

The complementary association between value chain analysis and target costing system to strengthen the competitiveness: An applied study on Saudi manufacturing companies in Al-Kharj

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ABSTRACT

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The value chain and the target cost play significant role in achieving competitive advantage in many areas where both concepts are complement to each other. The two concepts also aim to reduce cost and maintain product quality. The current research aims to establish a framework of complementary association between value chain analysis and target costing system to achieve competitive advantage in manufacturing companies of Saudi Arabia. The study uses exploratory research to study the problem with the help of a structured questionnaire. The reported results show that target costing aids the manufacturing firms of Saudi Arabia in achieving the competitive advantage, and similar type of result holds with the value chain analysis. However, the target costing method is having an insignificant relationship with competitive advantage when combined with value chain analysis method, even after controlling for difficulties.

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1. Introduction

Globalization, speed of technological advancements, competition, increasingly shorter product life cycle, the diversity and changing of customer needs have created greatly complicated business world. All these variables have affected the contemporary work environment and the competition among companies, which highlighted the need to develop information and accounting data. This information must be available in appropriate manner that fits the needs of the management to take appropriate decisions in a suitable time (Al-Khalaf & Zuwailif, 2007).

Traditional cost accounting systems are concerned with internal factors without taking into account external factors and influences, and because of this, there was an impact on the credibility of the results and the inability of the management to make sound decisions that limit the process of competition. Cost systems have been criticized for not being suitable for modern management needs to support their competitiveness in a modern manufacturing environment (Kaplan, 1988; Al-takrity, 2007).

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The traditional costing system helps companies control and reduce the cost of the unit, but this system fails to provide accurate information, and gives indicators that lead to weakening competitiveness. Traditional cost systems do not support the competitiveness of business organizations (Lockamy & Smith 2000). Competition in the area of cost reduction has become the most important feature of the competition among business units. Therefore, the market imposes its prices on producers, and they have no option for the purpose of survival and continuity in the market to continue to reduce costs that can achieve reasonable profit margin with accepting the imposed prices by the market. For staying on the market and competition, cost management must be managed through good exploitation of resources to achieve quality and low price (Kaplan & Atkinson 1998). A lot of tools have emerged to cost management, such as Activity Based Costing (ABC) (Cooper & Kaplan 1992; Cooper & Chew, 1996), Strategic Cost Management (Shank 1989), Value Chain Analysis (Portel 1985; Lord 1996; Simister, 2003), Target Costing 1960s' Japanese innovation; Total Quality Management (TQM), Just-in-Time (JIT), Balanced Scorecard (BSC), etc. At present, several studies have ventured the attempt to link cost systems and the organization's strategies to meet the management needs in the modern manufacturing environment and to support competitiveness, through strategic cost management. The integration between costing systems will improve the cost performance of the organization in the long run to reach to competitive advantage. Porter (1985) is the initiator of generic value chain model that is assigned in the context of a conventional manufacturing company that includes activities, such as internal logistics, operations, external logistics, marketing and sales and services, and support activities. Value chain (VCH) is a tool that aids in building firm's strategic structure, it focuses on those factors having value (Gerry, 2011; Urbig & Verlage, 2003), and develops service delivery (Lauridsen, 2011; Gabriel, 2006; Dambudzo, 2013). Alignment and relating the VCH aids in strengthening the competition (Porter, 2012; Nicovich et al., 2007; Simmister, 2003; Singh, 2012).

Sakurai (1989) defines target costing as a "cost management tool for reducing the overall cost of a product over its entire life cycle with the help of the production, engineering, R&D, marketing, and accounting departments". It can be the part of a comprehensive product cost management process, called target cost management (TCM) (Dekker & Smidt, 2003; Feil et al., 2004; Tani et al., 1994; Wu et al., 2013). This is a tool of management accounting formulated by the manufacturer of Japan (Kato, 1993; Tani et al., 1994). The target cost approach represents pricing method, profit planning system, and cost management in a competitive environment (Khalef & Rozalf, 2007). Target cost is a pricing method used in Japan and it has been widely used in automotive industry, (Garrison & Noreen, 2003). The most important benefit of target costing practices is cost reduction (Dekker & Smidt, 2003) departments of product and design are playing important role in the target cost management process (Dekker & Smidt, 2003). The production in manufacturing companies appear similar in competitive market (Ansari et al., 1997; Cooper & Slagmulder, 1997, 1999; Fisher, 1995; Ibusuki & Kaminski, 2007). This justifies the main role of target costing in the industry. Several researchers noticed that target costing mostly has been applied in assembly manufacturing industries (Monden and Hamada, 1991; Kato et al., 1995; Pierce, 2002).

