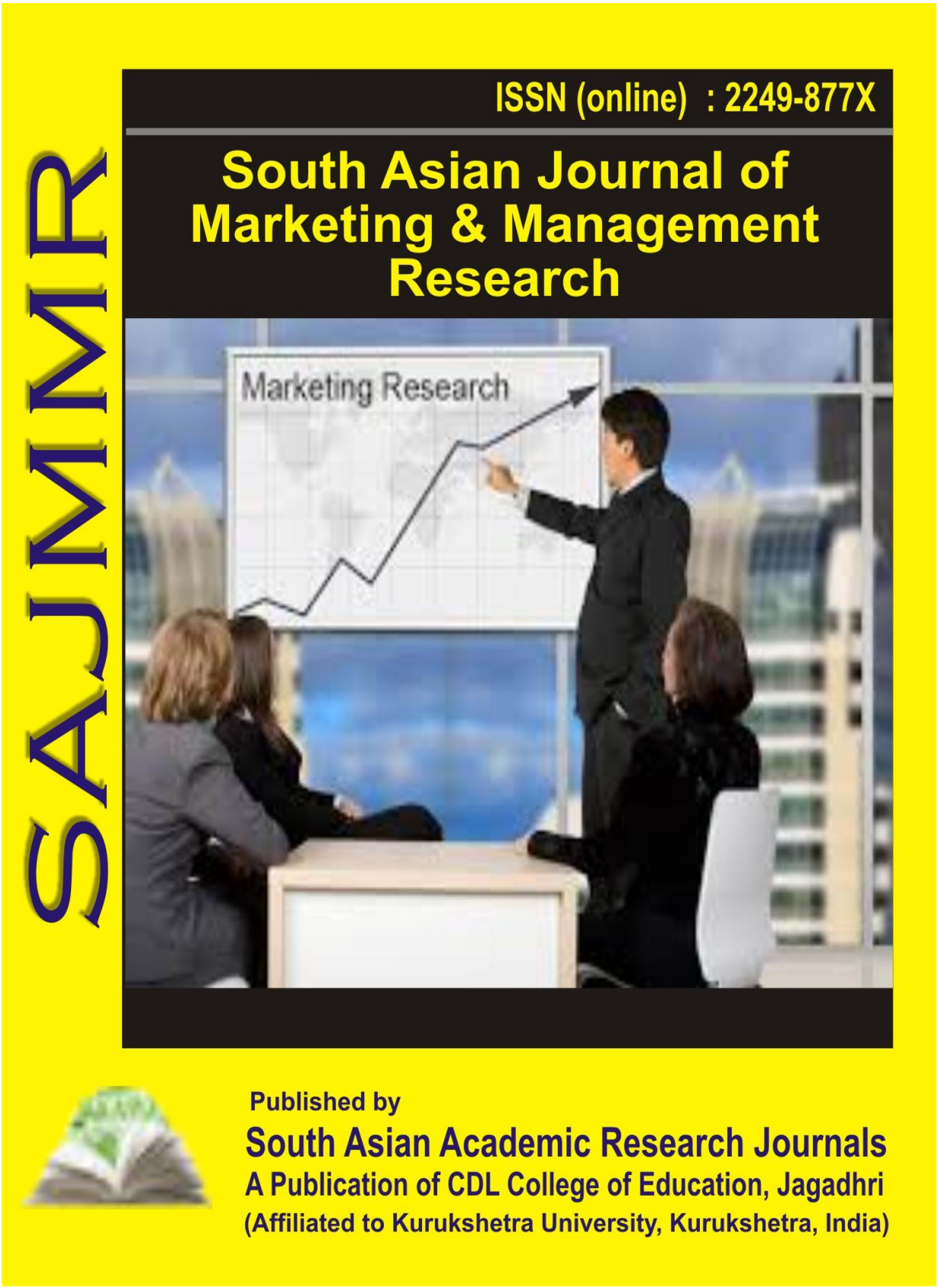
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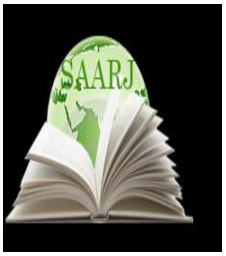

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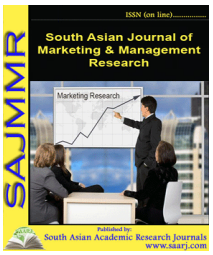

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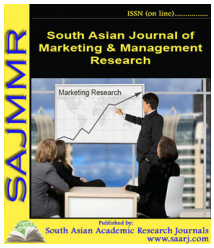

