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THE RELATIONSHIP BETWEEN INVENTORY MANAGEMENT AND FIRM'S PROFITABILITY: EVIDENCE FROM CEMENT INDUSTRY OF PAKISTAN;

Ahmad Hassan (PhD Scholar)
Department of Comm. & Management Science, University of Malakandahmadiuk25@gmail.com
Dr.Wiqar Ahmad,
Assistant professor,Department of Comm. & Management Science, University of Malakand
Abid Khan,
PhD Scholar, Department of Management Science, Qurtuba University of Science and IT, Peshawar, Pakistan, E-mail:phdabid@gmail.com
Rizwan Ullah,
PhD Scholar, Department of Management Science, Qurtuba University of Science and IT, E mail: rizwanullah33@yahoo.com
Madeeha Qayum,
Data Collection and Monitoring Assistant Education Monitoring Authority, KP Pakistan, E mail: madeeha.dcma.dirlower@gmail.com

ABSTRACT

The primary motive behind this study is to find out how Pakistan cements industry manage and analyze their inventory in a profitable way. Manufacturing companies that using these techniques and practices having magnificent financial outcomes. Keep in view the importance of these profitable techniques ,we practice thesein cements firms a sample size of seven companies taken out of 23 firms listed in Pakistan stock exchange over the period of 2008-2017. The data iscollected from annual reports available on the financial statements. The proxies forinventory management are used as inventory conversion period and inventory turnover and the measurement of profitability is done by gross profit margin and gross operating profit. Moreover the natural log of sale, current ratios and financial debt ratios measured for liquidity, firm size and leverage respectively and taken as a part of control variable. The multi regression and Pearson correlation analysis are used to analyze data through spss (version 22). The results of the study indicate that there is strong inverse relation between inventory conversion period and cements firm's profitability. This paper also indicated a direct and positive relation between inventory turnover and profitability (gross operating profit), however, insignificantly associated with gross profit margin. Furthermore, in this study gross profit margin and gross operating profit are strong positively correlated to both current ratio and firm size also. Therefore an effective and efficient assessment of inventory increases the corporate profitability.

Keyword: corporate profitability, growth, operational area, leverage, liquidation, cements industry, inventory management.

Introduction:

Background of the Study:

The present study will give a snapshot of how Pakistan cements industry evaluate and analyze their inventory (group of current assets) in the light of empirical studies in the past literature regarding to inventory management. The cement industry also studied in the same results with us in India and Kenya by A.K.panigrahi (2013 and E Sitienei and F Memba (2016) respectively. Inventory management is the part of working capital management. While working capital is net current assetsmathematically "current assets minus current liability. Inventory is a part of asset group. To maximize the firms' values it is necessary to manage optimal level of working capital is required Deloof (2003).Inventoryrefers to finished goods;work in process and raw materials Lyons and Gillingham, (1981). Raw materials the goods which are provide by supplier to manufacturer, but have not yet transferred to operational area to convert into processing unit similarly Work in process (WIP) is defined as: The goods which have transferred from warehouse to operational area in order to process it for finished goods. Finished goods are said to be the goods which are available for consumption to ultimate consumers Kothari (1992). Some time inventory and stock is almost considered as a same thing. But when we talk about inventory management, there will be a slight difference between stock and inventory. The assessment of inventory is compulsory in business life, to compete and survive in the rivalry atmosphere; proper management of inventory will not begivenup. In the business process, its wake up not only enhances profitability but also liquidity. Apart from that if there is a poor management of inventory; the funds may be unnecessarily tied up in idle assets. This will reduce liquidity of the company and also the company will not be in a position to invest in more productive assets like plant and machinery etc. The foremost focus of finance mangers and research authors lied on operational area of enterprise or business. Because if one can managed this area effectively they will get a lot of funds not only by making more turnover but the manager will play key role in the enhancement of sale through comparatively at low cost than competitors. And ongoing management and assessment is required for operational area which is the sign of to live for a long time in the rivalry environment and produce at lower cost. Operational area is made of three components (raw material, production in process and finished goods) Arnold (2008), Cinnamon, Helweg-Larsen, and Cinnamon (2010) and Gitman (2009). A optimize level of inventory is required because it will not only enhance financial benefits but reduces corporate cost. The inventory problems come into being when the management of all sorts asset can be done, whether it is fixed or current Koumanakos (2008).Any sort of business

