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Analysing Factors of Inbound Logistics and their Impact on Non-Financial Performance of Handicraft Firms

Jahangir Ahmad Bhat[1]   Dr. Pushpender Yadav[2]

[1-2]*Department of Humanities and Social Sciences*   [1-2]*Maulana Azad National institute of Technology*[12]

[1-2]*Maulana Azad National institute of Technology, Bhopal, Madhya Pradesh, India 462003*

[1]**bhatjana@gmail.com**

[2]**pushpender1@gmail.com**

Abstract— **The purpose of this research paper is to explore the factors in association with inbound logistics and to analyze the relation of such attribute with the performance of handicraft firms. To identify the relationship between inbound logistics and performance, important measures are reflected in both the broader components. For inbound logistics, Market Factors(MF), Funding (FUN), and Quality Check (QC) are taken as the imperative variables while analysing performance specific aspects productivity, efficiency and flexibility are taken into reflection. Further, it is important to establish a procedure which evaluates the impact of independent variables (MF, FUN, and QC) on performance (dependent variable). The relation between the dependent and independent variable is analysed with the help of SPSS (regression analysis).**

Keywords— *Supply chain, inbound logistics, market actors, funding, and quality check*

1. Introduction

Small businesses are vitally important for the prospective development of an economy. Promoting and configuring favourable social and economic environment for such small business functioning can achieve approaching development swiftly. In developing countries generally and especially in India small-scale business has enormous potential to provide opportunities for employment, revenue generation, and foreign investment [1]. As the industrialization is growing in India each and every sector of the economy whether small or large are contributing in this growing league of industrialization. Manufacturing sector is one of the important contributors to his completeness and handicraft sector is an important apt alliance of small-scale manufacturing sector, which is much famous for its efficiency and proficiency. The sector is one of the promising and conducive to economic contribution. The aesthetic values of Indian manufacturing industry especially handicraft sector has devote world towards Indian crafts and attracted global attention towards Indian culture. The underpinned contribution of the handicraft sector has boosted national income, become a key resource of export and significant source of employment [2]. Above and beyond economic advantage, the craftsmanship is a unique expression of a particular culture or community through local crafts and artistic materials. The sector is vastly scattered, a highly labour-intensive cottage based resource of the economy, where the mainstay of the set-ups/firms is to create a fortune, and value through renovating raw materials and information into products [3]. Further, with the increased market and modern concept of globalization, the sector is becoming prospectively rich in employment, income & opportunities. However, it is not easy for small-scale industries to remain competitive in the market where massive industries are the competitors. It has become obligatory for the firms to expand their product offerings and offer high levels of customization to sustain in this competition. Supply chain facilitates knowledge about high uncertainty in production process and in the life cycle of the product [4]. The supply chain in Handicraft sector counters high uncertainties and increasingly high level of risks at different levels of operational process more especially inbound logistics. For the handicraft sector inbound logistics is the process of coming raw material or semi-finished goods to the manufacturing setups or the transaction between suppliers and the buyers, that is selling, purchasing, transportation, checking and the financial transitions between these two parties. Inbound logistics is one of the chief links of supply chain in

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handicraft sector; entire supply chain starts with this strong link. So, for the unbeaten and successful supply chain, inbound link of the chain needs to be strong and for the triumphant of business, problems in inbound logistics needed to be addressed properly.

2. Review of Literature

The supply chain has been discussed in different ways by different authors and the pioneers of the supply chain management for example; some says it is a broad concept which involved, through upstream and downstream linkages, in the multiple processes that produce a product with some value to the customers [5]. In support of this broader concept one author says supply chain is associated with transformation, it includes all those tasks which help in creating highly valued product to the customers from negligible valued raw material [6]. While some authors say logistics management and SCM are used as synonyms in many cases. Since supply chain is a collaboration of multiple tasks within the firms aiming to satisfy customers with the product/service as per their demands. For that organisations/firms have to endeavour hard to achieve greater competitive advantage to bolster the chain resources and knowledge of their suppliers & customers.   To achieve such stronger competitive position supply chain analysis is the requirement [7], [8]. As supply chain involves multiple tasks from decision making to put such herculean ideas into practice, any obstacles to decision and policy-making with regard to functioning activities of the industry will lead to the complexities and lack of rhythmic flow of activities in an organisation [9]. The manufacturing industry is not different to any other industries when it comes to the decision regarding supply chain, which is one of the strategic antecedent activities in multi-linked premeditated supply chain activities [10]. while supply chain in manufacturing industry involves activities like logistic management, operational management and distribution management and many more micro activities which help to recognize the organizational identity, and assimilate of both internal and external information for the optimal use organisation/firm resources [11]. A collaborative effort of small links in the chain or stakeholders can help firms to increase competitive advantage and manage risks faced at different levels of product life cycle [12]. Even though every activity in manufacturing process is of vital importance but this paper will present major challenges faced by manufacturing organizations at inbound logistics stage, the preliminary task of an organisation/firm is to look at the source of supply chain that is the supply of raw material (inbound logistics), which is one of the primary assignment of an organisation. Experiencing as a result, firms have to deal with significant uncertainties in dealing with supply of raw materials [13].

