturing organizations in Malaysia. A list of 44 MAPs is grouped into five major categories: budgeting system, costing system, decision support system, performance evaluation system, and strategic management accounting. The outcome of the study shows that conventional MAPs like traditional costing, budgeting, and financial performance measures are frequently employed by most of the firms as well as the newly developed MAPs like non-financial measures, activity-based costing, strategic management accounting, and decision support system are implemented by very few companies. Further, the study observed that a very minimal degree of investment appraisal techniques is applied in their decision-making process.

Ahmad and Leftesi (2014) assessed the degree to which advanced and traditional MAPs are embraced and the phases of development of MAPs among the medium and large-sized manufacturing organizations in Libya. Data was accumulated from eighty-one senior staff of financial division such as directors and managers – finance, and management accountants by administering questionaries. There are 24 MAPs employed within the IFAC framework, including "full (absorption) costing, budgeting systems for planning financial

position and cash flows, product profitability analysis, budgeting systems for day-to-day operations, variable costing and budgeting systems for coordinating activities across the business units under the stage – I, cost-volume-profit/break-even analysis, cash flow returns on investment, return on investment (ROI), controllable profit, capital budgeting techniques (e.g., Net present value (NPV), internal rate of return (IRR), Payback), divisional profit, standard costs, and variance analysis and residual income under Stage – II, long-range forecasting, customer satisfaction surveys (quality), total quality management and quality cost reporting under Stage – III, target costing, life-cycle costing, activity-based costing (ABC), just-In-Time (JIT), and balanced scorecard (BSC) under the stage – IV". The investigation's outcome implies that the manufacturing business in Libya relies heavily on conventional MAPs, whereas the level of adoption for advanced MAPs is relatively slow and low. The investigation also suggested that MAPs within the Libyan organizations are still in-between levels one and two of the IFAC model.

Ghasemi, Mohamad, Mohammadi, and Khan (2015) examined the level and consequent advantages of the adoption of both traditional and advanced MAPs in Iranian manu facturing firms with 127 respondents including managers of the finance department, chief accountant, financial controller and chief financial officers of 12 different manufacturing sectors listed in Tehran Stock Exchange (TSE) using a postal questionnaire survey. A list of 43 MAPs is used for the study. The analysis indicates that the traditional MAPs are adopted faster than new-developed MAPs in Iranian firms. Moreover, the finding suggests that the following benefits resulting from traditional practices are better than new-developed techniques even within Iran's high environmental uncertainty and unstable economy. However, the study results also specify that the firms that have adopted new-developed MAPs gained benefit from those practices.

Krisnadewi and Erawati (2018) investigated the MAPs adoption among 38-star hotels in Denpasar city, Bali using the questionnaire survey. A list of 19 MAPs divided into five groups, like performance evaluation, budgeting, performance compensation, strategic analysis, and decision making, were included within this survey. The survey finds that a limited number of MAPs, notably preparation of the flexible operating budget and the financial performance assessment as a benchmark of budget conformity, are implemented among Bali hotels.

Jariya and Velnampy (2019) reviewed the MAPs' adoption in Sri Lanka using even selected empirical research articles related to Sri Lanka. The study found that Sri Lankan firms use various levels of conventional MAPs and there are substantial gaps between multinational corporations working in Sri Lanka and Sri Lankan indigenous firms on the implementation of contemporary MAPs. The difference is because of qualitative considerations like company size and origin.

4. Determinants of MAPs Adoption

Gordon and Naraynan (1984) examined the association among organizational structure, perceived environmental uncertainty, and management accounting information system. Perceived ecological uncertainty had been quantified by environmental stability, predictability of competitors, a new product in the industry, predictability of consumers' preferences, competitiveness, development of scientific discoveries, and regulatory limitations. Factors like formalization, level of operating decisions, delegation, specialization, and managerial style were used to assess the organizational structure. Management accounting information system had been measured with three-item, namely nonfinancial information, externally oriented information, and ex ante-oriented information. Trends in profits and sales quantified externally oriented data that can also be called the ex-post's financial and nature. Whereas nonfinancial details that can be known as an inner and ex-post nature have been measured using employee turnover trends. Ex-ante-oriented information that will also be considered as an interior and monetary nature was quantified by a future forecast of expenses and sales. Data gathered from 34 senior managers of U.S. firms employing structured questionnaires was examined with the support of descriptive statistics, person correlation, and partial correlation analysis. The empirical evidence implies that organizational structure and information systems are a function of the environment. Moreover, the evidence declared that no substantial relationship between a firm's information system and structure is located while adding the control variable in to the investigation.

