Macrothink Institute™

International Journal of Accounting and Financial Reporting
ISSN 2162-3082
2017, Vol. 7, No. 2

Link between Knowledge Management and Managerial Accounting: Impacts of Environment and Structure

Quang Linh Huynh

School of Economics and Law, Tra Vinh University

126 Nguyen Thien Thanh Street, Tra Vinh City, Vietnam

E-mail: huynhquanglinh@tvu.edu.vn

Accepted: December 6, 2017 Published: December 25, 2017

doi:10.5296/ijafr.v7i2.12360 URL: https://doi.org/10.5296/ijafr.v7i2.12360

Abstract

Knowledge plays a significant role in offering competitive advantages to firms, which helps do better than their rivals do. However, knowledge management is conditional on various conditions, for example the usefulness of knowledge management, business environments and firm structure as well as the adoption of managerial accounting in business. In the current research project, quantitative analyses was employed, particularly using confirmatory factor analyses, ordinary least square regressions and instrumental variable regressions to explore the relationships among knowledge management, its usefulness, business environments, firm structure and the adoption of managerial accounting in business. The empirical results disclose that the adoption of knowledge management is statistically related to its usefulness, firm structure and business environments as well as to the application of managerial accounting in business. This research project makes some implications on how the executives, who face different kinds of firm structure, high uncertainty of business environments, high application levels of managerial accounting in business and high usefulness of knowledge management, should adopt knowledge management in business.

Keywords: Knowledge management usefulness, Knowledge management, Managerial accounting

1. Introduction

The management of knowledge is one of the organizational intangible resources, related to all management fields (Salojarvi et al., 2005). It is a process of converting intellectual assets into durable value in firms. Recently, firms start to pay attention to the management of knowledge, which so becomes an interesting area in management knowledge. The management of

knowledge offers an organizational mechanism to convert resources to firms' competences (Darroch 2005; Wong and Aspinwall 2005). Davis (1989) states that, usefulness is a driving force of users' behavior and dependent on business environments and on organizational characteristics. In the same line of thoughts, perceived knowledge management usefulness plays a crucial role to the management of knowledge. The last decade has seen a substantial growth in the knowledge on the management of organizational knowledge (McNamara et al. 2004). Moreover, managerial accounting plays a vital part in business and is mutually related to the management of knowledge (Edwards et al. 2005; Tayles et al. 2002, 2007; Novas et al. 2012). However, to the best of my knowledge, no research projects have explored the mutual link between managerial accounting and the management of knowledge in the model of knowledge management. Consequently, it is essential to take account of managerial accounting into the model of knowledge management and then explore that mutual linkage. The current research employs ordinary least square regression and instrumental variable regression in two stages to examine the mutual association between managerial accounting and the management of knowledge. The influence of knowledge management on managerial accounting is investigated the instrumental variables, which are firm structure and the usefulness of knowledge management and business environments, to deal with endogeneity problems. To my knowledge, the current project is one of the first to include managerial accounting into the model of knowledge management and the first to employ the instrumental variable regression with the instrumental variables- environmental uncertainty, firm structure and the perceived usefulness of knowledge management- to investigate the connection between knowledge management and managerial accounting.

Business environments are ever globally fluctuating, especially in Southeast Asia, which is extremely susceptible to business uncertainty, however plays a vital role in working to an international solution to sustainability in economic development. Besides, Southeast Asia is one of the most dynamic and fast business environments. Vietnam is the most fast developing economy of Southeast Asia. The enhancement of business environments is a significant driver of economic reform in transition economies such as Vietnam and the third most populous nation of Southeast Asian following the Philippines and Indonesia (Vo 2015). It is expected that Vietnam's new status as a signatory member of the globally business system will make an increasingly great contribution to the economic development of the world. The fast changing environments make Vietnamese firms pay more attention to efficient managerial instruments to create competitive advantages (Wang and Huynh 2014). Nevertheless, the number of research projects on such managerial practices as managerial accounting or knowledge management in Vietnam is still modest (Doan et al. 2011). It is imperative conducting more studies on these fields in Vietnam as Southeast Asian country to fill that void.