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EFFICIENCY OF RISK MANAGEMENT IN COOPERATIVES SOCIETIES

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ABSTRACT

The people are achieving equal aims and goals have forming Cooperatives Society. It access to capital market for poor, middle class and illiterate people. Risk management always has been included, but different stakeholders most critical of all risks faced by depository institutions. Though regulatory prerequisite imposed to Cooperative has not standard as imposed to banks by central bank, and the number of risk has been observed in this sector. Along with the horizontal and vertical growth of Cooperatives, it diluted the ethical practices, and resulted issues, such as adverse selection problem, lack of transparency and poor governance system. Credit risk management of Cooperative does not seem to be satisfactory so, concern authorities should select an appropriate credit risk management systems and management should give emphasis for credit risk management. risk variables are significantly associated with financial performance, efficiency, and organizational factors. A huge discrepancy on sizes of activities between the Cooperatives, unanimous regulatory direction for policy reform may not be effective for this sector.

KEYWORDS: *Cooperatives Societies, Risk and Credit Risk, Work Efficiency, Risk Management*

INTRODUCTION

Nepalese Cooperative movement began with the objectives of uplifting the Socio-economic status of the underprivileged rural people. Government of Nepal has established the Department of Cooperatives in 1953 to promote and assist the development of Cooperative. That could improve the living standard of people mainly in rural areas. Up to the end of fiscal year 2017/18, there were 6,305,581 members in 34,512 Cooperatives and the cooperatives providing more than 18% of total banking services and contributes more than 3% of total GDP of Nepal. As mainly poor and illiterate people from rural areas become members in a Cooperative society, they get access to capital with benefit sharing. However, some from highly recognized business houses

mostly in urban areas also join Cooperatives. Up to the data of mid July 2017, Cooperative Societies have 73,178 million rupees share capital, they have collected 302,164 million rupees as deposit, and they have provided 274,154 million rupees loan to their members (Department of Cooperatives, 2018). The sector has provided 60,517 persons direct employments and millions of indirect employments. A cooperative has increased due to capital access, risk sharing and Community support. Currently Cooperative has become a wonderful model of private business in urban area. This has encouraged a caution for ethical issues such as adverse selection problem, lack of transparency, misuse of funds, poor governance system, Due to those reasons, there is a precise need of awareness practices, and regulation of Cooperative norm has become more challenge.

The concept of Cooperative movement was initialed for rural economic development. Initially, Department of Cooperatives faced several problems such as lack of legislative framework, poor consciousness of the people towards Cooperatives, lack of educated human resources and unknown operational methods. But mushrooming growth took place of Cooperative after restoration of democracy in 1990. In 1992, new cooperative act was enacted, and democratic government of Nepal adopted liberal economic policy (Sharma, S. R.2006). Department of Cooperatives under Ministry of Cooperatives and Poverty Alleviation was regulating the overall functioning of Nepalese Cooperatives. Though, there are different division offices and training centers across the country increasing cooperatives density, few numbers of division office staff, poor institutional arrangements, lack of standard regulation system have caused cooperative regulations less effective. In this context, the Government of Nepal has identified Cooperative as a pure community organization with strong faith on self-sustaining and democratically governed (Bharadwaj, B. 2012).

The Cooperative practitioner and movement activist of Nepal, we have experienced that operation directed by Cooperative rules and regulations, and acts, rather dominated by attitudes of Board of Directors and core executives. Annual General Meeting (AGM) is the supreme body of cooperative society. Each member should actively participate in the AGM and business affairs of cooperatives. Attendance of members in AGM is very poor, and the board members and executive who take AGM as a burden, try to carry as only for legal formality. Fewer the cases, mostly board members do not have proper education and experience of Cooperatives. This has given some influential and assertive board members and managers to exploit member's fund. The management dominated by board directors pretends that the Cooperative is one of their own private businesses. Major portion of balance sheet of Cooperative is figured out by the loan and advance portfolio. Nepalese Cooperatives lack comprehensive risk management system, and credit risk is a major concern for lender worldwide as it is the most critical of all the risks faced by a depository institutions.

The Cooperatives have establishing under act of saving and credit (SAC) and multipurpose Cooperative (MPC) as financial intermediaries in financial sector of Nepal. But they are neither financial institutions nor stock companies subjective to central bank's regulation. As financial intermediaries, they transfer financial surplus form surplus units to deficit units in financial sector. Cooperatives operate in a number of prioritized and marginal sectors of the economy such as a small farmer group, group of traders from same industry, or real estate traders, business house staffs, school/college staffs, community members, and so on. Those financial surpluses are further utilized for real investment, therefore, fund intermediation done by Cooperatives influences the number of economic indicators such as money supply, interest rate, inflation,

investment, output, employment and living standard of people in marginal and priority sectors of economy (Mishkin, F. S.1992).