whether it is small, medium and large, the inventory management serving is the key issue for management Toomey (2000).The inventory management practice is the key to enhance financial performance. Found that the effective inventory management is a corner stone of business as well as it served a fundamental element of supply change managementT Lwiki and V K Wachira (2010).Manufacturingcompany's performance is directly related to inventory management S Sahari et al (2012).) The efficient inventory management is the effectiveness of the organization Augustine and Agu, OkoroAgu (2013. According to A K panigrahi, (2013) the success and growth of a firm rely on adequate and timely flow of inventory, mismanagement will lead excess cost which a firm unable to provide extra customer services to survive in rivalry environment.The optimal level of inventory can cause growth in turnover and also control holding cost E.sitienei et al. (2015).The contraction in the lenth of inventory cycle points to higher effectiveness Z Golas and A Bieniasz (2016). According to S Shin et al (2015) more turnovers in inventory will results high profit margin which is the proxy of profitability. Cement isan important input for the constructionindustry and also served as a main source of development of infrastructure as well as socioeconomic. In the recent years Pakistani cements firms are looking to capture not only local but worldwide market. In the very recent era cements demand has been increased by, not only in home land but also in the foreign market. During 2017 cement industry has showed a slight growth of three percent as compared to last year. The utilization rate of the cement industry also remained constant; only one 1% increase is fount, last year it was 77%. In the same year industry shows the decline in exports to India and Afghanistan. The industry also found in stress due to decline in exports because it faces comparatively high price competition in Africa market. The overall performance of Pakistan cement industry has seemed in same decade was not remarkably well in term of industry development and economy growthShagufta Parveen et al (2014). Because the cost of operation is going to high; keeping the importance of cements industry inview, in the term of socioeconomic development, we are looking into deep to highlight the barrios in its growth. We assumed that the decline in export is due to rival's effective price offer in the market. To resolve such problem it is required to have efficient and effective level of inventory. For this purpose we have done an effective inventory management in the relation to the measures of cements firm's profitability that are GPM (Gross profit margin) and GOP (Gross operating profit)and proxies inventory management are inventory turnover, and inventory conversion period.these firms are listed in Pakistan stock exchange for the period 2008-2017.

Literature Review

Theoretical and Critical Review:

A huge volume of empirical studies iscomposed in the literature regarding inventory problems. V.Vijaya Lakshmi and K. Ranganath (2016) who presented the relevant

literature review of the inventory management. He highlighted to some extend the all authors who worked on this topic in the past. In the same area Shagufta Parveen et al (2014) examined the effectiveness of the working capital management of Pakistan cements firms. For this purpose they have taken a sample size of two companies for the period 2001-2011. They released that the afford of managers to make more profit is to control the days of account receivables and number of days inventory as well as to maintain cash conversion cycle proper. Raheman and Nasr (2007) who realized the relationship of firm's profitability and working capital management in Pakistani manufacturing firms . In his study he explained the working capital by its various coreelements in order to predict the efficiency of working capital management for the profitability of 94 Pakistani firms, for the years from 1999-2004. And he find out in his work done that there is inverse association of the inventory conversion period on the profitability. MianSajidNazir (2008) also highlighted the components of net current asset in its effective assessment and then its contribution to the financial results for the 17 manufacturing companies. He fined that there is also significant relation to inventory conversion period. A.K.panigrahi (2013) applied such profitable practices in the same cement industry in India his scope of study was five top firms for the period 2001-2010. His result shows that, the success and growth of a firm rely on adequate and timely flow of inventory, mismanagement will lead excess cost which a firm unable to provide extra customer services to survive in rivalry environment. Timothy lwiki et al (2010) researched on the impact of inventory management on firm's financial performance, they applied these practices on the financial performance of sugar industry in Kenya, and sample size of their study was eight sugar firms over the period 2001-2007. They proved that the performance of company is directly enhances by efficiently managed inventory. DimitrisFolinas (2014) researched on the relationship of inventory turnover and inventory days on the company performance. These practices were employed in machinery industry for agriculture in the United Kingdom.