Though organisations depend upon a range of activities performed within a firm to produce a certain output that goes through multiple activities like the supply of raw material, operation, distribution and marketing of a product, but suitable and optimal supply (logistics) facilitating are the most favourable conditions for triumphant organisations [14]. Further, inbound logistics itself is a composition of several mini-activities, which greatly influence the supply requirements in an organisation. As inbound logistics depends on the access to good raw material and decisions regarding the supply of raw material, firms too have strategic plans for the inbound management [15]. Supply chain agility is widely considered to be the most critical success factor in today's competitive marketplace [16].   For the efficient supply and rhythmic flow of raw material in any sector including manufacturing sector, funding (including source and investment), market factors and quality check are the most influential components, which have a fair impact on supply chain and overall performance of the organisation.

Inbound logistics is one of the most neglected areas of the manufacturing supply chain and cost & quality are the most discussed problems faced while supply of raw materials in previous literature ([17]. For the optimization of the overall production, it is essential to optimize the logistic process as an integrated system and to exchange information about production [18]. Further, optimizing the finance flows in logistics can deliver a yet untapped potential for cost reductions [19]. Even, some authors suggest that arm length, costs can be reduced and customer service could be improved by internal logistics of production. This may be true for big organisations but we argue this is not possible in small firms especially handicraft and manufacturing where manufacturers are depended on the agricultural and allied sectors of agricultural [20]. The most important essence of the supply chain is to generate and deliver goods in quicker time at less cost. The ability of supply chain is to access the market factors, source funding and track down the quality of raw material for which supply chain has become increasingly important in a wide range of industries [21]. To meet the challenges of competitive market all manufacturing segments especially handicraft sector should work on proper logistics management (that has information about the market, have access to optimal

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source of funds, it's appropriate investment and accurate check of quality of raw materials purchased) all these diminutive activities should be wrapped into a single model and the requirements of customers (demand & preference) with the requirements of firm (profit & wealth) must be considered to perform an overall optimization. The existing literature clearly specifies and suggests that the firm's especially handicrafts need to recognize and differentiate themselves in their efficiency of different operation [22].

Though the firms which need supply of raw material are influenced by many factors during the transaction of raw material supply or the material there in. likewise incomputable factors influence handicraft business and supply in. We do not attempt to address all important factors that contribute to success or efficiency of the supply chain; we suggest three important factors of logistic (Market factor, Funding, and Quality check) that may have received insufficient attention in other literature as well as strategic plans for small-scale supply chain. From the above literature and interpretation we can give theoretical foundations and conceptual model. The present model proposed in this study (Fig. 1) primarily considers the relations between antecedent inbound logistics along with market factors, funding and quality check and their relation with overall performance of handicraft sector.
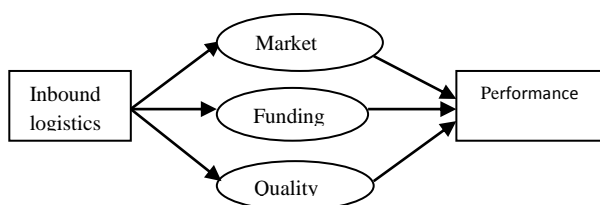

Figure 1. Model conceptual framework

3.   Model Development

The declining demand in handicraft sector and alarming scarcity of craft goods examined through resource based views states that inbound logistics are incredibly important for the proper flow of finished goods escalating performance of the sector. The concept of inbound logistics and its link with performance has attracted great interest, with scholars generally accepting that capabilities of handicraft can be elevated through the sources of performance evaluation [23]. Further, the resource based views state that without favourable market environment (factors), Assistance to artisans and organised procurement performance capabilities and overall competency of a

firm's is impracticable. The important factors which are taken into consideration in this study are.