Joshi (2001) explored the international diffusion and benefits of traditional and new MAPs among 60 medium and large manufacturing organizations in India. There are 43 MAPs included in the survey. The study finds that Indian companies tremendously adopted traditional MAPs compared to newly constructed practices relatively slow. Further, this study shows that performance evaluation and budgeting are the essential MAPs embraced among the Indian organization. The research further indicates that the upcoming focus on adopting new MAPs is also significantly less among Indian companies due to higher benefits derived from traditional MAPs. Furthermore, this study's finding also implies that size measured in terms of total assets is a significant indicator of the adoption level of newly constructed MAPs. The study also finds a statistically significant difference concerning the status of adopting, benefit resulted, and the attention for prospective focus between Australian and Indian and Australian firms about the adoption of the newly grown and traditional MAPs. Furthermore, the analysis noted the differences in cultural values like power distance, individualism, and dynamism, between Australian and Indian Businesses are the significant reason behind those differences from the adoption level of MAPs. Comparatively, Indian firms generally prevent risks, are quite traditional, and not as advanced in embracing new MAPs have also been found in this study. Moreover, the study assessed whether the size of the firms

quantified in terms of the value of total assets and cultural values impacts the growth of MAPs in India. The findings have also been contrasted with Australian Business. Accordingly, it is reported that the size of those firms considerably affects the adoption of their newly acquired MAPs.

Haldma and Lääts (2002) assessed the contingencies in?uencing the MAPs and efficacy of both performance measurement of sixty-two Estonian large manufacturing firms. External factors, like the accounting environment and business environment, and internal domains like technology, organizational aspects, and strategy, are regarded as the contingent factors identified with this specific study. Environmental elements are quantified with the proxies of the impact of retraining programs, tightening competition, bench marking of cost and management accounting methods, change of production culture, and change of market structure. Proxies such as availability of competent financial staff, need for more detailed divisional performance information, organizational structure changes, advances in information technology, and dissatisfaction with the performance measurement have been employed to measure organizational aspects. Changes in production technology quantify the technological aspects of the firms. Management accounting practices are measured with information regarding cost element accounting, cost measurement, and appraisal in financial accounting, costing methods, cost center accounting, budgeting, pricing principles, and internal performance measurement systems. The study finds that a shift in technology, accounting, business environment, and organizational aspects influences the cost and management accounting practices' fluctuations.

Waweru and Uliana (2008) examined the consequence of selected contingent variables on management accounting change (MAC) among 33 Canadian manufacturing organizations using 28 MAPs divided into five classes: costing, decision making, planning, directing, and controlling. MAPs like budgeting, production planning, profit planning, other planning systems, and strategic planning are comprised in the planning group. The following seven MAPs such as team-based performance measurement, individual-based performance measurement, performance measurement of quality, organizational performance, performance measurement of delivery and innovation, and performance measure in terms of customer satisfaction other performance are comprised under control system. The category costing system includes direct allocation of manufacturing overheads, marketing costs and other overheads, divisional or internal transfer, and other costing methods. The directing system comprises the reward system for pay for performance plan, stock opinion, bonus, and other reward.Information documented broadly, frequently, non-financial measures, different interpretation of results, and other modifications reporting system were included in decision making category. Further, five contingent variables namely external factor proxied by the competitive environment; internal factors with proxy variables of organizational learning capacity, technology, and size; strategies with proxy variables of

differentiation strategies and cost leadership and organizational structure proxied with decentralized /centralized organizational structure used employed within this study. The survey outcome suggested that the fluctuations in various aspects of MA and control systems reported in varying levels and most frequent changes reported MAPs that support planning and control compared to the MAPs that support costing and decision making. A further consequence of correlation and regression analysis implies that organizational capacity to learn, size, and differentiation strategy directly impact management accounting change. Further more, the outcome also suggests an indirect positive substantial association between intensity of competition and management accounting change; however, competition has its influence rather than organizational structure.