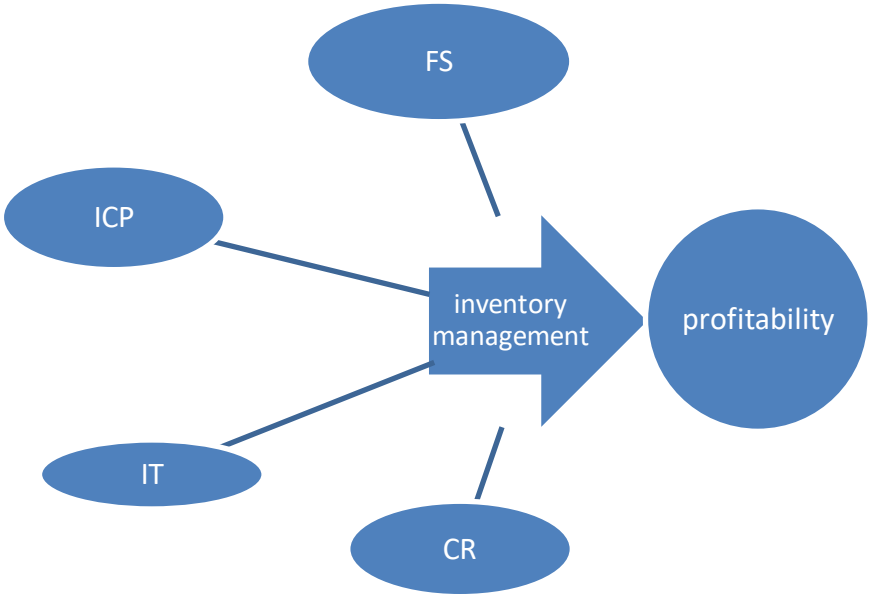
E Sitienei and F Memba (2016) Studied in the same industry in Kenya and analyzed assessment and management of inventory efficiently and effectively and the outcome of his studies shows that the inventory management has great impact on the Kenya cement industries' profitability and these variables inversely correlated. In here in Pakistan the cement industry is studied by ShaguftaParveenet al (2014) and they realized that there is the influence of working capital management of sample size of 2 plants pak cement industry' profitability. While keeping importance of inventory management and assessment in the respective manufacturing firms can be elaborated by different authors.S Tinggi and Kadri (2012) analyzed relationship of the inventory management and firm performance along with capital intensity. For the purpose they took a sample of 82 construction firms in Malaysia for the period 2006–2010. Eneje et al (2012) investigated the effects of raw materials inventory management on the profitability of Nigeria brewery

firms using a cross sectional data from 1989 to 2008 gathered for the analysis from the annual reports of the sampled brewery firms. Measures of profitability were examined and related to proxies for raw materials inventory management by brewers. Sanders (2007) decreasing the level of inventory near to zero to reduce risk. The assessment of merchandise is taken at rest and in motion" Coyle (2003).Apart from the above stated literatures, Reid and Sanders (2007) suggested that Inventory management mostly target two goals.

The first goal is the availability of materials, to run the operation process it is necessary that the required goods should be available in right quality, quantity and time. The other goal is to provide best service against at optimal cost. Reducing inventory level near to zero to minimize risk, is that to enhance the possibility of running out goods required in the manufacturing, mostly in a such situation the company would lose revenue because it would be costly Maness and Zietlow (2005).

In the same way in the rivalry environment the managers are required to assess and analyze inventory in best way in order to have a good response to rivalry, so that each operational manager have their individual interest and develop strategy how efficiently manage inventory and keeping optimal level of inventory. To have the right order of goods, produce at lower cost and offer just in time, it is needed to have a review on inventory assessment, Brealey Myers and Allen (2008). Presently this topic served is a critical issue for research authors as well as operational managers. Robert obermaier and andreasdonhauser (2011) they tried to shift the firms towards zero inventory but they could not find such outcome. The balance form will be beneficial Pass and Pike (2007).In the recent time more study is ongoing in different aspects of inventory management. Some time inventory and stock is almost considered as a same thing. Wild (2003), Gaur *et al.* (2005**)** have adopted the inventory management techniques, used inventory turnover period, measure as the ratio of a company's cost of goods sold to average inventory. IT and profitability while we are going against their results, the following authors find an inverse relation included Marijan et.al (2013), Kolias, Vasiolis and Dimeli (2010)**.**On the other hand regarding to our study Mathuva, (2010) is against to our study's results and outcomes who found that there is direct and positive relation between inventory conversion period and firm profitability. The situations stated above is done in various countries rather than pakistan, is totally different here from Pakistan. We seek to discover a relation between inventory management and cements manufacturing firm's profitability here in Pakistan.