3.1 Market factors

The existing literature has demonstrated consistently market factors are the important and significantly important for the supply of the raw materials to the firm and has a significant effect on the financial and nonfinancial performance of the firm [24]. The concept of market factors which influence big organised organizations as well as small sector of the economy. Market factors such as availability of suppliers, financial policies of the country, demand and supply of the market and availability of resources are the significant and luck deciders of the companies Therefore, these factors as a whole have comprehensive influence on the non-financial Performance of the firm [25]. Thus it is essential to test whether the market factors are really significant for the performance of the firm. The following general hypothesis was developed in order to guide the analysis.

There is a significant relationship between market factors related to supply of raw materials and   non financial performance of the firm. (H₁)

3.2 Funding (source and utilization)

It has been ascertained that the funds are the lifeblood of any organisation whether small or large and uncertainties of business environment can be avoided by proper and strategic decisions regarding the optimal source selection of funds and its proper utilization in the business. To encouraging the performance of the business financial requirements must be met as per the requirements in advance [26]. Further the firms are growing and going global it is important and more reliable to have proper management and occupied information regarding the accuracy of fund source and utilization. The following general hypothesis was developed in order to guide the analysis.

There is a significant relationship between funding (source and utilization) in inbound logistics and performance of the firm. (H₂)

3.3 Quality check

Modern technology has made it possible for the customer to judge the quality of the product so is possible for the producers and in production activities. Today's management is more focused how the quality of production can be improved and how wastage will

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be minimized for the better Performance of the firm [27]. Though big organisations have advanced techniques to judge the quality of the raw material but it is assumed that manufacturing firms do not employ the technology of some form in assisting the quality of raw materials and the decisions regarding quality check. The experience of the buyer and the middlemen who helps to purchase the raw material, are the stiff around which quality check task has been entrusted. The following general hypotheses were developed in order to guide the analysis.

There is a significant relationship between quality check of raw materials in inbound logistics and the performance of the handicraft sector. (H₃)

4. Research methodology

The target population identified for gathering information regarding this concern is Indian manufacturing firms especially handicraft sector. A questionnaire survey was employed and the sample was drawn from the different workers and artisans working as labourers and artisans. The questionnaire requested details relating to market factors important for the supply of raw materials, source of funds and the quality check of the raw materials purchased and most important questions related to the non-financial performance of the handicraft sector. The replies to the initial questionnaire were received from 53 respondents. After two follow-ups the total replies gathered increased to 400. However some respondents giving less response rate and were excluded from the study and finally 340 respondents were valuable respondents for the further studies. The Mann–Whitney and chi-square Non-parametric tests were used to compare early and late responses and there was no evidence of non-response bias found. The non financial performance was measured using 11 items (based on scale Likert scale ranging 1=strongly disagree used to 5=strongly agree) and the attributes of inbound logistics were categorized into the 15 items, which where categorised under variables like market factor, funding and quality check. The measurements used as proxies for the contingent factors are detailed below.

5. Data Analysis

Before testing the model proposed in this study using regression analysis, confirmatory factor analysis was executed and the results like KMO and Bartlett's test procured from running the Factor analysis, which are important for the presupposition and interpretation. The

KMO test is a used to measure of how suited and appropriate our data is for Factor Analysis. The test measures sampling adequacy for each variable in the model and measures the proportion of variance among variables. For the KMO test, the rule of thumb is KMO values between 0.8 and 1 indicate the sampling is adequate; the value above 0.7 is middling and KMO values less than 0.6 indicate the sampling is not adequate and for that remedial action should be taken. In our analysis we got the value .776 (KMO) shown in the Table 1 which is acceptable for extracting components in factor analysis.

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.776
Bartlett's Test of Sphericity	Approx. Chi-Square	3.752E3
	df	276
	Sig.	.000

Further only those factors in the rotated component matrix were considered for which factor loading was greater than 0.50 [28]. After extracting and identification of principal component or the factors the reliability test in SPSS was carry out to check overall reliability and the reliability of each component extracted. The results were satisfactory because cronbach's Alpha (α) were greater than 0.70, for both first-order and second-order constructs. Further the factors extracted in principle component analysis were named as per procedure. The factors extracted were market factors, Assistance, quality check for inbound logistics (2nd construct) and the questions related to efficiency, productivity and flexibility were considered for non-financial performance. The attributes of inbound logistics (MF, FUN, and QC) are the independent variables which were regressed with dependent variable that is performance in the analysis.