Abdel-Karder and Luther (2008) analyzed the impact of firms' characteristics on MAPs of the Food and Drink industry in the UK. Employing the contingency theory, they contended that MAPs evolve in reaction to firm-specific and environmental contingencies of business and tried to ascertain which contingencies are important in differentiating between evolutions of the distinct level of MAPs sophistication. Ten contingent factors solely to organizational, external, and processing characteristics have been employed as the study's independent variables. Perceived environmental uncertainty and customer power are utilized to measure the external factors, while competitive strategy, decentralization, and size are used to measure the organizational characteristics. Also, the processing system's complexity, just in time, total quality management, advanced manufacturing technology, and product are added to quantify processing characteristics. Predictability of a firm's external surroundings like competitors, customers, suppliers, regulatory agencies, and government/European Union have been used to quantify a perceived environmental uncertainty. Firm structure symbolized by decentralization is quantified with the level of authority assigned from the prominent executive in their organizations to produce decisions associated with new product development, an array of sizeable new investment, managerial personnel's hiring and firing, new products pricing and price changes and setting of budgets. The size of the organization is quantified concerning each business's overall assets. Items like the diversity of product line, the presence of main distinctions in between volumes and the batch size and product and similarities in production, and its design are utilized to quantify the complexity of the processing system. The level of advanced manu facturing technology (AMT) is measured with the computer-aided method, manufacturing resource planning, computer numeric control, flexible manufacturing systems, automated material handling, robotics, computer-aided process planning, computer-aided test, and integration of production processing with the aid of computers have been utilized to quantify AMT. Total quality management is measured with those items linked with time spent dealing together with suppliers to enhance their quality, period committed to grade progress, time and cost spent on

preventative preservation to increase quality and quality-related trading, percentage of their plant's primary manufacturing process under statistical quality control and respondents clarification in their present way of ensuring quality control vary from post-production review. Just in time has been quantified associated with the level of buffer inventory, frequency of inward deliveries period of products run, several total components in the bill of material, exactly what extent have been product pulled through by special customer orders, how much care is predetermined preventive maintenance strategies adhered to and also how long is spent in improving the overall stability of their manufacturing schedule by reengineering the plant. The competitive process is quantified, employing the proportion of the business unit's total sales accounted for by products signifying usage of either cost leadership or differentiation. Customers' power was quantified with statements of value of sales in percentage from three main customers, value of sales of own brand in percentage, difficulty of finding substitute business when a customer shifted to another supplier and the extent of altering customers' contract. Product perishability was measured between the perishability of products in conducting business. For measuring management accounting sophistication thirty-eight (38), well-known MAPs were categorized into four stages IFAC (1998) firework. Data were obtained from one hundred and twenty-two management accountants and one hundred and twenty-three production managers using mailed survey. Data analysis was done employing descriptive and one-way ANOVA of Kruskal-Wallis. The research outcome indicates that the sophistication of MAPs is substantially explained by customer power, environmental uncertainty, size, decentralization, total quality management, advanced manufacturing technology, and just in time. The finding implies that competitive strategy, the complexity of the processing system, and the perishability of products do not significantly relate to the sophistication of MAPs.

Mat, Smith, and Djajadikerta (2010) examined the factors determining Malaysian production organizations' management accounting control systems. A list of fifteen MAPs like full or absorption costing, variable or marginal costing, budgetary control, cost volume profit analysis, Total quality management, target costing, life cycle analysis, activity based management, standard costing, activity-based costing, product life cycle analysis, value chain analysis, customer profitability analysis, product profitability analysis, benchmarking and shareholder value analysis have been introduced within this analysis. There are four contingent factors like manufacturing technology, competitive environment, organizational strategy, and organizational structure that have been employed within this study. The competitive environment is quantified with the proxies of competition for new product development, market/revenue share, marketing/distribution channeling, and price, the number of competitors in the market and action of a competitor while manufacturing technology is quantified applying flexible manufacturing system, robotics, computer-aided design, manufacturing, engineering, and process

planning, just in time, testing machine, computer integrated manufacturing, direct material control, and numeric control. Items like a workforce with multi-skills, cross-functional team, worker training, management training, establishing participative value, work-based team, flattering of formal organizational structures, manufacturing cell, and employee empowerment have been utilized to quantify organizational structure, whereas items that comprise on time delivery, delivery promise, quality products, after-sales services availability of rapid product mix, availability of broader distribution channel to quantify the organizational strategy. The following findings are drawn out of the correlation and regression analysis. An insignificant association between organizational structure, the intensity of competition, and MAPs have been reported. Secondly, a strong significant association between technological advancement and changes in MAPs from one level into another of the IFAC framework is found. And lastly, the strategy is proven to become a significant aspect of designing and using a management control system.