Methodology



Theoretical Framework:

In the above representation, the variables of study are explored, in such a way that inventory management influences the Pakistan cements firms profitability. The assessment of the inventory predicted by some financial indicators, these are inventory conversion period (ICP) and inventory turnover (IT). While the profitability of the cements firms are measured by gross profit margin (GPM) and gross operating profit (GOP). and controlvariables are comprise of firm size (FS), current ratios (CR) and financial debt ratio (FDR), calculated for size of the firm, liquidity, and leverage.. The main thing is to pick out from these prime measures that areto have a significant connection to Pakistan cements industry profitability. Inventory turnover (IT) is the number of time, which turns over merchandise on stock in a specific time period. It is obtained from, dividing net sale on total assets. In the previous studies this variable is remained under the study of various researchers, deloof (2003), E.sitienei et al (2015). Control variable is what which remained unchanged throughout testing process, but still has a proof of the reliability of data during experiment.Firm size is the natural l0g of sale and current ratio is the output of diving current assets by current liabilities. Financial debt ratio refers to utilize the debts in such a way to acquire more financial assets. The range of this indicator is 1. Almost this ratios used authors in past. Deloof (2003), Raheman and nasr (2007), A.K.panigrahi (2013),

E.sitienei et al (2015).Finally we overcome on our study's motives, to explore our results in cement industry of Pakistan, the study focus is on the secondary data and calculating ratios from annual reports. So in this study we displayed the test of inventory management on cement industry's profitability. The valid variables are undertaken to reach study aim and goals.

Measurement of the Variables

This studyparticularly designed for the respective variables, included dependent, independent and control variables as follows.

Dependent Variables:

The profitability of the cement firms is used as a dependent variable, which is measured by, gross operating profit (G0P) and gross profit margin (GPM).

G0P = Operating profit (OP) / total assets (TA)

GPM = sale - cost of goods sold / sale

Independent Variables:

In this study we have used inventory conversion period (ICP) and inventory turnover (IT) as proxies for inventory management. In the past studies these indicators are used by various researchers.

No. of days inventory (sale) = 365 / net sale / average inventories'

IT = cost of sale / average inventories

Control Variables:

Current ratio is obtained of diving current assets by current liabilities.

CR = current asset / current liabilities.

Firm size is the natural log of sale.

FS = ln l0g of (net sale)

It refers to utilize the debts in such a way to acquire more financial assets.

FDR = Total Debts / Total assets.

Model Specifications

Model A&B

In this model we have to test the hypothesis; which is dependence of gross profit margin (GPM) and gross operating profit (G0P) on inventory management .Generally;

GPM= β0 + β1 (ICP) + β1 (IT) + β2 (CR) + β3 (FS) + β4 (FDR) +…….. + ϵ.

G0P= β0 + β1 (ICP) + β1 (IT) + β2 (CR) + β3 (FS) + β4 (FDR) +…….. + ϵ.

Where;

GPM gross profit Margin of the cement industry.

G0P gross operating profit

β0 the equation's intercept.

β1coefficient of X variables. (i=1 2 3 4…..)(X= ICP, FS, CR, IT and FDR).

Є term used for error.

Research Design

To analyze the collected data from the firm's financial statements, the quantitative approach is employed .The design of research take in account in this study is multiple linear regression, and Karl persons correlation of co-efficient is employed. This study comprises of more than 1 explanatory variable's. To find out degree and direction of the relationship among the variables Karl persons of co-efficient is undertaken. To check the output of the correlation co-efficient and regression, the t test is inserted. The statistical package for social science (spssversion.22.00) is operated and run.

Hypotheses Development

H1a: Inventory management has a positive significant effect on cement firm's profitability.

H1b: The relationship b/w profitability and Inventory conversion period is significantly negative.

H1c: There is no significant relation b/w inventory turnover and Pakistan cements' profitability.

H1d: The firm size has significant relation to profitability.