Table 2. Extracted factors

Factors Extracted	Literature
Market Factors	Govindan. et. al. (2014) Large and Thomsen (2011)
Funding	Chin,(1988)., Korostelevea and Mickiewicz, (2010)
Quality check	Beamon, (2014), Yeung, (2008)
Performance	Ballou, (2004), Sultan & Saurabh, (2013)., Mentzer et al, (2000)

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Table 2 shows the 2ⁿᵈ order components and its predictors. For inbound logistics 3 important factors are extracted and shown in the first set of the table. Further, a common variable for key non-financial indicators is extracted with the help of principal component analysis. The table shows important and selected variables for the further considerations and analysis of the available data. The components extracted were named as the market factors, funding and quality check these are important factors of 2ⁿᵈ factor component inbound logistic. Further, the factors which we are using for regression analysis are the composite scores of questions found under the respective factors. To find the relation between variables of inbound logistics and performance we have chosen factors of inbound logistics as independent variables and performance as the dependent variable for the regression analysis.

5.1 Regression analysis (stepwise)

Using the SPSS program kit in the case of multiple regressions we have come to the following results:
Regression analysis is a method by which the Independent variables (IV) are chosen for entry to find the level of significance with the dependent variable (DV). Regression analysis is most often used in exploratory research [29]. This method is based on which IV contributes the most toward predicting the variance in the DV, with the highest contributing IVs being entered first [30]. On this method, independent variables are selected for useful consideration in situations with a large pool of explanatory IVs, [31].

Table 3.   Descriptive Statistics

	Mean	Std. Deviation	N
Performance	2.6930	.47641	340
Market Factor	2.2012	.60108	340
Funding	2.2500	.62228	340
Quality Check	2.2243	.61945	340

Prepared by the author using SPSS tool kit.

Table 3 shows us the mean and standard deviation of each variable in our dataset, though this table is not necessary for interpreting the regression model, but it is a useful summary of the data. The table shows the clear number of samples collected for the analysis and the mean of the sample, further the standard deviations of the responses collected through questionnaire is also shown in the descriptive table. The samples of 340

respondents were collected and the information collected was categorised under 4 components (factors) with the help of principal component analysis in SPSS.

Table 4. Correlations

		Per	M F	Fun	QC
Pearson Correlation	Per	1.000	.339	.316	.308
	M F	.339	1.000	.062	.110
	Fun	.316	.062	1.000	.002
	Q C	.308	.110	.002	1.000
Sig. (1-tailed)	Per	.	.000	.000	.000
	M F	.000	.	.126	.022
	Fun	.000	.126	.	.486
	Q C	.000	.022	.486	.
N	Per	340	340	340	340
	MF	340	340	340	340
	Fun	340	340	340	340
	Q C	340	340	340	340

Per = Performance, MF= Market Factor, Q.C = Quality check

Table 4 shows three important things for the base of regression analysis, in its first set the table shows the value of Pearson's correlation coefficient between every pair of variables as we can see all variables present in set of the table that is market factor, funding and quality check (independent variables) have positive correlation with the performance variable (dependent), r = .339, .316 and .308). The correlation between the predictor variables is low (min 0.165, max 0.43), which is favourable for non-collinearity in the available data analysis. In the second set of the table one-tailed significance of each correlated items is displayed, the significance level, $p < .001$ is accepted. In the above case the values are significant on one tail test. Further, in the final set of the table the number of cases taken in consideration of analysis and the contributing to each correlation is shown (N = 340) is shown.

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Table 5. Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.471[a]	.221	.219	.48638	.221	96.097	1	338	.000	
2	.636[b]	.404	.401	.42610	.183	103.397	1	337	.000	
3	.716[C]	.512	.507	.38660	.041	28.394	1	335	.000	2.146

a. Predictors: (Constant), Market Factor(market factors impact supply of raw materials

b. Predictors: (Constant), Market Factor(market factors impact supply of raw materials, Funding(funding source and its utilization)

c. Predictors: (Constant), Market Factor(market factors impact supply of raw materials, Funding(funding source and its utlization0, Quality Check (quality check of the raw material

d. Dependent Variable: performance of handicraft sector
Prepared by the author using SPSS toolkit

Table 5 shows below the results of statistics, obtained from the experiment. In the column labelled R, the values extracted are the multiple correlation coefficients between the predictors. The outcome value of the R suggests that the correlation between dependent variable and the independent variables. While using only market factor as a predictor (IV), there is the simple correlation between market factor and performance (0.471[a]). when we add more variables in the model the value show change, the value of R changes for every addition of the variable. When all three cases (independent variables) are included for the analysis the R-value is (.716[c]) that means each factor taken into consideration increases the variance extracted in the analysis model [32].