Porter (1985) defined a business's competitive advantage as either being cost advantage or non-cost differentiation advantage. The competitive advantage depends on three strategies: cost leadership, differentiation and concentration. These strategies aim to increase profits and achieve competitive advantage by increasing market share, entering new markets, attracting new business and achieving unique quality of the product (Altakriti, 2007). According to Hill Charles and Jones (2008), a company has a sustainable competitive advantage if it can be able to achieve the rate of profit higher than the rate of profitability of the industry average rate for several years. Walker (2007) argues that to achieve a sustainable competitive advantage, the company must set a target to reach a dominant position in the market. Liu (2003) believes that the competitive advantage of the company means that the company benefits from the market perspective of the product that will put it in a more competitive situation. Stevenson (2007) emphasizes that the competitive advantage is a practical goal to meet the needs and desires of customers to own the company's products. Both the value chain and the target cost play a significant role in achieving compet-

itive advantage in many areas where both concepts are complement to each other. The value chain depends on activity analysis and remove those activities that do not add value (Porter 1985), and this leads to a reduction of product cost as the demand of target cost. The two concepts also aim to reduce cost and maintain product quality. The study found few studies explaining the complementary association between the value chain analysis and target costing system to achieve competitive advantage. Further, there is no study explaining this association in the companies of Saudi Arabia. Therefore, the current research aims to establish a framework of complementary association between value chain analysis and target costing system to achieve competitive advantage in manufacturing companies of Saudi Arabia.

2. Methodology

The current study examines the impact of target costing and value chain analysis in achieving the competitive advantage in Manufacturing Sector of the Kingdom of Saudi Arabia, and specifically the manufacturing firms situated in Al Kharj region. The study uses exploratory research to study the problem with the help of a structured questionnaire. The responses for the data questionnaire was collected from the respondents in various job positions, such as Auditor, Financial Manager, Production Manager, Cost Accountant, Accountant, etc. Further, 63 questionnaires were distributed, and received 54 responses, and further nine responses were removed due to improper answering. Therefore, the final sample size for the current study consists of 45 respondents.

2.1 Measurement

Table 1 presents the measurement of dependent and independent variables. The measurement of these two variables is taken from the previous research works.

Table 1

The measurement of dependent and independent variables

Variables	Source
Dependent Variable:	Porter (1985)
Competitive Advantage (<i>COMADV</i>)	
Independent Variables:	Idowu, 2014; Khateeb et al. 2019
Value Chain Analysis (<i>VCH</i>)	Barney, 1991; Ensign, 2001
Target Costing (<i>TCOS</i>)	
Control Variable:	Self
Difficulties in VCH and TCOS (<i>DIFCUL</i>)	

2.2 Validity and Reliability

We report the test of validity and reliability to ensure the accuracy of the measurements. Validity means measuring the factors' accuracy of what they intend to measure, and reliability means testing the consistency of measurements. According Ghauri and Gronhaug (2002); Ramdani et al. (2009), several criteria can be used to judge the construct validity. The reliability of these factors was tested using Cronbach's α . The construct results are given in Table 2.

Table 2

Validity and Reliability Analysis

Factor	Number of Items	Cronbach's α
Competitive Advantage (<i>COMADV</i>)	6	0.91
Target Costing (<i>TCOS</i>)	15	0.96
Value Chain Analysis (<i>VCH</i>)	11	0.96
Difficulties in VCH and TCOS (<i>DIFCUL</i>)	5	0.77

The results given in Table 2 show that all the dependent and independent variables have a Cronbach alpha above 0.70 as referred by Nunnally (1978).

