Contents lists available at Sjournals

## Scientific Journal of REVIEW

Journal homepage: www.Sjournals.com

**Original article**

# The effect of information distribution, and use of it, operational performance, market orientation and financial performance (case study, carrying parts of Markazi Province)

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ARTICLE INFO

ABSTRACT

The purpose of this study was to determine the effects of variables, information distribution, and use of IT operational performance, market orientation and financial performance, and the effects on the distribution of relevant information and applying information technology IT, the financial performance of logistics companies, we, the impact of these factors on operating performance, and market-oriented and how the operating performance and the financial performance of companies are market oriented. Ali and applied research, and the sample of manufacturing companies, small, medium and central provinces. A standard questionnaire was prepared, and its reliability was high, and hypothesis testing results show that variable distribution, and utilization of IT on financial performance, operational and market orientation, has no effect on manufacturing firms.

## 1. Introduction

3part logistics third party logistics is a way in which all or part of warehousing, transportation and distribution organization shall be transferred to another organization. Efficient implementation of a company's financial performance requires that an appropriate logistics network for supply chain activities, the features and functions of their activities, the production and development of a product or service, they should be set. So, today many organizations and industry, most tend to service their logistics outsourcing are (Javanmard, 2004). Third party logistics 3pl, should be in a proper manner, through the use of IT, information systems, and distribution of information to be included in the activities, in order to purchase the desired operation, the provider or seller to fulfill. This study is an attempt to determine the distribution of information and IT, the operating performance and market orientation and financial performance of third party logistics 3pl, be addressed.

## 2. An expression of problem

Nowadays, with the development of relationships between organizations, the complex dimensions of organizational performance, operations, data, business partners, such as buyer and seller, as the main parties, to exchange information and communicate with each other, but the third member called 3pl, that is shared between the two parties, taking into account the needs, information, desires, plans and steps, from manufacturers and suppliers, the customer flows requires. Improve organizational performance, a tremendous force synergies are created, these forces can be the ultimate backup plan and growth opportunities, the financial performance of these companies require good cooperation, and market-oriented approach, operational performance, information systems The Human Resources and Employment, IT, human resources, to avoid conflicts and confrontations spiky in the supply chain. That said, most of the problems are a result of poor financial performance. According to the companies, auto parts, for a time, in a large volume and on a daily basis, the need to have a perfect Logistics system, it is necessary to examine whether in contract logistics company, has managed the company's financial performance, improve or enhance the financial performance of such market-oriented, and information technology, distribution and operational performance, third-party logistics 3pl, is achievable, the examination of these cases, the main problem of the research.

## 3. The importance and necessity of research

Today, financial performance management, third party logistics companies 3pl, in modern organizations and institutions, can be the financial performance of companies on the full distribution of goods and services, the respective relevant. What is considered by management to maximize value-added products, and reduce costs for the company. Due to the complexity of the issues, the large volume of information, Intense global competition, limited units, in conjunction with good decisions, sudden changes in policy, due to a reactive approach to acute problems, and the factors that participate establishment of logistics, third party supplier of 3pl, must have advanced information systems, portability, mobility equipment and materials, and warehousing facilities, to provide full service supply chain, have (Javanmard, 2004). Financial performance evaluation process can help organizations to work to achieve the objectives of each process, and together determine the organization's objectives. In the industrial age, financial performance evaluation methods, based on accounting data, was largely incompetent, because the value creation of organizations, mainly through the use of hardware, the result will be, but now organizations in the information age and knowledge-based economy, are at work in the creation of the world, mainly through the use of intangible assets is thinking. Hence, the mere emphasis on financial measures to evaluate performance, organizations will not work. And the necessity of using a variety of criteria, it is felt. (Dibayi, 2005). In this study, to assess the financial performance of logistics companies, third-party 3pl, to determine the relationship between the three elements of information technology, and distribution of information on the financial performance of 4 to 5, the company will be used. Since the research in the field of logistics, as a third party and its effect on financial performance, looks new.

## 4. Research objectives

Companies for the development of relations between organizations, and the complexity of their relationships to the organization's operations, performance, and data were taken.