This research makes some contributions to both theory and practice. To the theory, it includes the variable of managerial accounting into the model of knowledge management, and then justifies the mutually causal relationship between managerial accounting and knowledge management. To the practice, the findings offer managers and accounting researchers with an insight into the mutually causal relationship between knowledge management and managerial

accounting in the research model of knowledge management. This study is also valuable to administrators in managerial accounting and knowledge management by offering them a greater understanding of the linkage between managerial accounting and knowledge management in firms. As a result, they can better decide on the acceptance of knowledge management and on the application of managerial accounting in firms that will obtain better organizational performance. The rest of this research project goes on with the literature review. Subsequently, that will be the methodology. The empirical findings will be offered before the part named "Conclusion and recommendation".

Overall, this project is aimed to:

1. Investigate the effect that the usefulness of knowledge management imposes on the management level of knowledge

2. Explore the link between firm structure and the management level of knowledge

3. Examine the influence of business environments on the management level of knowledge

4. Study the mutual association between the adopting level of managerial accounting and the management level of knowledge

2. Literature Review

2.1 Determinants of Knowledge Management

Perceiving knowledge management as useful will help managers to likely adopt knowledge management in business. Further, different researchers report that the adoption of knowledge management adds more value to the overall performance of the organization as well as help a company become productive, more efficient and more innovative (Gold et al. 2001; Toften and Olsen 2003). It is given that firm characteristics and business environments determine the adoption of knowledge management. Furthermore, the adoption of knowledge management is mutually related to the application of managerial accounting practices (Tayles et al. 2002, 2007; Edwards et al. 2005; Novas et al. 2012). The causal relationships and the mediating effects will be discussed below.

Alavi and Leidner (2001) regard "knowlledge" as someone's situation of knowing and understanding. It is also referred to as a valuable asset that helps a company to perform business activities superior to others. When a company has the knowledge to do business, it has a core competency, which allows the company to create competitive advantages over their competitors. Sullivan (2000) and Kok (2007) imply that knowledge is constituted from intellectual capital that contains three main important variables, namely human capital, structural capital and customer capital. Additionally, Klein and Prusak (1994) define intellectual capital as "useful knowledge". Following these definitions of intellectual capital, this research considers intellectual capital as knowledge. Knowledge management is a process of creating, capturing and using knowledge to improve firm performance (Edwards et al. 2005). It is also considered as a management tool to control organizational knowledge to create competitive advantage and so improve organizational performance (Droge et al., 2003). In addition, Lakshman (2007) refers knowledge management as an organizational capability

which allows its employees to work together to generate, capture, share, and leverage their collective knowledge to boost their performance. Consequently, the adoption of knowledge management is essential to organizations in improving organizational performance.

Previous studies propose that the acceptance of knowledge management is the extent to which a firm is pleased with the knowledge management level accepted in business related to the application and sharing of knowledge (Gold et al. 2001; Lin and Lee 2005). The knowledge management usefulness is suggested as the effectiveness of knowledge management perceived by users on their work performance and efficiency (Kulkarni et al. 2007). Those researchers also confirm a very possible link between knowledge management usefulness and its acceptance. Furthermore, Huynh and Wang (2014) suggest and explore the relation between the usefulness of knowledge management and the implementation of knowledge management in business. The findings from that research reveal that the usefulness of knowledge management perceived by users play an important role to the implementation of knowledge management in business. In addition, the levels of decentralization, mutual adjustment and integration are referred to as a variable "firm structure" (Chen and Huang 2007). Firm structure is an essential factor determining firm activities (Jacobides 2007). Similarly, Chen and Huang (2007) regard firm structure as a driving force of accepting knowledge management in firms. Yap et al. (2010) asserts that, firm structure must be taken into consideration, if the management of knowledge is accepted in firms. Furthermore, Enayati and Ghasabeh (2012) confirm the linkage between the adoption of knowledge management and firm structure.