2.3 Hypotheses

We examine the impact of target costing and value chain analysis in achieving the competitive advantage in the manufacturing sector of Saudi Arabia, and hence formulate the following hypotheses.

H₁: Target costing does not aid in achieving the competitive advantage in manufacturing sector.

H_{1a}: Target costing helps in achieving the competitive advantage in manufacturing sector.

H₂: Value chain analysis does not aid in achieving the competitive advantage in manufacturing sector.

H_{2a}: Value chain analysis helps in achieving the competitive advantage in manufacturing sector.

H₃: Target costing and value chain analysis combined does not aid in achieving the competitive advantage in manufacturing sector.

H_{3a}: Target costing and value chain analysis combined helps in achieving the competitive advantage in manufacturing sector (See Fig. 1).

2.4 Model

We report the results by estimating a multiple regression analysis and analysis of variance (ANOVA) and test the hypotheses. The conceptual framework of the current study is given below.

We use the following regression model to test the first hypothesis related to target costing.

$$COMADV_i = \alpha_0 + \beta_1 TCOS_i + \varepsilon_i, \quad (1)$$

where $COMADV_i$ is the competitive advantage for firm i , $TCOS_i$ is the target costing for firm i , α_0 and β_1 are estimating coefficients and ε_i is the error term. Further, the following regression model is used to test the second hypothesis related to value chain analysis.

$$COMADV_i = \alpha_0 + \beta_1 VCH_i + \varepsilon_i, \quad (2)$$

where $COMADV_i$ is the competitive advantage for firm i , VCH_i is the target costing for firm i , α_0 and β_1 are estimating coefficients and ε_i is the error term. Lastly, we use the following regression model to examine the third hypothesis related to combined usage of target costing and value chain analysis.

$$COMADV_i = \alpha_0 + \beta_1 TCOS_i + \beta_2 VCH_i + \beta_3 DIFCUL_i + \varepsilon_i, \quad (3)$$

where $COMADV_i$ is the competitive advantage for firm i , $TCOS_i$ is the target costing for firm i , VCH_i is the target costing for firm i , $DIFCUL_i$ is the control variable, α_0 , β_1 and β_3 are estimating coefficients and ε_i is the error term.

2.5 Empirical Results

The current study examines the impact of target costing and value chain analysis in achieving the competitive advantage in Manufacturing Sector of the Kingdom of Saudi Arabia, and specifically the manufacturing firms situated in Al Kharj region. The empirical results are reported in this section, and consists of brief descriptive statistics, correlation, and result of the estimated model.