Population and Sampling

We have selected seven firms from the cement industry of Pakistan listed in Pakistan stock exchange for the years of 2008-2017. Keeping importance of such practices in view we have put these practices in this industry in order to pick up the purpose of the study. We have founded a meaningful impact of inventory management on firm's profitability and liquidity. Pakistan cements industry has a magnificent contribution to local economy. The industry captured the local as well as foreign market. We put these practice in the following key sample cements plants, kohat cements, thatta cements, maple leaf cements, cherate

cement, lucky cement, fauiji cement and gharibwal cement. gharibwal is the public company while the rest are private. This study produce amazing setup for all of these plants, all of these have to take advantages of this study.

Empirical Results

Correlation Matrix between Variables

We have used Pearson's correlation matrix, in order to see the relationship among the variables such as inventory management effect on cement firm's profitability. Table 4 reports the outcomes of the correlation. One can notice from these results that there is a strong direct connection between inventory management and profitability of the cements plants. Furthermore we concluded that consistency exist in these results if we make a comparison to other studies, like deloof (2003), Raheman and nasr (2007), A.K.panigrahi (2013) and E.sitienei et al (2015) in the past. From the table given below one can notice the respective results.

Table # 1**Correlation Matrix**

Variables		FS	CR	FDR	GPM	ICP	GOP	IT
FS	**Pearson Correlation**	1	.271*	-.293*	.429**	-.266*	.304*	.083
	Sig. (2-tailed)		.023	.014	.000	.026	.010	.496
	N	70	70	70	70	70	70	70
CR	**Pearson Correlation**	.271*	1	-.597**	.422**	-.124	.315**	.211
	Sig. (2-tailed)	.023		.000	.000	.306	.008	.079
	N	70	70	70	70	70	70	70
FDR	**Pearson Correlation**	-.293*	-.597**	1	-.293*	.176	-.495**	-.313**
	Sig. (2-tailed)	.014	.000		.014	.145	.000	.008
	N	70	70	70	70	70	70	70
GPM	**Pearson Correlation**	.429**	.422**	-.293*	1	-.688**	.359**	.190
	Sig. (2-tailed)	.000	.000	.014		.000	.002	.115
	N	70	70	70	70	70	70	70
ICP	**Pearson Correlation**	-.266*	-.124	.176	-.688**	1	-.292*	-.334**
	Sig. (2-tailed)	.026	.306	.145	.000		.014	.005
	N	70	70	70	70	70	70	70
GOP	**Pearson Correlation**	.304*	.315**	-.495**	.359**	-.292*	1	.544**

	Sig. (2-tailed)	.010	.008	.000	.002	.014		.000
	N	70	70	70	70	70	70	70
IT	**Pearson Correlation**	.083	.211	-.313**	.190	-.334**	.544**	1
	Sig. (2-tailed)	.496	.079	.008	.115	.005	.000	
	N	70	70	70	70	70	70	70

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

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

Correlation among the variables is to know at which degree these measures/variables are associated with each other. In above table one can notice that, the variables are associated with each other with different corresponding r values. We discover a negative relation between gross profit margin (GPM) and numbers of days inventory hold (ICP). The value of coefficient of correlation, is -0.688, significant at the level of 0.01 or 1% here p value is small then 0.05. Similarlyone can notice that from the above table, that there is a negative association between gross operating profit (G0P) and number of day inventory (ICP) also. The co. efficient of correlation is in opposite direction which is -0.292 and the p value is 0.014, it means that a gross operating profit (G0P) is associated at the significance level of 5% to the number of day inventory (ICP). The table also declared that inventory turnover (IT) directly associated with gross operating profits (G0P) with co. efficient of correlation of 0.544 and with p value 0.000. But it built a positive insignificant relation to Gross profit margin (GPM). Furthermore we find out a direct or a positive relation between size of the firm (FS) and gross operating profits (G0P), of values 0.304. From the above table we observed that as the firm size increase the gross profit margin (GPM) also enhanced. The co-efficient of the correlation is explored by table which is, 0.429. And the p value at the significant level of 1% is 0.000. we find that there is also a direct relation between Current ratios and gross profit margin (GPM). The co-efficient of the relation is.422 and p value is .001 at significance level of 1%. However, we noticed that there is negative relation between Gross profit margin and leverage (FDR). A financial debts ratio is the measure of the leverage of the cement plants, and the shortcut financial debt ratios. We noted from the table when the number of days inventory (ICP) decreases, financial debts ratios enhanced.