Environmental uncertainty is defined by Miles et al. (1978) as the predictability of business conditions in a company's environment. Further, business environments are classified into six components, which are 'product market and demand', 'government policies', 'economy', 'competition', 'technology' and 'resources and services used by the company' Miller (1993). Moreover, business environments are asserted as an influential factor on both the sharing and application of knowledge management (Droge et al. 2003). Other scholars also find out that, business environments are closely relevant to the adopting extent of knowledge management in business (Alazmi and Zairi 2003; Hsu et al. 2007; Mas-Machuca and Costa 2012; Huynh and Wang 2014). Overall, it can be hypothesized that:

H1: The usefulness of knowledge management can affect the management level of knowledge

H2: Firm structure is a driving force of the management level of knowledge

H3: Business environments put an effect on the management level of knowledge

2.2 Managerial Accounting and Knowledge Management

It is suggested that, managerial accounting is related to knowledge management (Tayles et al. 2002, 2007; Edwards et al. 2005; Novas et al. 2012; Huynh and Wang 2014). Nevertheless, previous research has not included the variable "managerial accounting" into the research model of knowledge management together with other variables. This paper seeks to add the variable "managerial accounting" into the research model of knowledge management to

examine the association between managerial accounting and knowledge management together with other influential variables. Managerial accounting is aimed to facilitate decision-making by collecting, processing and communicating information that assists managers to plan, organize, manage and assess business processes, organizational strategy as well as organizational performance. Furthermore, Klein and Prusak (1994) refer to intellectual capital as "useful knowledge", whereas Sullivan (2000) and Kok (2007) imply that intellectual capital constitutes knowledge. Hence, the connection between managerial accounting and knowledge management can be regarded similarly to the link between managerial accounting and intellectual capital. Managerial accounting practices are reported to affect and be affected by the adoption level of intellectual capital (Tayles et al. 2002, 2007; Edwards et al. 2005; Novas et al. 2012; Huynh and Wang 2014).

For the effect of managerial accounting practices on the adoption level of intellectual capital, Novas et al. (2012) in a study "On the relations between managerial accounting systems and Intellectual capital: Evidence for Portuguese companies" discuss the role that managerial accounting systems play in the development of intellectual capital. They find out that managerial accounting systems put statistically significant effect on the level of investment in intellectual capital. Similarly, Tayles et al. (2002) when having investigated the association between the level of intellectual capital management and the application of accounting management practices, suggest that the application of managerial accounting practices supports the management of intellectual capital. For the effect of intellectual capital management on the adoption of accounting management practices, Edwards et al. (2005) imply in their research on "Knowledge management and its impact on the management accountant" that the level of knowledge management affects the management accountant, and hence affects the application of managerial accounting practices. Additionally, Tayles et al. (2007) also explore the effect of intellectual capital management on the application of accounting management practices. Their findings reveal that the level of investment in intellectual capital has a relationship with the application of managerial accounting practices. Based on the above discussions, a suggestion that there is a mutual association between the level of intellectual capital management or knowledge management and the application of managerial accounting practices can be reached as stated in the two following hypotheses.

H4: The adopting level of managerial accounting impacts on the the management level of knowledge

H5: The adopting level of managerial accounting is affected by the management level of knowledge

3. Research Methodology

Constructs: Management of Knowledge (KM) consists of five dimensions. This research employed a five-point measurement from 1.dissatisfied to 5.very satisfied with the achievements in knowledge management in the three recent years to evaluate the construct of knowledge management, slightly modified from previous research (Gold et al. 2001; Lin and Lee 2005). Usefulness of Knowledge Management (UKM) is measured on a five-point construct ranging 1.not at all useful to 5.very useful (following Kulkarni et al. (2007). Firm

Structure (FS) is evaluated on three items. A five-point construct adapted from Chen and Huang (2007) was used. Business Environments (BE) is composed of six items. The scale with five levels ranging from '1.always predicted' to 'be predicted to 5.very difficult to be predicted' was applied (following Miller 1993). Managerial Accounting (MA) is evaluated by using a five-point scale. The measurement ranges from 1.never considering, 2.decided not to introduce, 3.favored to introduce, 4.intended to introduce, to 5.under implementation of managerial accounting in business, adapted from Cinquini et al. (2008). The six dimensions suggested by the prior studies were employed (Hyvonen 2005; Al-Omiri and Drury 2007).