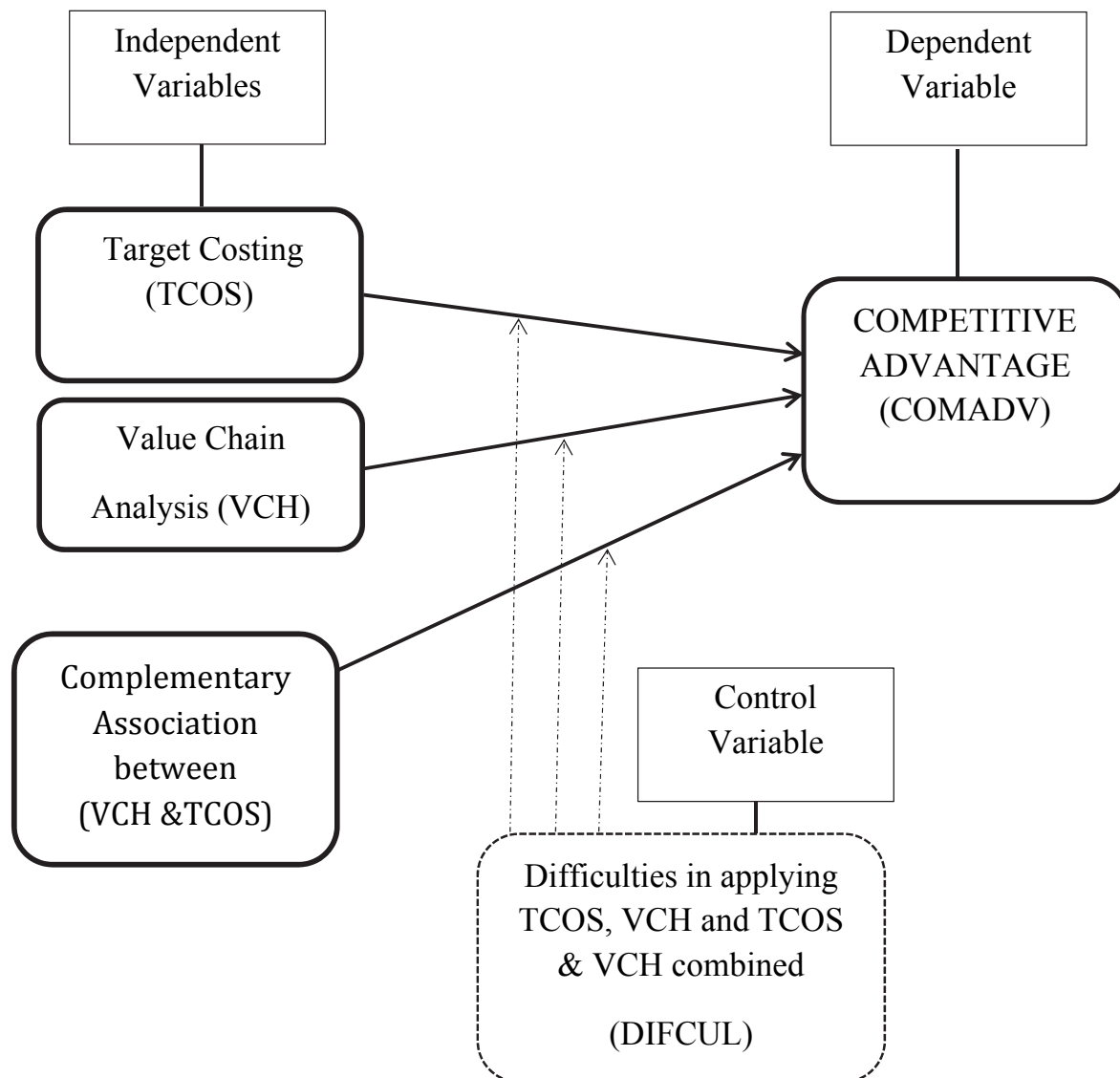
2.6 Descriptive Statistics

The descriptive statistics of test variables used to estimate the model of the current study is given in Table 3 below.

Table 3

Descriptive Statistics of test variables

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
Competitive Advantage (COMADV)	45	2.83	5.00	4.2113	.51685
Target Costing (TCOS)	45	3.00	5.00	4.1193	.48473
Value Chain Analysis (VCH)	45	3.00	5.00	4.2444	.57031
Difficulties in application (DIFCUL)	45	2.67	4.33	3.5111	.39713

**Fig. 1.** Conceptual Framework

Source: Self prepared

The descriptive statistics results show that mean statistic of the responses for the test variables is between Agree (4) and Strongly agree (5) except DIFCUL which is inclined towards agree with a mean of 3.51. Similarly, the variance of all the test variables ranges from .39 to .57, which shows that the values of data set is close to the mean. Further, the result of correlation is reported in Table 4 below. The result show that there is no correlation between the test variables except target costing (TCOS) and value chain analysis (VCH) to some extent, i.e. .72 and significant at less than .01 level.

Table 4
Correlation Analysis of the test variables

		COMADV	TCOS	VCH	DIFCUL
COMADV	Pearson Correlation	1	.541**	.515**	.564**
	Sig. (2-tailed)		(.000)	(.000)	(.000)
TCOS	Pearson Correlation	.541***	1	.719**	.271
	Sig. (2-tailed)	(.000)		(.000)	(.072)
VCH	Pearson Correlation	.515**	.719**	1	.071
	Sig. (2-tailed)	(.000)	(.000)		.643
DIFCUL	Pearson Correlation	.564**	.271	.071	1
	Sig. (2-tailed)	(.000)	(.072)	(.643)	

***Correlation is significant at the 0.01 level.

3. Model Results

The current study estimates the model in different ways, and reports the results. Firstly, model 1 and 2 estimate a regression by including individual variables (TCOS and VCH). Secondly, model 3 and 4 estimate a regression by including control variable (DIFCUL) along with the test variables (TCOS and VCH). Thirdly, model 5 estimates a regression by including both the independent variables. Lastly, model 6 estimates a regression by including all the test and control variables. The result of different models are reported in Table 5 below.