Third party logistics 3pl, that the two companies have the information and information systems, the activities take place, in order to purchase the desired operation, the provider, to fulfill (Javanmard, 2004). This study sought to influence the distribution of relevant information and applying information technology on the financial performance of logistics companies are also looking at the impact of these factors on operating performance, and market- oriented and how the operating performance, and market orientation on performance financial companies. Finally, in this study, its purpose is to:

Relationship between factors of IT, and financial performance of a distributed information system, logistics, third party 3pl, is determined with the help of experts.

A suitable method for determining absolute weight and weight -related variables influence each other, and the company's financial performance could be developed.

Relationship between factors of IT, and distribution of information on financial performance, a third-party logistics system, using structural equation should be determined.

Relationship between variables and data distribution, and utilization of IT on operational performance and market orientation, and ultimately the financial performance of third-party logistics 3pl, be determined.

## 5. Research hypothesis

Hypothesis1: the distribution of information on operational performance is positive.
Hypothesis2: the distribution of information on market orientation is positive.
Hypothesis3: employing IT on operational performance is positive.
Hypothesis4: Application Oriented IT market is positive.
Hypothesis5: operating performance on financial performance is positive.
Hypothesis6: market orientation on financial performance is positive.

### 5.1. Research hypotheses to explain the reasons

To examine the effect of each of the variables, the other variables in the model, hypotheses have been developed to separate the effects of each type of variables other deals, because the relationship between the variables of the model, and are defined in this study, as well as the dependence of variables to every relationship, it is also related to a hypothesis, which has been developed, a total of six hypotheses for this study, has been developed.

## 6. Some studies

Place within the city is a study of automotive parts manufacturing companies, took away the second half of 2010.

## 7. Materials and methods

The overall objective of this research method, researchers can determine whether to adopt the ways and methods to make him faster and more accurately will help in achieving the possible responses, which, to the purpose and nature of research, and associated administrative facilities. Study was to investigate the nature and objectives of causal research is considered as one, so, gathering data on perceptions questions, survey, field study, and measured by the question, or item has been in the form of questionnaires, and study library, and refer to books, magazines, the Internet and various sources, and taking notes from them organized, and the information required questions, is available.

In the present study, an attempt has been made, using descriptive statistics and inferential questions required to be obtained, so the impact of service orientation on job satisfaction and citizenship behavior of employees may be evaluated.

**8. Population**

Survey, all managers and experts in small manufacturing companies, and medium are in Arak city.

**9. Sampling**

Sampling in this study, given that the population of people, including employees of small manufacturing companies, and medium-sized city of Arak, a simple random sampling method is used. In this method, we first calculate the total volume of the sample, and then people are randomly selected to be simple. Due to data analysis, structural equation modeling is used in this method, a sample size of between 5 to 15 times the numbers of questions is determined. In other words, the formula $q15 \geq n \geq q5$, where q number of questions and n is the number of samples is used. In this study, given the number of questions, the 18 is the sample size must be at least 90 and at most 270 is. No. 105 questionnaires randomly in the population, was distributed 93 questionnaires collected were.

**10. Tools for data collection**

In the present study, due to savings in time, cost and manpower questionnaire as the main instrument for data collection was used. Questionnaire, a common research tool, and direct method to obtain research data, which is written as an interview, the respondent, the interviewer, and the interviewee. In this paper, based on the proposed model, Patrick Jeffers has been made to the questionnaire of 18 questions referring to Patrick Jeffers questionnaire has been conducted, the financial performance variables, the three questions, the third question, operational performance, market orientation, with 4 questions distribution with three questions, applying iT with 5 questions. well as the response option, the 5 -choice Likert scale was used.

**11. Methods of data collection**

In one study, there are ways to obtain needed information; the investigator should have among them, the best method to choose. In this research, fieldwork and library research methods have been used, as a basis for developing the research literature, books, magazines, the Internet, and various other sources are presented, and using the information obtained, the research questions in the questionnaire, has been questioned.