Data gathering: The research population was all the public firms listed on Vietnam's Stock Exchanges. The initial solicitations were applied to acquire replies from main informants involved in managerial accounting and knowledge management. A manager involved in managerial accounting and knowledge management from each targeted company were interviewed for research information. There were 475 companies being emailed with research questionnaires and the other 230 companies were in person interviewed. These numbers satisfy the sample size required by Hair et al. (2010). Finally, there were 331 good responses with adequately needed information for research analyses.

Statistical Analyses: This research project undertook the reliability analyses to check the properties of constructs and their dimensions. Then, a confirmatory factor analysis was used to examine whether there was empirical support for the proposed theoretical factor structure. To explore the mutually causal relationship between managerial accounting and knowledge management and the other causal links in the research model, ordinary least square regressions and instrumental variable regressions in two stages were employed.

4. Empirical Findings

Table 1. Goodness of fit for confirmatory factor analysis

Index of Fit	X^2/df	TLI	CFI	RMSEA
Value	2.084	0.920	0.930	0.057
Results	Good	Good	Good	Good

Reliability analyses were applied to evaluate the internal reliability of dimensions and the exploratory factor analysis was used to assess the validity of constructs. MA6 was taken away from the factor MA; because its item-total correlation is 0.336 (untabulated) under 0.5, the least value proposed by (Nunnally 1978). The other item-total correlations satisfy the smallest level of 0.5, so is retained for further analyses. The Cronbach's alphas of the reliability analyses all surpass 0.7; therefore, it can be concluded that the constructs attain adequate reliability of internality (Nunnally 1978).

Furthermore, a confirmatory factor analysis was employed to examine whether there was empirical support for the proposed theoretical factor structure. The results obtained from the confirmatory factor analysis are displayed in Tables 2 to 4. In order to evaluate convergent

validity, loading estimates, average variance extracted (AVE) and construct reliability (CR) are specifically considered. The confirmatory factor analysis directly produces the loading estimates and correlations. However, to calculate for AVEs and CRs, the two following formulas were utilized (Hair et al. 2010).

$$AVE = \frac{\sum_{i=1}^{n} L_i^2}{n}$$

$$CR = \frac{(\sum_{i=1}^{n} L_i)^2}{(\sum_{i=1}^{n} L_i)^2 + (\sum_{i=1}^{n} e_i)}$$

Where: 1. L_i denotes the standardized loading estimate of item i

2. n represents the number of items

3. e is the error variance

Table 1 provides indicators to evaluate the goodness of fit for the confirmatory factor analysis. These indicators suggest that the measurement model achieves the goodness of fit. The $\chi 2/df$ reaches a value of 2.084 which pertains to the range of 2 to 3, the preferably accepted limit by Koufaris and Hampton-sosa (2002). In addition, a Comparative Fit Index (CFI) of 0.930 and a Tucker-Lewis Index (TLI) of 0.920 are both more than 0.90, the suggested limit by Hair et al. (2010). Root Mean Square Error of Approximation (RMSEA) is 0.057 less than the 0.07 cut-off (Hair et al. 2010). These results show that the measurement model obtains a good fit to the data.