Table 5
Results of the estimated models

Dependent Variable: Competitive Advantage (COMPADV)						
Dependent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1.84***	2.23***	.31	-.05	1.66***	-.13
TCOS	.58***		.45***		.38*	.13
VCH		.47***		.43***	.24	.36***
DIFCUL			.59***	.69***		.65***
F-statistic	17.76***	15.56***	19.41***	25.16***	10.14***	16.82***
Adj. R-Square	.28	.25	.46	.52	.29	.52
D.W. Statistic	2.33	2.14	2.14	2.18	2.37	2.22
N	45	45	45	45	45	45

***Significant at the 0.01 level, *Significant at the 0.10 level

Firstly, the result reported by model 1 shows that target costing (TCOS) helps in achieving the competitive advantage. The model diagnostics show that, the independent variable (TCOS) explains only 28% of the variance in competitive advantage (COMPADV), and there is no multi-collinearity detected. Similarly, the result reported by model 2 shows that value chain (VCH) helps in achieving the competitive advantage. The model diagnostics show that, the independent variable (VCH) explains only 25% of the variance in competitive advantage (COMPADV), and there is no multi-collinearity detected. Secondly,

the result reported by model 3 shows that target costing (TCOS) helps in achieving the competitive advantage when the control variable (DIFCUL) is included. The model diagnostics show that, the dependent variables (TCOS) explains only 46% of the variance in competitive advantage (COMPADV), and there is no multi-collinearity detected. Similarly, the result reported by model 4 shows that value chain (VCH) helps in achieving the competitive advantage. The model diagnostics show that, the independent variables (VCH) explains only 52% of the variance in competitive advantage (COMPADV), and there is no multi-collinearity detected.

Lastly, the result reported by model 5 shows that target costing (TCOS) and value chain (VCH) did not help in achieving the competitive advantage, both the variables being insignificant. The model diagnostics show that, the dependent variables (TCOS and VCH) explain only 29% of the variance in competitive advantage (COMPADV), and there is no multi-collinearity detected. Similarly, the result reported by model 6 shows that value chain (VCH) helps in achieving the competitive advantage, while the target costing (TCOS) does not help in achieving the competitive advantage, since it is insignificant. The model diagnostics show that, the independent variables (TCOS and VCH) explains 52% of the variance in competitive advantage (COMPADV), and there is no multi-collinearity detected.

The above reported results by different models show that, the independent variables, target costing (TCOS) and the value chain (VCH), explain the impact on the competitive advantage (COMPADV) when the control variable (DIFCUL) is included. In this regard, model 3 and 4 are assumed as the best models to predict the impact on competitive advantage. Moreover, these models are supposed to be fit in explaining the relationship. Moreover, the fitness of model 6 is also good, but the positive impact on competitive advantage is explained by only value chain (VCH) and not by target costing (TCOS).

4. Discussion of Result

The empirical results related to examining the impact of target costing (TC) and value chain analysis (VCH) to achieve competitive advantage (COMPADV) are reported in the above section. The study has been conducted in different ways, such as examining the impact of target costing on competitive advantage controlling for difficulties, examining the impact of value chain analysis on competitive advantage controlling for difficulties, and examining the impact of combined target costing and value chain analysis to achieve competitive advantage. The reported results show that target costing aids the manufacturing firms of Saudi Arabia in achieving the competitive advantage. The relationship between the target costing and competitive advantage is positive and significant. The result of current study is in support with other previous research works of (Awawdeh & Sharairi, 2012; Ghafeer et al. 2014; Idowu, 2014; Khateeb et al. 2019). Similarly, the results show that value chain analysis also supports the manufacturing firms of Saudi Arabia in achieving competitive advantage. The relationship between value chain analysis and competitive advantage is positive and significant. The results of current study are in support with other previous research works of (Barney, 1991; Ensign, 2001). The complementary association of two methods is not proven fruitful. The target costing method is having an insignificant relationship with competitive advantage when combined with value chain analysis method, even after controlling for difficulties. The reason might be that, both the target costing (TC) and value chain analysis (VCH) methods aim to reduce cost and maintain product quality.