Nimtrakoon and Tayles (2010) investigated the effect of contingency factors on MAPs of both manufacturing and non-manufacturing companies in Thailand. Using a questionnaire survey, data were collected from 135 accounting managers. Both exogenous elements, like strategy and perceived environmental uncertainty (PEU), and endogenous facets, like size and industry, have been introduced as the contingency factors. PEU is measured as high, moderate, and low. The proxies such as prospector, defender, and analyzer are used to measure competitive strategy. Forty-three MAPs, both traditional and contemporary, are used to measure MAPs. This study's finding implies that competitive strategy, PEU, and size have considerable influence on MAPs even though competitive strategy does not have any relationship with traditional MAPs. Further, businesses working under higher PEU and larger firms reap the benefit of MAPs. Organizations following prospector strategies comprehend better achieve the advantages both from contemporary and traditional MAPs than those pursuing defender strategies are also found within this research.

Nassar, Al-Khadash, Al-Okdah, and Sangster (2011) analyzed the supply-side factors' effect on implementing management accounting innovation over the Jordanian industries. Data was collected with multiple methods like semi-structured questionnaire and questionnaire survey. Accounting education of Jordanian schools and universities, consultant companies, professional accounting bodies, seminars, conferences and workshops, specialist management corporations between academics and professional bodies, and accounting research in Jordon were considered the supply-side factors in this study. Benchmarking, activity-based costing, balanced scorecard, and activity-based management were believed to be the innovative MAPs for this survey. The finding of this research demonstrates that accounting education and consultant companies' role are the essential aspects influencing the choice to employ advanced MAPs over the Jordanian industries.

Ahmad (2012) investigated the association of contingent variables on the usage of MAPs at medium-sized organizations in Malaysia. Market competition intensity, firm size, advanced manufacturing technologies (AMT), owners or director's commitment and level of qualification of staff had been obtained as contingent factors while five classes of MAPs; budgeting system, costing system, strategic management accounting, decision support system, and performance evaluation system were regarded in this study. Firm size was quantified by the annual sales growth, while respondents' perception measured market competition intensity. Furthermore, the degree of advanced manufacturing technology was employed to quantify manufacturing technology. Type of qualifications possessed by the accountants are used as the proxy of level of qualification. Data collected from 110 Malaysian medium sized manufacturing firms were analyzed using Kendall' tau correlation coefficient test. The finding of this study suggests that firm size commitment of owner/manager of the firm, market competition intensity, and AMT significantly influences upon using specific MAPs, specifically performance evaluation and costing system. The finding further indicates that the owner/manager's commitment is mostly associated with using more sophisticated MAPs like strategic management accounting and decision support systems.

Hammad, Jusoh, and Ghozali (2013) examined the connection among perceived environmental uncertainty (PEU), decentralization, managerial performance, and management accounting systems (MAS) as well as over Egyptian hospitals. Decentralization was quantified using four measurements, symbolizing the degree to which decisions are assigned to medical unit managers was identified. PEU had been "lack of information on environmental factors; not knowing the outcome of a decision in terms of how much the firm would lose if a set of decisions were incorrect; and the inability to assign confident probabilities as to how the environment will affect the success or failure of a decision unit in performing its function." Managerial performance was measured with eight proxies of "planning, investigation, coordinating, evaluating, supervising, staffing, negotiating and representing." Further, a list of nineteen items linked to the information characteristics of MAS, such as "scope, timeliness, aggregation, and integration" were used to measure the MAS information. Items including information about potential future events, probability quantification of future events, non-economic details, external and non-financial information related to output, employee absenteeism, efficiency, etc. were considered to quantify MAS scope. MAS timeliness was measured with immediate information provided upon request. The timeliness of MAS information was determined by the products of the submitted information such that you can instantly access them on request, the information you get automatically in the information system upon delivery or when processing has been finished, updates are often given systematically and on a periodic basis. Details on the impacts of events on the time frames, information processed to