Regression' Results

Model A, Using GPM

Table 2: The Regression Outcomes for GPM

Model A	R	R Square	Adjusted R square	Std- error of the estimate	F	Durbin. Watson
	.794 [a]	.630	.601	.09901	21.76	1.864

Depend variable (DV) is GPM

Table 3
Model A's Coefficients

Model A	Standardized Coefficients			UnStandardized Coefficients		Colinearity Statistics	
	Beta	T	Sig	B	Std-Error	Tolerance	VIF
Constant		-.238	.813	-.043	.180		
ICP	-.635	-6.078	.000	-.005	.001	.831	1.203
FS	.189	.326	.025	0.023	.010	.848	1.181
CR	.341	3.570	.001	0.068	.019	.633	1.581
FDR	.048	.166	.631	0.042	.087	.590	1.696
IT	.094	1.185	.268	.002	.001	.815	1.227

Depend variable (DV) is GPM

Tables 2 and 3 show the figure values of model A, the analyses done in such a way in which we calculated the value ofthe contribution of independent variables to explain or predict the dependent variables. One can noticefrom the table 2 figure values that R squarevalue is 0.630 implies that the impact of inventory management on cements firm's profitability is explained by 63percent while 37 % is unexplained. Findings from the table 3, inventory conversion period (ICP) has a negative association with gross profit margin (GPM). The coefficient of inventory conversion period is -.005it implies thatwhen inventory conversion period is decrease by one day then the increase in GMP is 5% apart from that inventory turnover is insignificantly have a direct association to GPM. While one can notice from the table figure values that the size of the firm and current ratio is directly correlated to cements firm's profitability. When we talk about The Tolerance statistics and Variance Inflation Factor from the above tables for gross profit margin (GPM) and inventory conversion period (ICP) these values were noted is 21.764, On the basis of these observations there is no multi co linearity problem among explanatory variables included in this study. Now taking into account the fitness of the model, from the above table one can see that to test the significance of R, F statistics is used and its value is 26.787 for GPM, the p value for the respective F statistics is .000, which is highly significant. It means that all of variables at least one independent variable have impact on

gross profit margin (GPM). In this regression testing, we have to compute auto-correlation of the residuals. Durbin Watson is used. From the above table one can notice the value of Durbin. Watson is 1.864 for gross profit margin (GPM) It indicates that there is no presence of the auto-correlation in the process

Equation No.1

GPM= -0.431 + ICP (-0.005) +IT (-.002) + CR (.068) + FS (0.023) +FDR (0.042) + є.

1.1.1. MODEL B USING GOP:

Table 4; The Regression Outcomes for GOP

Model B	R	R Square	Adjusted R square	Std- error of the estimate	F	Durbin. Watson
	.667 [a]	.444	.401	.104	10.24	1.894

Table 5; Model B's Coefficients

Model B	Standardized Coefficients			UnStandardizd Coefficients		Co linearity Statistics	
	Beta	T	Sig.	B	Std-Error	Tolerance	VIF
Constant		-.500	.619	-.095	.190		
ICP	-.055	.541	.591	.000	.001	.831	1.203
CR	.012	.101	.920	.002	.020	.633	1.581
FS	.166	1.644	.105	.017	.010	.848	1.181
FDR	-.313	-2.582	.012	-.237	.092	.590	1.696
IT	.416	4.030	.000	.006	.002	.815	1.227

Depend variable G0P

Apart from the figure values of model A, we also have another model in this study.We used gross operating profit as a second proxy for profitability to predict it by inventory management as well. This model shows that the impact of the inventory management is only44.4 percent to predict Pakistan cements industry profitability while 57.6% is unexplained. One can notice from table Inventory turnover is directly associated with gross operating profits (G0P). In this situation we are at the position to accept null hypothesis on gross operating profits (G0P), while current ratio, ICP and FS is insignificantly associated gross operating profit. One can notice in that, FDR has a direct or

positive association with gross operating profits (G0P) at 1% significant level while having insignificant association with gross profit margin (GPM). So we can only accept here null hypothesis on gross operating profits (G0P). And we are at the position to say there is a significant direct relation among gross operating profits (G0P) and inventory turnover (IT). The overall outcome from the above Table's figures, in model 2, we can say that the model 2 for inventory turnover is significant for only profitability measure gross operating profits (G0P), but insignificant to GPM. In order to release multi co-linearity we have VIF and tolerance statistics the observed value values for inventory turnover is 1.227so we the neglect these problems.