The loading estimates obtained directly from the confirmatory factor analysis are shown in Table 2. All of the loading estimates are more than 0.648, which exceeds the acceptable limit of 0.5 suggested by Hair et al. (2010). Further, except for the links (KM1 with KM, BE1 with BE, MA1 with MA, FS1 with FS, and UKM1 with UKM) that do not obtain the values of Pvalue, because they were constrained to one, all the other loading estimates achieve the 1% statistical significance level. AVEs, CRs, and the squared interconstruct correlations (SIC) are presented in Table 3. All the AVEs are greater than 0.503 and all the CRs are more than 0.794, which satisfy the lowest limits of 0.5 and 0.6 respectively, suggested by Hair et al. (2010). These results provide evidence on convergent validity. The average variance extracted estimates (AVE) for each construct is compared with the squared interconstruct correlations (SIC) related to that construct to evaluate discriminant validity. It is seen in Table 3 that the average variance extracted estimates all exceed the corresponding squared interconstruct correlations, indicating that discriminant validity is achieved (Hair et al. 2010). Hence, again it can be ensured that the 24 items, as exhibited in Table 2, are suitable for further analyses.

Table 2. Loading estimates from confirmatory factor analysis

Relationship			Estimate	P_{value}
KM1	<---	KM	0.755	
KM2	<---	KM	0.747	0.000
KM3	<---	KM	0.699	0.000
KM4	<---	KM	0.742	0.000
KM5	<---	KM	0.711	0.000
BE1	<---	BE	0.751	
BE2	<---	BE	0.703	0.000
BE3	<---	BE	0.734	0.000
BE4	<---	BE	0.704	0.000
BE5	<---	BE	0.669	0.000
BE6	<---	BE	0.690	0.000
MA1	<---	MA	0.809	
MA2	<---	MA	0.840	0.000
MA3	<---	MA	0.702	0.000
MA4	<---	MA	0.781	0.000
MA5	<---	MA	0.758	0.000
FS1	<---	FS	0.703	
FS2	<---	FS	0.719	0.000
FS3	<---	FS	0.825	0.000
UKM1	<---	UKM	0.673	
UKM2	<---	UKM	0.715	0.000
UKM3	<---	UKM	0.648	0.000
UKM4	<---	UKM	0.807	0.000
UKM5	<---	UKM	0.729	0.000

The association between the application of managerial accounting and the adoption of knowledge management is mentioned in various studies (Tayles et al. 2002, 2007; Edwards et al. 2005; Novas et al. 2012; Huynh and Wang 2014). However, none of them has included the variable "managerial accounting" into the research model of knowledge management together with other variables to examine the correlation between the application of managerial accounting and the adoption of knowledge management together with other influential variables. This research applies the ordinary least square regression and the instrumental variable regression in two stages to investigate the mutually causal links between the application of managerial accounting and the adoption of knowledge management. To investigate the effect of applying managerial accounting practices on the adoption of knowledge management, the ordinary least square regressions for two models were performed. Model 1 examines the influence of applying managerial accounting on the adoption of knowledge management without other variables, while Model 2 explores the impact of applying managerial accounting practices on the adoption of knowledge management together with the other variables: business environments, firm structure and the usefulness of knowledge management. The results are shown in Table 3.

Table 3. Ordinary least square regressions (KM as Independent Variable)

Explained Variable	Explanatory Variable	Coefficients	Standard Error	*t-statistics*	P_{value}
KM *(Model 1)*	MA	0.5832	0.0424	13.7704	0.0000
	C	1.4081	0.1751	8.0408	0.0000
R-squared			0.3656		
F-statistic/P_{value}			189.6228/0.0000		
KM *(Model 2)*	MA	0.4154	0.0556	7.4763	0.0000
	BE	0.0992	0.0497	1.9979	0.0466
	FS	0.0873	0.0386	2.2628	0.0234
	UKM	0.1934	0.0595	3.2476	0.0013
	C	0.7009	0.2362	2.9671	0.0032
R-squared			0.4034		
F-statistic/P_{value}			55.1009/0.0000		