demonstrate the influence of events on the various tasks, information on the impact of the actions of different divisions on review reports for the department and elsewhere is used to identify the MAS aggregation. Items like information about the effects of your decisions through your department or the influence of decisions taken by other persons in your area of responsibility are calculated through the calculation of the precise priorities of the actions of all the sections within your organization.Data collected from 200 managers of the hospital with questioners had been examined using partial least squares. The study finds that the relationship between decentralization and MAS is positive. Further, the study's finding indicates a positive relationship between decentralization and the extent to which managers use MAS that offers timely, aggregated, and integrated information. An insignificant negative relationship is additionally is presented in between decentralization and broad scope of MAS. Further, the finding indicates that PEU significantly negatively connects to MAS information except for integrated information. Moreover, the study implies that two MAS measurements, like scope and timeliness, significantly and positively connect solely with the managerial operation. Simultaneously, the other two dimensions, aggregation, and integration, insignificantly affect organizational performance.

Urquidi and Ripoll (2013) investigated the impact of selected contextual factors, namely the size of the organization, environment, and strategy on the choice of MAPs in the Hotel Sector in China. "Difference between the quantity of information required to perform a task, and the quantity of information that the organization possesses, level of competition (prices, products, etc.), number of different products or markets and support from public or private institutions" were included to quantify the environment. Strategy was measured in terms of "actions aimed at the search for market opportunities and actions aimed at competing aggressively in prices." The qualitative and explanatory methodology was used to study five selected four-star and five-star hotels. This study's finding implies that on the surface of greater competition, the firms are attentive to the demand for decent, concise, and concrete information. They utilize different MAPs mostly, segmentation of customers, variable costs, and total quality management. Further, their findings indicate that all the hotels under this study are based on the customer perspective's differentiation strategy principally use a balanced scorecard. The relationship between size and the adoption of MAPs is not demonstrated in this study.

Andesto (2016) investigated the effect of business strategy and perceived environmental uncertainty in Indonesian advertisement organizations' management accounting system A list of 13 MAPs was grouped into budgeting systems, costing methods, and performance measurement systems. The group budgeting systems contain a "comprehensive budget for the annual budget, incremental approach for budget preparing, the payback period for capital budgeting, accounting rate of return

for capital budgeting, and net present value for capital budgeting. Standard costing, marginal costing, departmental overhead allocation, target costing, and kaizen costing are included under the costing system. Performance measurement systems are measured with the practices of budgetary control, balanced scorecard and bench marking". Data gathered from thirty-four respondents were examined utilizing multiple regression analysis. Obtained from 34 respondents were analyzed using multiple regression analysis. The study fonds that strategy and PEU substantially impact the management accounting system.

Kariuki and Kamau (2016) investigated the influence of organizational contingencies such as advanced manufacturing technologies, the life cycle stage of firms, and industry competition's intensity on adopting strategic MAPs among Kenyan manufacturing organizations. Both intense competition and advanced manufacturing technology were measured using respondents' views with a five-point Likert scale. The lifestyle stages were categorized into formation, growth, and mature step in this study. Eleven strategic MAPs were grouped into four such as costing (life cycle costing, activity-based costing, quality costing, activity-based management, value chain costing, and target costing); the customer (competitive position monitoring and customer accounting; competitors (competitor performance, competitor cost, an appraisal based on the public financial statement); and performance (balanced scorecard and integrated performance measurement) were comprised of this survey. Data was collected om 104 respondents, including Chief Finance Officers or Chief Accountant or Management Accountant for each company. The analysis demonstrates that advanced manufacturing technologies and industry competition intensity significantly determine the adoption of strategic MAPs. Whereas there is no relationship between the life cycle stage of a firm and strategic MAPs.

Ayadi and Affes (2016) examined the effects of contextual variables on the usage of new MAPs among different types of Tunisian organizations. Employing the contingency framework, five variables like relational capital with suppliers, perceived environmental uncertainty (PEU), organizational architecture, the generic strategy of cost domination, and firm size were introduced as the independent variables for this study. PEU is quantified with proxies of predictability company's external environment associated with a new product in the industry, competition, competitors, customers' preferences, and economic and technological environment. Items such as mutual trust, respect, close interaction, friendship, and reciprocity between the company and its most crucial supplier were utilized to quantify relational capital with suppliers. The cost minimization's strategic priorities were used to quantify the generic strategy of cost domination. Organizational architecture is measured with three dimensions: decentralization of the decision rights, mechanisms of professional performance evaluation, and the subordinates' incentive and reward systems; the number of employees measures company size. Usage of balanced scorecard, financial and non-financial indicators, activity-based costing,

and benchmarking was used to measure MAPs. Data obtained from 82 respondents were analyzed using a multiple regression model. The study's finding shows that the degree of PEU, company size, and rational capital with suppliers significantly impact new MAPs. However, the factors generic strategy of cost domination and organizational architecture have a small impact on using new MAPs.