**12. The conceptual model**

Based on what was presented in the theoretical framework, it is a different idea, a conceptual diagram presented in Figure 1.
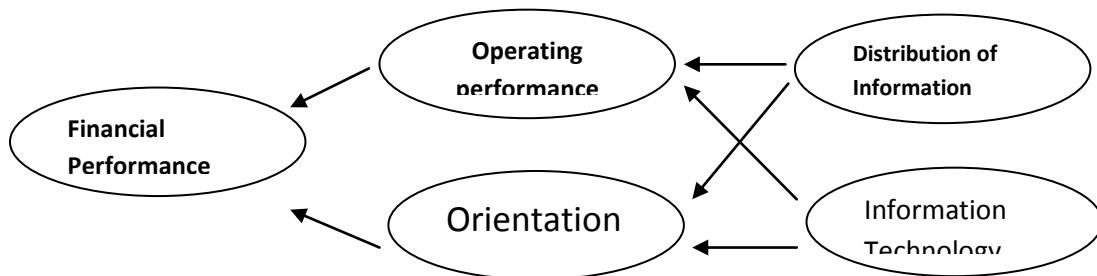


**Fig.1.** conceptual model (Jeffers, 2009).

As the conceptual model can be seen in Figure 1-1, variable distribution of information and information technology as an exogenous variable issue and variable operating performance and market orientation, intermediate endogenous variables, and financial performance variables, as the variables CSP will be considered final. In this conceptual framework, a number of exogenous variables and endogenous variables, middle, and end is one of the endogenous variables. Explanation: The variable is exogenous variable, which is unaffected by any other variable, and other variables will impact only, and the endogenous variable is a variable, other variables is affected.

### 13. The reliability of measuring instruments

Trustworthiness and reliability, the technical characteristics of the measuring instrument. These concepts, it is concerned with the measurement tool in the same conditions; the same results can be achieved. In other words, the reliability of the questions contained in the questionnaire as a measure of the ability of concepts and variables must be approved.

Reliability study, or reliability of a test, ie that the same conditions, do multiple copies it will produce the same result, and no change in the fundamental properties, which are not observed. Indeed, to what extent, respondents' perceptions of the questions were the same.

To evaluate the reliability of a questionnaire, there are different ways, and one of the most important alpha, which is used to calculate the internal consistency of the questionnaire. In these tools, answer any questions, be different values, is provided. Questionnaire to determine the total number of 30 questionnaires were collected and distributed in the population. After calculating by Lisrel, alpha value, financial performance, with 3 questions in 0.715, 3 Q Performance 0.722, orientation with 4 Q 0.781, to distribute the 3 Q 0.813, using IT with 5 Q 0.788, respectively, and indicate that the reliability of the questionnaire, is acceptable.

### 14. Valid instrument for measuring

The concept of validity and reliability, to answer that question, to what extent the measurement instrument, which measures the desired characteristics. Without knowledge of the validity of measurement instruments, can not be accurately obtained from it, had confidence. The measuring instrument is possible to measure a particular attribute is valid, but the assessment of other property, other than any credit society is not.

Since the standard questionnaire, Patrick Jeffers made of paper, then translated and distributed 20 tons, were experts in population, and the amendments approved by the faculty, advisors has been matched to the upper limit of validity can be trusted.

### 15. Methods of data analysis

After data collection, and data bases using descriptive statistics, indicators related to the derived variables, and is illustrated in the tables. In this study, using structural equation modeling, and software to help LISREL software, version 8.50 of the confirmatory factor analysis of statistical data, is used.

### 16. Structural equation modeling

LISREL, or structural equation modeling, a multivariate analysis technique is very general and powerful families, multiple regression, and strictly speaking, is an extension of the general linear model. The researcher, allowing a set of regression equations, so the time can be tested. Structural Equation Modeling, a holistic approach to test hypotheses about the relationship between observed variables and latent, that sometimes structural analysis of covariance, and sometimes LISREL causal modeling, has been called, but the dominant term these days, Equation Modeling structure, or the end, is summarized.

Application of structural equation modeling: Structural equation modeling, while unknown coefficients, a set of linear structural equation estimates, for fitting models that include latent variables, measurement errors, each of the independent and dependent variables, two-way causality, concurrency

and interdependence is is designed. However, this method can be viewed as special cases for confirmatory factor analysis, multiple regression analysis, path analysis, time-dependent data for a specific economic models, models of reversible and irreversible data for cross / longitudinal covariance structure models, analysis of a sample (such as equality hypotheses covariance matrix, the correlation matrix equality, the equality of equations and functional structures, etc.) apply to.