The R^2 is the coefficient of determination R^2 indicating the percent of how much of the total variance is explained by the independent variables. R^2 ranges from 0 to 1. The closer to 1, the better on goodness of fit of a linear model [33] R^2 gives the square of the change in multiple correlation coefficients. The significance of $R^2 = 0.219$ at the time when single variable is entered for the analysis and .512 that means 51.2% of the variation of independent variables (inbound logistics) with dependent variable (performance). When all 3 variables are included in stepwise analysis, the value of R^2 gradually shows incremental change. The value of R^2 in our analysis is $.51^2$ which states that the variance for multiple regressions is above 50 percent and the value reports the strength of the relationship for each variable in the model (Cohen, 1988; Stone, 1974).

Further, Adjusted R^2 is designed to compensate for the optimistic bias of R^2. In the above table adjusted R^2 of the third standardized principal component regression equation is the largest (0.507) and standard error of the estimate is the square root of the residual mean square and measures the spread of the residuals about the fitted line of estimate [34]. In the above table the standard error of the estimate of the third standardized principal component regression equation is the smallest (0.38660) in the three equations respectively. The F value is equal to 28.394 and it is also highly significant (P <.0005). Lastly, Durbin Watson shown in table 5 is statistic number that tests for autocorrelation in the residuals from a statistical regression analysis. The value is between 0 and 4 and Value of 2 means, there is no autocorrelation in the sample. Values approaching 0 indicate positive autocorrelation and values toward 4 indicate negative autocorrelation. In our case it is 2.146 which means there less or equal to is no autocorrelation in the model.

Table 6. ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.830	1	8.830	43.82	.000[a]
	Residual	68.110	338	.202		
	Total	76.941	339			
2	Regression	15.542	2	7.771	42.65	.000[b]
	Residual	61.399	337	.182		
	Total	76.941	339			
3	Regression	18.730	3	6.243	36.03	.000[c]
	Residual	58.211	336	.173		
	Total	76.941	339			

a. Predictors: (Constant), Market Factor(market factors impact supply of raw materials

b. Predictors: (Constant), Market Factor(market factors impact supply of raw materials, Funding(funding source and its utlization0

c. Predictors: (Constant), Market Factor(market factors impact supply of raw materials, Funding(funding source and its utlization0, Quality Check (quality check of the raw material

d. Dependent Variable: performance of handicraft sector
Prepared by the author using SPSS toolkit

Table 6 gives the Analysis of Variance (ANOVA) table giving the sum of squares as the sum of its constituent terms, the residual sum of squares and regression sum of squares respectively [35]. The purpose of test is to verify the usefulness of control variables. The most important part of the table is the F-ratio, which is calculated using equation F =MSM/MSR   (Mean squares for the model MSM and Residual mean square MSR) for these data, For these data, when degree of freedom is 1 (degree of freedom = n-1 = 2-1) for regressor and 338 (degree of freedom = sample size – observations =340-2) for residual F (1, 338) is 43.82. Similarly, when we have all the variables entered in the analysis the degree of freedom (DoF) of the regressor is 3 (4-1) and DoF of residual is 335 (340-4) the value of F (3, 336) is 36.03 and in all cases of the analysis P is significant at $p < .05$. There is strong evidence that null hypothesis are not equal to zero ($\beta1 = \beta2 = \beta3 = \beta4 \neq 0$). [36]. The null (default) hypothesis is always that each independent variable is having absolutely no effect (has a coefficient of 0). Therefore we conclude that our regression model results are significantly better prediction of performance. All together, the regression model interprets that overall predicts performance is significant

Table 7. Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.312	.136		9.626	.000	1.044	1.580		
	Market Factor	.391	.029	.532	13.640	.000	.334	.447	.956	1.046
	Funding	.359	.034	.406	10.608	.000	.293	.426	.993	1.007
	Quality Check	.225	.037	.239	6.131	.000	.153	.297	.954	1.048

Dependent Variable: performance of handicraft sector.