Siska (2016) examined the consequence of contingency factors on MA Czech Republic companies, an emerging market. Data were collected from 160 respondents from small, medium, and large size organizations. There are 20 MAPs divided into four categories; cost classification (variable or fixed cost, direct or indirect cost, activity-based cost), operational budgeting (zero-base budgeting, incremental budgeting, rolling budgets, flexible budget, activity-based budgeting, and cash forecasting);

operational performance reporting (reporting on customers, reporting on products, reporting on centers) and strategic management accounting (vision and mission, lifecycle costing, target costing, balanced scorecard, long-range planning risk management, and total quality management) employed for this study. Diagnostic use, dynamic tension, interactive use, size, service, market competition, competitive effortlessness, and subsidiary were used as independent contingency factors. Both factor and regression analysis had been utilized to assess the effect of selected contingent factors on MAPs. The outcome of the study demonstrates that the chosen contingency factors significantly and positively impact MAPs. Moreover, the finding indicates that more influential organizations are inclined to utilize strategic management accounting practices, and interactive usage significantly affects only strategic MAPs. In contrast to strategic MAPs, operationally concentrated MAPs are far more closely linked with controls' diagnostic use. They are shared for more prominent organizations that operate their business in a relatively lower competitive environment. The analysis additionally finds that wider usage of traditional MAPs within the Czech Republic.

Mansor and Azudin (2017) analyzed the degree of MAPs and the effect of operational technology, business potential, and DNA on MAPs in Malaysia. A list of sixteen MAPs grouped into Nishimura's (2003) four-stage model of the evolution of MAPs. Organizational DNA was measured with the proxies of competitive strategy, decentralization, and firm size. Items like technology advancement, customer's power, and market competition were utilized to quantify business potential. Operational technology was quantified with the proxies of advanced manu facturing technology, the processing system's complexity, and total quality management. Data were collected from 102 respondents of small and medium-sized enterprises (SME). The analysis finds that the Malaysian's MAPs belongs to the first two stages of Nishimura's framework. Moreover, the finding implies that MAPs are significantly and positively related to only operational technology. There is no effect of organizational DNA and business potential on MAPs in Malaysian SMEs.

Ogungbade and Olweny, and Oluoch (2017) examined the factors affecting the choice of management accounting practices (MAPs) in Nigeria. Variables such as competitive strategy, culture, and manufacturing technology were identified as the antecedents to MAPs. The competitive strategy was measured with (i) innovative strategies including customers involvement in designing product and price setting, providing high-quality products, making dependable delivery promise and providing effective after-sales and supportive services and (ii) cost leadership strategies like cost-plus and market-based pricing, making quick changes in designing and introducing the product, confirming cheapest pricing in contrast to competitors and guaranteeing lower production cost. Five items related to the culture of innovation or risk orientation, outcome, people, aggressive, and team based were used to quantify culture. Manufacturing technology was measured in terms of the manufacturing process's complexity, including customized products, small and large batch of similar goods, mass, and continuous production. A list of 15 modern MAPs was included to quantify MAPs. They are target costing, activity-based budgeting, activity-based costing, activity-based management, throughput accounting, life cycle costing, backflush costing, product profitability analysis, kaizen costing, quality costing, just in time, balanced scorecard, benchmarking, value chain analysis, economic value-added, and shareholder value analysis. Data collected from respondents of one hundred and thirty-three management accountants of non-listed manufacturing firms were analyzed using factor analysis, regression, and logistic regression. The study implies that culture, competitive strategy, and advanced manufacturing technology significantly impact advanced MAPs' adoption.