Lisrel software: This software uses the correlation and covariance measured values can factor loadings, and error variances to estimate or infer latent variables and can be run from the exploratory factor analysis, second order factor analysis, confirmatory factor analysis and path analysis. (Causal modeling with latent variables) can be used.

Confirmatory factor analysis: In confirmatory factor analysis, the researcher developed a model to follow, it is assumed, relatively little empirical data based on several parameters, described, explained or explained. This model is based on empirical information about the data structure that can form: ) a theory or hypothesis,) a classification scheme specified for the item or part of the tests, in accordance with objective characteristics of form and content ) ascertain the condition of the experiment, and ) the knowledge gained from previous studies about the data is sufficiently large, confirmatory factor model approach, trying to be statistically significant given a factor model, test, and we define, do you have a sample data model, confirmed or not?

The fitness test: Although a variety of tests, the so -called general fitness indicators continuously compared, are developed, but still the best single test, there is no consensus. The result is that, in various articles, several measures have been proposed, and even versions of popular programs, SEM, such as LISREL software, a number of indicators of fitness, to lose . Indices have been classified in various ways, of which the most important are classified as absolute, relative and has modified. Some of these factors include:

GFI and AGFI indices: Index GFI, the relative amount of variance and covariance, the model is so common that assessment. Range GFI, is between zero and one. The GFI, must be equal to or greater than 0/90. Other fitness indices AGFI, or the same amount of modified GFI, the degrees of freedom. This feature is equivalent to using the mean square, rather than square, the numerator and denominator (1 (GFI- is. Values of this index, is between zero and one. Indices GFI and AGFI, do not depend on sample size.

RMSEA5 Index: This index is the root mean square approximation, the parameters for the models, well, equivalent to 0.05 or less. RMSEA models that are 0.1, have poor fit. Chi- square (chi-square), the hypothesis of the model, consistent with the pattern observed The diffraction variables, Is measured, chi-square quantity is highly dependent on sample size, and the large sample chi-square quantity than what it could be the wrong model, the increase

NFI and CFI indexes: Index NFI, Bentler - Bount index also called for high values of 0.90 acceptable, and Mark fitness model. CFI indices greater than 0.90, acceptable and Mark fitness model. This index, by comparing so-called model -independent, which is no interaction between the variables, the model considered, the amount of improvement Is measured. CFI index in terms of meaning, such as NFI, with this difference, that the volume of sample is fine (Homan, 2005).

Hypothesis testing the structural model, the impact of service orientation on job satisfaction and citizenship behavior of employees

Diagrams coefficients, and the value of T in Fig 2 and 3 are provided, based on the results and data are presented.
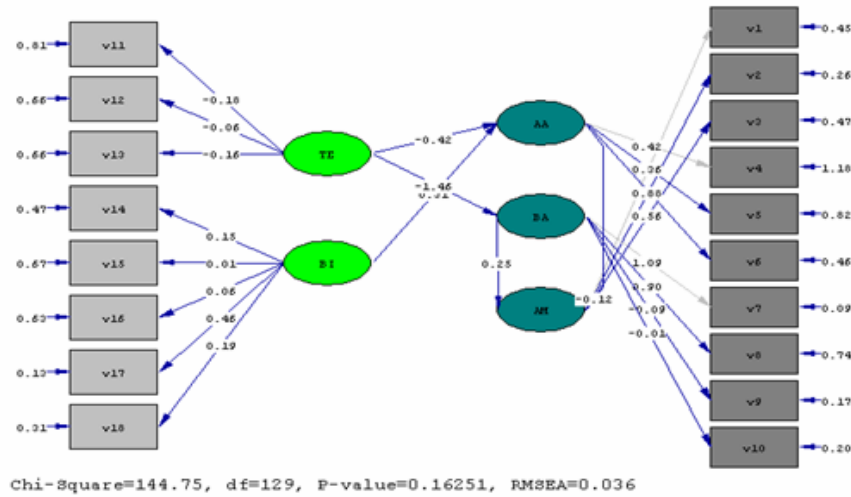
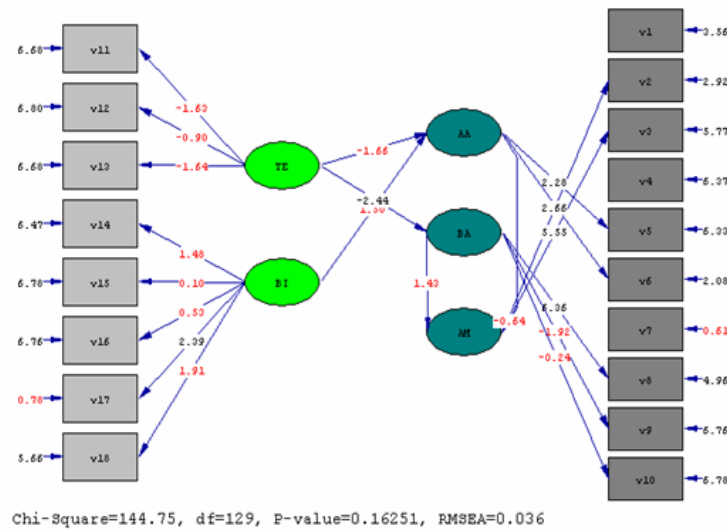**Fig.2.** Estimated magnitude of each coefficient.