Table 7 gives the coefficient details. The second column of Table 7 gives the non-standardized regression coefficients while the third column gives standardized coefficients (i.e. when we having a zero mean and unity variance) which are used to assess the relative impact of regression on

$$B \text{ or } \beta = 1.312 + 0.391 \, x1 + .359 \, x2 + .225 \, x3 \quad (2)$$

Where, x1 =Market factor, x2 = Funding, x3 = Quality check.

This can be re-written as Y or β represent the change in the performance resulting from a change in predictors (independent variables) and predictors are having a significant impact on the ability to predict the performance as Y (dependent). Further the Y values under the B column of the table tell us about the relationship between performance and each predictor. The value of all the predictors is positive we can infer from it that all three predictors (β-values) indicating positive relationships between independent and the dependent variable. Further, the value of β also tells us the degree by which each predictor affects the performance effect of each predictor is separately discussed in the table. For Market factors the value is .391, Funding .359 and for the quality check value is .225[3]

Hence H_1, H_2, H_3: β ≠ 0 for each variable

From all the above analysis and tests we can obtain a non-linear relationship connecting an average number of non-zero coefficients in the sparse representation per vector. Then the sig.-value in the table gives the probability that |t| > t-stat where t is a t-distributed random variable with 335 degrees of freedom and t-stat is the computed value of the t-statistic which is the coefficient divided by its standard error. Regression analysis compares the t-statistic on variable with values in the t-distribution to determine the P value, which is thing we are really looking presumptuously [37], [38]. The t-distribution describes how the mean of a sample with a certain number of observations is expected to behave. At 95% of confidence the t-distribution is closer to the mean than the t-value on the coefficient we are looking at, at the same time we have a P value of 5%. The real, underlying value of the coefficient that we are estimating falls somewhere in that 95% confidence interval, so if the interval does not contain 0, our P value will be .05 or less. Since the P-value of all the four independent variables or predictors is less than 0.05 at 95% confidence level we can state that all four

predictors or independent variable has some influence on the values of dependent variable (performance). Also from the normalized coefficient values, we can find that variable 1 (market factor) have the most impact on dependent variable (performance) and variable 3 (quality check) has the least among all regressors' which indicates support for the supply of raw material, is most significant in deciding the efficient performance of the handicraft sector[36].

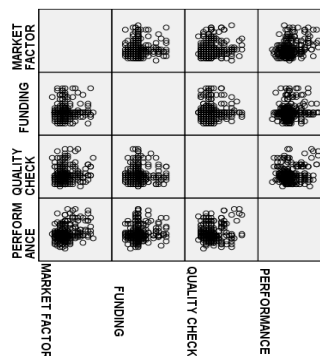*Market Factors<Funding< Quality check*

Figure 2. Scatters Plot Matrix. (Using SPSS tool kit)

To meet the assumption of linear relationship, one should check the matrix scatter plots as shown in Fig. 2 to see if there are curvilinear relationships between variables. The scatter plot matrix shown above, illustrates that the independent variables are positively related to the dependent variable that is performance (CPER), for the support (SUP) variable there is maximum positive relation and for the quality check (QC) least among the selected variables but positively related. The variables are meeting the requirement of linearity assumption.
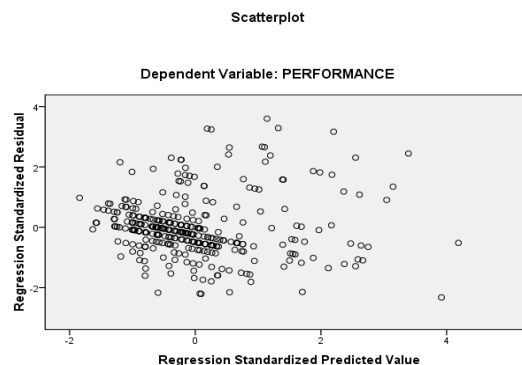

Figure 3 Scatters Plot Matrix. (Using SPSS tool kit

The scatter plot of Z*pred and Z*presid shown in Fig. 3 us that in our linear regression analysis there

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is no tendency in the error terms. This is also an assumption to check, which indicates that the errors are normally distributed, the variances of the residuals are constant, and the residual is relatively uncorrelated with the linear combination of predictors.