The findings from Table 3 reveal that both Model 1 and Model 2 achieve the goodness of fit at the significance level of 0.01 with the F-statistics of 189.6228 and 55.1009 respectively. As a result, the hypothesized associations between the dependent variables and the sets of independent variables are statistically reliable. In regard to Model 1, when no other variables are included in the model, the effect coefficient of applying managerial accounting practices on the adoption of knowledge management is 0.5832 at the statistical significance of 0.01, and the explanation of applying managerial accounting practices in the adoption of knowledge management is 36.56%. However when the three variables- business environments, firm structure and the usefulness of knowledge management- are entered into the research model as in Model 2, the explanation of all the explanatory variables in the adoption of knowledge management increases to 40.34%. The effect coefficient of applying managerial accounting on the adoption of knowledge management decreases to 0.4154, which may be because the relationship between the application of managerial accounting and the adoption of knowledge management is interfered with by the other variables. The results from Model 2 are more reliable than Model 1, because the adoption of knowledge management is simultaneously affected by several explanatory variables, not by only the application of managerial accounting practices itself. The findings statistically support hypothesis H4 that the application of managerial accounting affects the acceptance of knowledge management at the 1% significance level. More clearly, when firms enjoy the higher application levels of managerial accounting, they tend to adopt more knowledge management. The findings also support the hypotheses H1 through H3. The usefulness of knowledge management in business imposes a statistical effect on the adoption of knowledge management at the 1% significance level; while, firm structure and business environments are deemed to influence the implementation of knowledge management at the 5% significance level.

The influence of adopting knowledge management on the application of managerial

accounting is investigated using the instrumental variable regression procedure. While the acceptance of knowledge management is hypothesized to affect the application of managerial accounting in business, the former is also suggested being influenced by the usefulness of knowledge management, business environments and firm structure. This may cause the problem of endogeneity to the regression model investigating the association between the application of managerial accounting and the adoption of knowledge management (Wooldridge 2009).

Table 4. Test for Endogeneity

Dependent Variable	Independent Variable	Coefficient	Std. Error	*t-stat*	P_{value}
MAP	AKM	1.2642	0.0716	17.6464	0.0000
	V	-0.9119	0.0857	-10.6412	0.0000
	C	-0.7142	0.2721	-2.6246	0.0091
R-squared		0.5284			
F-statistic/P_{value}		183.7723/0.0000			

The problem of endogeneity is serious, because if the problem of endogeneity exists, the OLS-estimators are not consistent. To examine whether the problem of endogeneity exists, this project conducted a test for the endogeneity of the explanatory variable "the adoption of knowledge management". First, this research took the regression of the variable "the adoption of knowledge management" on business environments, the usefulness of knowledge management and firm structure, and obtains the residuals "V". Subsequently, it adds "V" to the causal model examining the effect of adopting knowledge management on the application of managerial accounting practices, and then test for the significance of "V" using an OLS regression. If the coefficient of "V" on the application of managerial accounting practices is statistically different from zero, it means that the implementation of knowledge management is endogenous. The results obtained from the test for endogeneity is provided in Table 4. The regression model of the test for endogeneity achieves the goodness of fit with the F-statistic of 183.7723 at the significance of 0.01. The coefficient of "V" that gets a value of -0.9119 is statistically different from zero at the significance level of 0.01. Hence, it can be concluded that the adoption of knowledge management is endogenous. To overcome this problem of endogeneity, this research employed the instrumental variable regression procedure to explore the impact of adopting knowledge management on the application of managerial accounting practices, with the instrumental variables that are business environments uncertainty, firm structure and the perceived usefulness of knowledge management. The instrumental variable regression procedure yields the results in Table 5.

As seen in Table 5, the adoption of knowledge management imposes a statistical impact on the application of managerial accounting in business. The effect coefficient is 1.2642 at the significance of 0.01 with the t-statistic of 12.0625, which statistically supports the hypothesis H5. This implies that a company needs a higher application level of managerial accounting

practices, if it adopts more knowledge management in business. Furthermore, it compares the results from the instrumental variable regression with those from the ordinary least square regression to see whether there is difference in the effect of adopting knowledge management on the application of managerial accounting practices between the two methods. The ordinary least square regression without the instrumental variables for the association between the application of managerial accounting and the implementation of knowledge management delivers the results provided in Table 6.