**Fig.3.** Diagram of the T -statistic for each coefficient.

Hypothesis1: distribution has a positive effect on operational performance.

According to SEM analysis, path coefficients, information distribution and operational performance and -0.42, -1.66 is that the t-value. Given that, the t-value is between 1.96 and 1.96 - Hypothesis 1 is not confirmed. On the other hand, information distribution, operational performances not affect effect.

Hypothesis2: distribution, market orientation has positive effect on performance.

According to SEM analysis, path coefficients, information distribution and orientation of -0.44, -1.44 and the t-value it is. Given that, the t-value, between 1.96 and is -1.96, hypothesis2 cannot be verified. On the other hand, information distribution, performance, market orientation has a negative effect.

Hypothesis3: The use of IT, has a positive effect on operational performance.

According to SEM analysis, path coefficients using IT, and operational performance of the product, 0.31, and the t-value is 1.50 respectively. Given that, the t-value is between 1.96 and -1.96 hypothesis 3 cannot be verified. On the other hand, use of IT, operational performance not effect.

Hypothesis4: Performance, positive effect on financial performance.

According to SEM analysis, path coefficients, operational performance, financial performance and -0.12, -0.64 is that the t-value. Given that, the t-value is between 1.96 and -1.96 hypothesis 4 cannot be verified. On the other hand, operational performance, financial performance, not effect.

Hypothesis 5: orientation has a positive effect on financial performance. According to SEM analysis, path coefficients between market orientation and financial performance 0.25, the t-value is 1.43 respectively. Considering the value, t-value is between 1.96 and -1.96 hypothesis cannot be confirmed 5. On the other hand, the effect of market orientation on financial performance not effect.

Table1. Summarizes the results of hypotheses testing are:

**Table 1**
Table hypotheses research model.

| As hypothesized | Path coefficients | t-value | Test Result |
|---|---|---|---|
| Hypothesis 1: distribution has a positive effect on operational performance. | -0.42 | -1.66 | Rejection |
| Hypothesis 2: distribution, market orientation has positive effect on performance. | -0.46 | -1.44 | Rejection |
| Hypothesis 3: The use of IT, has a positive effect on operational performance. | 0.31 | 1.50 | Rejection |
| Hypothesis 4: Performance, positive effect on financial performance. | -0.12 | -0.64 | Rejection |
| Hypothesis 5: orientation has a positive effect on financial performance. | 0.25 | 1.43 | Rejection |

Hypothesis that the t-value, the greater than 1.96 are confirmed, the hypothesis that the t-value them, between 1.96 and -1.96 are rejected, and the hypothesis that the t-value, the smaller 1.96 - are also be rejected, but in the opposite direction, are influential. (Test with a confidence level of 0.95 is significant.)