6. Discussion

Due to the informal nature of the sector, measuring the non-financial performance of handicraft sector is crucial and complex phenomenon than any other organised sectors. The paper is an effort to bring deteriorating sector of handicrafts into the kind notice. The performance and the status of a handicraft sector according to available literature are deteriorating, more and more small firms are winding-up their business due to the numbness of the sector. Many researchers try to explain many reasons of this decline or we can say the sluggish growth of the sector, we too tried to find out the reason, what actually artisans and workers feel about the slow pace of the sector. A comprehensive multiple linear regression analysis is conducted in order to investigate the impact of factors of inbounds logistics (market factor, funding, quality and check) on the non-financial performance of handicraft sector. The proposed analysis of the data yielded quite useful results though collinearity to overcome the disturbance problems and exposed the facts which are important for the growth of the business. Data of three independent variables: market factors, funding and quality check are taken into consideration aiming to develop model showing the impact on performance (Non-financial) of the handicraft sector which depends on productivity, efficiency, and the flexibility. The parameter of the non-linear model is linearised for testing assumptions of classical linear regression and the assumptions are confirmed for both models. Before the analysis data was tested for the normal distribution with the help of P-P plot and skewness and kurtosis tests, the available data was within the range of (-3, +3). Furthermore, the results of the analysis ware significantly useful for results of F-test at the $_c = 0.05$ level of significance[39]. The determination coefficient of the linear model is ($R^2 = 0.512$) this regression application showed that linear model were the quite appropriate one for the handicraft sector. Durbin–Watson statistics are slightly greater than 2 i.e. (2.14) in the analysis the linear model is identified as best estimation model

because Durbin–Watson statistic result is closest to the 2. Further the analysis finds factors of inbound logistics are quite important for the performance of handicraft sector. In this analysis, the performance of handicraft sector is analysed through regression. Regression Coefficients in the table 4 indicates there is a positive correlation between all three attributes of inbound logistics and performance of the handicraft firms. Which states that the proposed hypothesis are accepted and it is found that the Market factor(s) is the most positively significant contributors to the performance and quality check least positively significant variable. While the conceptual model we tested all hypotheses. The relationships between individual independent variables are analysed in regression coefficient table and the results we derived are. As hypothesized also perceived ''market factors'' has a positive and significant effect on performance. The analysis found that market factor is the most important variable among the selected variables for the efficient performance of the handicraft sector ($\beta= .532$, $t=13.64$ P< 0.05.) support the (H_1) proposition. The funding factor has a positive yet insignificant effect on the performance. We found that Funding perceived the important role in the overall performance of handicraft firms ($\beta= .406$, $t= 10.60$, P < 0.05) hence support the proposition H_2. In addition, the results also revealed that quality check had a positive effect on non-financial performance of the handicraft sector ($\beta= .239$, $t= 6.131$ and pvalue < 0.05 hence H_3 proposition ia also supported by the data[40].

$H_1<H_2<H_3=$ positively significant to the performance

Business application of the analysis is, to provide insight information and guidance for strategic planning for logistics management. Logistics management can reduce the cost and can avail the opportunities for the fair business growth. Further most of the firms whether big or small face intense global competition in today's world. Big organisations somehow have managed to coop with changing need of the market by integrating their own supply chain and collaborate with suppliers to enhance their abilities but small firms like handicraft sector have yet to build a proper supply chain and the logistical system they are still relying on middlemen for the supply of raw material which is an impediment to their own growth. The performance assessment of handicraft sector

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strongly recommends that there is need of proper supply chain and improvement of the factors of inbound logistics through strategies to improve non financial performance. The improvement in factors of inbound logistics will create a good opportunity to review and adjust the supply chain that is the quality of raw materials the market factors affecting supply and the funding aspect of raw materials will build a channel and opportunity to improve and enhance overall performance and competitive advantages of the handicraft sector.

7. Conclusion

This paper contributes to enriching knowledge of the important attributes of inbound logistics, which can be subsequently used to support decision making in analysing the performance of the handicraft sector. The main result found in our work was that performance efficiency seriously and considerably depend on factors taken into consideration that are Market factor, Quality Check and Support Funding. in the study, altogether we can say performance efficiency of handicraft sector hugely depend on the links of supply chain especially of the inbound logistics and any disruption in the attributes of inbound logistics of the firm whether big or small the firm has to face serious performance problems.

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