5. Conclusion

The value chain and the target cost play a significant role in achieving competitive advantage in many areas where both concepts are complement to each other. The two concepts also aim to reduce cost and maintain product quality. The study has found few studies explain the complementary association between the value chain analysis and target costing system to achieve competitive advantage. Further, there is no study explaining this association in the manufacturing companies of Saudi Arabia. Therefore, the current research aims to establish a framework of complementary association between value chain analysis and target costing system to achieve competitive advantage in manufacturing companies of Saudi

Arabia. The study uses exploratory research to study the problem with the help of a structured questionnaire. The reported results show that target costing aids the manufacturing firms of Saudi Arabia in achieving the competitive advantage. The relationship between the target costing and competitive advantage is positive and significant. Moreover, the relationship between value chain analysis and competitive advantage is positive and significant. The alternative hypothesis (H_{1a} and H_{2a}) are supported. Lastly, the target costing method is having an insignificant relationship with competitive advantage when combined with value chain analysis method, even after controlling for difficulties. The null hypothesis (H_3) is supported. This study can be further extended by examining the impact of different factors of costing to achieve competitive advantage, also by comparing with different sectors in Saudi Arabia.

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References

- Al-Khalaf, N. M., & Zuwailif, E. M. (2007). Pricing by Using Target Cost Approach: A Field Study in the Sector of Jordanian Veterinary Pharmaceutical Industry. *Economics and Administration*, 21(1).
- Al-takrity, I. Y. (2007). *Advanced cost accounting: a contemporary issue*. Dar Al - Hamed Publishing & Distribution, Jordan.
- Ansari, S. L., Swenson, D. W., & Bell, J. (2006). A template for implementing target costing. *Journal of cost management*, 20(5), 20-27.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.
- Cooper, R., & Chew, W. B. (1996). Control tomorrow's costs through today's designs. *Harvard Business Review*, 88-97.
- Cooper, R., & Kaplan, R. S. (1992). Activity-based systems: Measuring the costs of resource usage. *Accounting horizons*, 6(3), 1-13.
- Cooper, R. and Slagmulder, R. (1997). *Target costing and value engineering*. Portland, Oregon: Productivity Press and Montvale, NJ: The IMA Foundation for Applied Research, Inc.
- Cooper, R., & Slagmulder, R. (2002). Target costing for new-product development: product-level target costing.
- Dambudzo, I. (2013). Application of value chain analysis Frame work to enhance understanding of competitive advantage at an open and Distance learning (ODL) Institution. *Global Advanced Research Journal of Education Research and Review*, 2(3), 60–69.
- Dekker, H., & Smidt, P. (2003). A survey of the adoption and use of target costing in Dutch firms. *International Journal of Production Economics*, 84(3), 293-305.
- Ensign, P. C. (2001). Value chain analysis and competitive advantage. *Journal of General Management*, 27(1), 18-42.
- Feil, P., Yook, K. H., & Kim, I. W. (2004). Japanese target costing: a historical perspective. *International Journal*, 11, 10-19.
- Fisher, J. (1995). Implementing target costing. *Journal of Cost Management*, 9(2), 50-59.
- Gabriel, E. (2006). Value Chain for Services A new dimension of “Porter’s Value Chain”. *IMS International Journal*, 34.
- Garrison, R.H., & Noreen, E. (2003). *Managerial Accounting*. 10th ed., New York, McGraw - Hill /Irwin.
- Gerry, H. (2011). Performing Value Chain Analysis. Retrieved from <http://Steven Clark .com>
- Ghafeer, N.A.M., Rahman, A.A. & Mazahrih, B.J. (2014). The Impact of Target Costing Method to strengthen the competitiveness of Industrial Companies. *International Journal of Business and Social Science*, 5(2), 250-263.
- Ghuri, P., & Gronhaug, K. (2002). *Business Research Methods in Business Studies: A Practical Guide* (2nd ed.). Sydney: Prentice Hall.