## 17. Results

Results of hypothesis: First hypothesis: the distribution of information on operational performance has a positive effect, was rejected due to structural equation coefficients, path coefficients, information distribution and operational performance and- 0.42, -1.66 is that the t-value. Considering the value, t-value is between 1.96 and -1.96 hypothesis 1 cannot be verified. Therefore, can not disseminate information, increase operational performance of the company is. Distribution of information, does not impact on financial performance, and it seems, corporate financial performance, is related to other factors, such as internal costs, or the manner and process of making, not to distribute information in networks, supply of materials and components, so the results indicate that hypothesis, financial performance and increasing its distribution does not depend on.

Results of hypothesis: Market orientation distribution of positive effects, such as the first hypothesis is rejected, according to SEM analysis, the distribution of the path coefficients and t-value amount The market orientation -0.46 -1.44 it is. Considering the value, t-value between 1/196 and -1.96 is H2 not confirmed, and it seems, market orientation of companies, by other factors, such as: advertising, design and product quality, and.. Increases, rather than through the distribution of information materials and parts supply network. On the other hand, orientation distribution function, has a negative effect.

Results of hypothesis: The use of IT, has a positive effect on performance, it was rejected because, according to the coefficients of the structural equations, the path coefficients using IT, and operational performance, the product of 0.31, and the t-value, the 1/50 respectively. Given that, the t-value, between 1.96 and -1.96 is, Hypothesis 3 is not confirmed, use of IT, does not affect the operational performance

and looks, operational performance, and other factors such as ergo meter Timing repairs and maintenance, interest, and is related to quality management.

Results of hypothesis: Operational performance, financial performance is positive, it was rejected because, according to the coefficients of the structural equations, the path coefficients operational performance, financial performance, and the t-value of the -0.12, -0.46 is. Considering the value, t-value is between 1.96 and -1.96 hypothesis 4 cannot be verified., And expresses the concept that the operating performance of financial performance is not affected, it seems the financial performance of companies, other factors such as costs, domestic firms, corporate acquisition and allocation of resources, not the operational performance of the supply network.

Results of hypothesis: Orientation, has a positive effect on financial performance, is rejected because, according to SEM analysis, path coefficients between market orientation and financial performance, 0.25, and the t-value, the 1.43 respectively. Considering the value, t-value is between 1.96 and -1.96 hypothesis 5 cannot be verified.

In other words, market orientation does not affect the financial performance and corporate financial performance, it seems, other factors, such as accounting information, and analyzing financial statements, profitability ratios and activities such as the medium-term, and long-term process production and investment on information systems, the flow of information, or other related issues, not to increase financial performance materials and parts supply network depends.

## 18. Recommendations

### 18.1. Suggest an industry study

A) Based on the assumptions, it was determined that financial performances, the variables studied in this thesis, is irrelevant, therefore, firms in the industry, current position, have to increase their financial performance, and other categories, such as cost reduction to accurately project profitability and investment on an information system, if the flow of information, or solving other problems, do not become effective for improving financial performance.

B) Based on the results it has been found that the orientation of the company, not related to the diagnosis of the index case, and orientation in other ways, such as advertising, design and product quality, etc., may be increased. Investments in information systems, IT, market orientation is not effective, perhaps one of the reasons for failure, lack of IT, customers are industrial companies.

C) operational performance, the dependent variables, Information Systems and IT, the industry is not about action research, the traditional DOTS is performed, and therefore focus on other techniques and management practices, the operations, the effect of more the focus on information and IT is. It is recommended to do such things as measuring and timing, maintenance, utilization and quality management attention.

Of Proposed future research

A) According to the present hypothesis rejection, causes no impact on financial performance, market orientation and operational performance is investigated. This research is focused on manufacturing industries.

B) Variables and factors on each of the financial performance, operational and market orientation should be identified and investigated.

Of restrictions

A) Limitations of the study

- Research in the field of manufacturing industries, small and medium done, and may not generalize to other industries.

- The research is limited to attitudes, a questionnaire, and it is possible to obtain accurate data in the industry, did not confirm these results.

- Research Limited, attitudes questionnaire, and may obtain detailed data on the industry, not confirmed these results.

B) Barriers to research

- Distribution of the questionnaire, the respondents' lack of cooperation with the researcher to build trust and cooperation, so much time has been spent.

- In the context of the relationship between variables, there were very few resources and research, and time consuming, very few sources for the second season, and was on hand to do an imitation.

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