Table 5. Instrumental Variable Regression

Dependent Variable	Independent Variable	Coefficient	Std. Error	*t-stat*	P_{value}
MAP	AKM	1.2642	0.1048	12.0625	0.0000
	C	-0.7142	0.3981	-1.7941	0.0737
Instrument Variable		EVU - OST - PUKM			
R-squared		0.123			
F-statistic/P_{value}		145.5035/0.0000			

The results for the ordinary least square regression indicate that there is a statistically significant relationship between the adoption of managerial accounting and the application of knowledge management, in which the former impacts on the latter at the significance level of 0.01 with the coefficient of 0.6269. The ordinary least square regression also gets the goodness of fit at the significance of 0.01 with the F-statistic of 189.6228. Comparing the results between the two methods, it can tell the difference between them. The effect of adopting knowledge management on the application of managerial accounting practices with the instrumental variable regression is over twice larger than that with the ordinary least square regression without instrumental variables (1.2642 compared to 0.6269), which is a very large difference. Hence, when there is a problem of of endogeneity for explanatory variables, instead of using the ordinary least square regression it should apply the instrumental variable regression procedure to investigate causal relationships, because there is a big difference in the results and the instrumental variable regression procedure produces more reliable results (Wooldridge 2009).

Table 6. Ordinary Least Square Regression (MA as Independent Variable)

Dependent Variable	Independent Variable	Coefficient	Std. Error	*t-stat*	P_{value}
MA	KM	0.6269	0.0455	13.7704	0.0000
	C	1.6920	0.1753	9.6505	0.0000
R-squared		0.3656			
F-statistic/P_{value}		189.6228/0.0000			

5. Conclusion and Recommendation

This research introduces the usefulness of knowledge management in the research model. Then it simultaneously explores the effects of the usefulness of knowledge management, business environments, firm structure and the acceptance of managerial accounting on the implementation of knowledge management in business in a joint research model. Furthermore, the mutually causal link between the application of managerial accounting and the adoption of knowledge management has been discussed in previous studies. Nonetheless, they have not put the variable "managerial accounting" into the research model of knowledge management together with other variables to empirically examine the association between the adoption of knowledge management and the application of managerial accounting together with other related variables. This paper enters the variable "the application of managerial accounting practices" into the research model of knowledge management, and then employs the ordinary least square regression and the instrumental variable regression in two stages to investigate the mutually causal linkage between the application of managerial accounting in business and the adoption of knowledge management in business.

The research results offer statistical evidence that the usefulness of knowledge management, business environments and firm structure significantly affect the implementation of knowledge management in business. The empirical findings also provide evidence on the statistically significant mutual link between the application of managerial accounting and the adoption of knowledge management. It is suggested that the influence of applying knowledge management on the adoption of managerial accounting in business should be examined together with the other variables- the usefulness of knowledge management, business environments and firm structure, because the implementation of knowledge management in business is concurrently explained by different explanatory variables. The effect of adopting knowledge management on the application of managerial accounting should be investigated with the instrumental variables, because the problem of of endogeneity for explanatory variables is serious, making OLS-estimators inconsistent.

The current research project contributes to the literature of managerial accounting and knowledge management. This paper is the first to introduce the application of managerial accounting into the research model of knowledge management, and then discuss the mutually causal relationship between the application of managerial accounting and the adoption of knowledge management. It finds out the application of managerial accounting has a mutually causal relationship with the adoption of knowledge management. The current paper also provides managerial scholars with better understanding of the mutually causal link between the adoption of knowledge management and the application of managerial accounting. It is useful to managers involved in managerial accounting and knowledge management by equipping them with the knowledge of the effect of the usefulness of knowledge management on the adoption of knowledge management. It also provides business managers with the knowledge of the mutually causal connection between the application of managerial accounting and the adoption of knowledge management, which helps the managers make better decisions on the adoption of knowledge management as well as managerial accounting to develop their competence.

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