GOP= -0.0951 + ICP (-0.000) +IT (.006) + CR (.002) + FS (0.023) +FDR (-0.237) + ϵ.

Anova Results

Table 6ANOVA (Model A)

Model A	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.067	5	.213	21.8	.000[b]
Residual	.627	64	.010		
Total	1.694	69			

a. Dependent Variable; GPM

In **table 6**above one can notice that from the table that, we got ANOVA outcomes for model A, show that the regression sources of variation with value 1.067 and which is greater than the value of the residual sources of variation 0.627. It means that the regression model A is able to describe or explain the larger amount of portion of variations expected in depend variables for gross profit margin (GPM). The, p-value is 0.000 for gross profit margin (GPM), it indicate that model 1 is fit for significant level of 1%.

Model B:

Table 6ANOVA (Model B)

Model B		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.558	5	.112	10.24	.000[b]
	Residual	.698	64	.011		
	Total	1.256	69			

DV; GOP

In table 7 above one can notice that from the table that, we have ANOVA outcomes for model B, which shows that the regression sources of variation with value of 0.555 for GOP model, and which are lower than the value of the residual sources of variation which is of .0.698. It means that the regression resourcesmodel B is not able to describe or explain

the larger amount of portion of variations expected in dependent variables for GOP. Thus, the regression model is unable to explain larger portion of the variations in the dependent variables gross operating profits (G0P) than the residual source of variation. The, p-value is 0.000 for G0P, it indicate that model B is fit for significant level of 1%.

Conclusions

Being a sub part of Working capital Inventories plays an important role in making corporate decisions regarding to firm's operations, because it has direct link with company's expenses and turnover. The management of inventory is very beneficial for every kind of manufacturing firms, because it is necessary to inspect and monitor business's operations from input to output, in order to maximize turnover and minimize the cost related to raw material, work-in process and keep storing finished goods. It reduces not only operating cost but makes customer's services more effective.Inefficient level of inventory may lead the liquidity problems and strong leverage deficiency as well. For the purpose, offering effective customer services and takes advantage on rivals, inventory management will be taken place. A balance level of inventory is required to survive in rivalry environment. Keep in view the vital role and contribution of inventory management to firm's growth and success we have undertaken such practice in Pakistan cement industry for the period 2008-2017, which has a great contribution to local economy growth in both local market and foreign market. In order to overcome on the study's problems we used two measures of inventory management, as an inventory conversion period*(ICP)* and inventory turnover(IT), these two measures of inventories were statistically tested its contribution to Pakistan cement industry 's profitability. The profitability of cement industry is measured by gross operating profit (G0P) and gross profit margin (GPM). In the literature most of the authors used as a single measure to predict such influence on inventory assessment. While In this study for the measurement of cement industry profitability we have done it by both gross operating profits (G0P) and gross profit margin (GPM) used as a combine. It produced more and accurate reliable outcomes. The outcomes of this study are, there is strong connection of the inventory management and profitability of the 7 cement companies listed in PSE for the years of 2008-2017. However in these 10 years the inventory is seemed remarkably well for the growth of Pakistan cement industry. And we realized that inventory conversion period (ICP) is connected both gross profit margin (GPM) and gross operating profits (G0P) negatively while inventory turnover (IT) is positively associated with gross operating profits (G0P). The test of hypothesis, that there is a valid connection between inventory management and profitability so we accept it. Moreover we accept another research's hypotheses, the inverse relation of inventory conversion period (ICP) to gross profit margin (GPM) and gross operating profits (G0P), here respective null hypotheses. The study also concentrated on the liquidation on inventory. And a respective hypothesis is also satisfied that of; there is direct relation of inventory turnover (IT) to profitability of Pakistan cement industry. In the literature almost studies are convergent to our outcome.

These are Dloof (2003), Rehman and nasr (2007), T Lwiki and V K Wachira (2010),A.K.panigrahi (2013) , E Sitienei et al (2016) . And confirmed our outcomes with respective authors results, mentioned above, most of the authors have similarity with us while some of authors reversed to our results likeE Sitienei and F Memba (2016) who developed an inverse relation between GPM and inventory turnover while we went beyond his outcomes. Similarly Mathuva, (2010) also found a relation between ICP and profitability in opposite direction as a relation we obtained from our results.

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