- Hill Charles, W. L., & Jones, G. R. (2008). *Strategic Management: An Integrated Approach*. (8th ed.). Houghton Mifflin Company, USA.
- Ibusuki, U., & Kaminski, P. C. (2007). Product development process with focus on value engineering and target-costing: A case study in an automotive company. *International Journal of Production Economics*, 105(2), 459-474.
- Idowu, A.S. (2014). Impact of Target Costing on Competitive Advantage in the Manufacturing Industry: A Study of Selected Manufacturing Firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(3), 97-108.
- Kaplan (1988). One cost system is not enough. *Harvard Business Review*, 88(1), 61 - 66.
- Kaplan, R., & Atkinson, A. (1998). *Advanced management Accounting*. 3rd Ed., Pearson Education.
- Kato, Y. (1993). Target costing support systems: lessons from leading Japanese companies. *Management accounting research*, 4(1), 33-47.
- Kato, Y., Boer, G., & Chow, C. W. (1995). Target Costing: An Integrative Management Process. *Journal of Cost Management*, 9(1), 39-51.
- Khateeb, A.H.N.M., Imam, S.M.A., Awad, S.S., & Nasir, H.B. (2019). Target costs and the role of product design in achieving competitive advantage of the Iraqi companies. *International Journal of Economics, Commerce and Management*, 7(2), 425-440.
- Lauridsen, B. (2011). Shifting the Paradigm: Value-Chain Analysis Applied to Online Learning La Jolla, CA. Retrieved from <http://etec.hawaii.edu/proceedings>
- Liu, T.-L. (2003). Organization learning and social network market Orientation: The role of resource-based view strategy gaining in dynamic, capabilities advantage. [Online] Available: <http://www.hic-business.org/biz2003proceedings/Tsai-Lung%20Liu.pdf>
- Lockamy III, A., & Smith, W. I. (2000). Target costing for supply chain management: criteria and selection. *Industrial Management & Data Systems*, 100(5), 210-218.
- Lord, B. R. (1996). Strategic management accounting: the emperor's new clothes?. *Management Accounting Research*, 7(3), 347-366.
- Monden, Y., & Hamada, K. (1991). Target costing and kaizen costing in Japanese automobile companies. *Journal of Management Accounting Research*, 3(1), 16-34.
- Nicovich, S., Dibrell, C., & Davis, P. (2007). Integration of value chain position. *The Journal of Business and Economic Studies*, 13(2), 91-108.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Porter, M. (1985). *Competitive Advantage Creating and Sustaining Superior Performance*. New York, NY: Free Press.
- Porter, M. (2012). *Strategy and the New Competitive Advantage: Creating Share Value* (p. 4). Harvard Business School, Boston.
- Ramdani, B., Kawalek, P. and Lorenzo, O. (2009) Predicting SMEs adoption of enterprise systems. *Journal of Enterprise Information Management (previously Logistics Information Management)*, 22(2), 10-24.
- Sakurai, M. (1989). Target Costing and How to Use It. *Journal of Cost Management*, Summer, 39-50.
- Simister, P. (2003). Using Value Chain Analysis to create competitive Advantage.
- Singh, P. (2012). Management of business process can help in organization achieve competitive advantage. *International Management Review*, 8(2), 19-26.
- Stevenson, W. J. (2007). *Production/Operations Management*. (8th ed.). Von Hoffmann Press.
- Tani, T., Okano, H., Shimizu, N., Iwabuchi, Y., Fukuda, J., & Cooray, S. (1994). Target cost management in Japanese companies: current state of the art. *Management Accounting Research*, 5(1), 67-81.
- Urbig, D., & Verlage, S. (2003). The value chain's values: Interpretations and Implications for firm and industry analysis. In *Proceedings of Perspectives in Business Informatics Research (BIR)* (pp. 1-15), Berlin.
- Walker, G. (2007). *Modern Competitive Strategy* (2nd Edition). Tata McGraw-Hill.
- Wu, C. L., Huang, P. H., & Brown, D. (2013). Target costing as a role of strategic management accounting in real-estate investment industry. *African Journal of Business Management*, 7(8), 641-648.



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