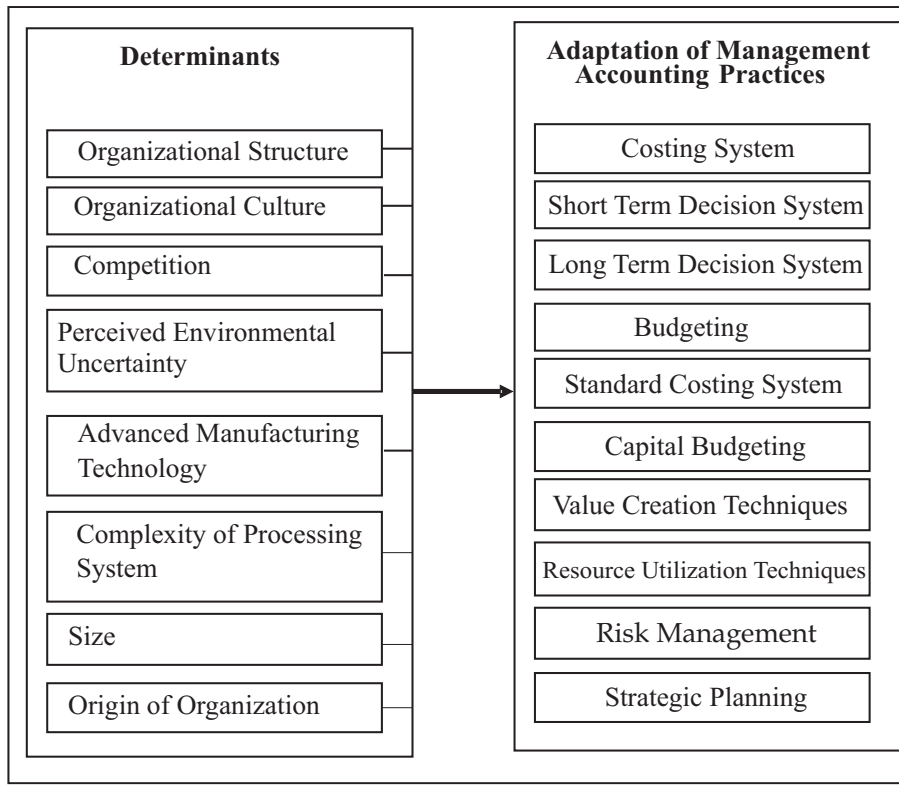
5. Discussion and Conclusion

The review of literature covered evidence both from developed and developing countries, including shreds of evidence from the USA, UK, Europe, Japan, Australia, New Zealand, Taiwan, Malaysia, Singapore, China, Finland, Turkey, Vietnam, Barbados, Jamaica, Egypt, Libya, Iran, Bali, India, Estonia, Canada, Thailand, Jordan, Tehran, Kenya, Tunisian. The Czech Republic and Nigeria. The literature's common findings are; firms extensively use traditional MAPs in developing countries compared to developed countries. However, all those studies are not similar in the identification of MAPs. Some studies focused on traditional practices, while others considered advanced practices. Further, some of the studies focused on both conventional and advanced techniques. Another group of studies measured the adoption of a single MAP like activity based costing and budgetary control. The works of literature on the extent of MAPs considering the holistic set of MAPs are lack. Therefore, applying a comprehensive set of MAPs from traditional and advanced techniques would be considered in future research to get the holistic picture of the level of adoption of MAPs.

Further, the review identified national culture, size, competition, perceived environmental uncertainty, advanced manufacturing technology, organizational

structure, organizational strategy, customer power, total quality management, totality management, the complexity of processing system, product perishable, organizational capacity to learn, industry type, the origin of organization, owner-manager commitment, Life cycle stage of the firm, interactive use, diagnostic use, dynamic tension, organizational DNA, rational capital with the supplier and interactive control as the determinants of MAPs. However, the review indicates that those factors' effect on adopting MAPs substantially varies across countries as positive, negative, and no result. Therefore, the study reports that those factors have mixed evidence concerning MAPs' adoption. Finally, based on the literature review on the determinants of MAPs, the following conceptual framework (figure - 1)that might empirically be evaluated in the future studies, has been developed. A holistic image of the MAPs encompasses all the MAPs mentioned in the literature in this philosophical context are considered in developing the conceptual framework. Further, this particular conceptual framework is developed based on the contingency theory of management accounting practices. According to this theory, there is no generally accepted management accounting practices presented for all organizations in all circumstance, and the adoption of appropriate MAPs depends on both external and internal environmental factors of organizations (Otley, 1980).

Figure 1: Conceptual Framework



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