Though default on credit causes direct harm on firm, qualitative risk management focuses multiple aspect for making healthy and sustainable credit, and its risk management. Health of depository institutions is affected by a number of operational risks such as investment risk, solvency risk, liquidity risk, etc. Depository institutions are highly levered firm due to the presence of large portion of debt from deposit in its capital structure. Thus Basel system has imposed in banking sector by regulatory authorities in number of countries such as Nepal. This helps to maintain a proper amount of adequate permanent capital in depository institution and prevent from firm default arises through debt default risk. But in case of cooperatives such provision is not applying, and it is crucial to investigate the capital adequacy of cooperative to seek long term insolvency strength of cooperative societies. Moreover, regulators and practitioners have advocated risk management as a governance system and transparency control practice applicable across all industries (ISO, 2009).

LITERATURE REVIEW

According to Oxford Dictionary risk is a situation that could be dangerous or have a bad outcome (Oxford Dictionary, 2005). Risk refers to any event or issue that could occur and adversely impact the achievement of the organizations political, strategic, and operational objectives. Risk, then, is as much a potential missed opportunity as well as potential threat (UNESCO, 2010). Neither an intermediary nor a market maker will be perfectly hedged against all risks, and thus, its investors will bear an array of financial risks associated with the institution's activities. The risks borne by these financial institutions can be broken into five generic types: systematic, credit, counterparty, operational, and legal. The role of depository institutions has to improve the efficiency of financial markets. Depository institutions such as banks or Cooperatives were always faced with different types of risks that may have a potentially negative effect on their business. Risk-bearing has a natural aspect of banking service rendering firms, and without a doubt, profits has the reward for successful risk taking in business. Risk is exposed to of different degrees risk and different types. Risk has different meanings for various situations. No one can eliminate all risk, that's why we just try to minimized or reduce the negative effects of risk. Risk has the possibility that something harmful or undesirable may happen. This should include harm, injury or abuse to the organization's clients, volunteers, board members, employees, property or reputation (George, S.,& Santomero,O. A. M, 1997).

Types of risk: The risk arises from the occurrence of some expected or unexpected events in the economy or the financial markets. Risk can also arise from staff oversight or internal dimension of firm, which destroy in asset values and, consequently, reduces the firms' intrinsic value. Risk can be listed in to credit risk, market risk, liquidity risk, operational risk, leverage risk, investment risk, etc. Again, all the risks can be decomposed into further sub-classes. There are arithmetically three types of risk, viz. market risk, credit risk, and operational risk to arrive at the overall risk estimate. Basel II etc. have outlined three types of risk: Market risk, Credit risk and Operational risk. Cooperative banks have identified five major risk categories as: credit risk, market risk, operational risk, reputational risk and liquidity risk (Constantinescu, C., Mattoo, A. & Ruta, M. 2015).

Market risk has the risk of change in value of asset with new systematic factor plays role in the market. Such types of risk hit mostly investment banker, and market price of stock of depositary institutions.

Market risk is loss due to on or off balance sheet activities done banking service providing institutions. Market risk by its nature can be hedged but cannot be diversified away completely. Market risk is the risk originating in instruments and assets traded in well-defined markets. It is of two types; interest rates risk and risk of change in value of foreign currencies (Santomero, A. M. 1997).

The Basel Committee on Banking Supervision defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk, but excludes strategic and reputation risk. Operational risk arises during the operation of activities of depository institutions. It includes a number of examples, such as a check incorrectly cleared, failure of the information technology system, incompetency or wrong posting of personnel, etc. Operational risk is losses include internal frauds such as theft or external frauds such as natural disasters or system related failures like machine related disruption, and other technological breakdowns. However, operational risk is harder to quantify and model than market and credit risks. Improvements in management information systems and computing technology have opened the way for improved operational risk measurement (Jalan, B. 2002).

In addition, market liquidity integrates key aspects of volume, time, and transaction costs. Liquidity risk relates to the depositary institution's ability to meet its continuing obligations, including financing its assets. It is the risk of loss record or of failure to accomplish estimated liquidity needs resulting from the incapacity of Cooperative banks to cope with the decrease of funding sources Liquidity risk is the risk of loss or failure to accomplish anticipated liquidity needs resulting from poor capability of banks to cope with the decrease of funding sources. Nikolaou has discussed three main liquidity concepts such as central bank liquidity (i.e. ability of the central bank to supply the liquidity needed to the financial system), market liquidity, and funding liquidity for aggregate financial system where banks are key player of economy, and central bank is a key regulator (Nikolaou, K. 2009).

Credit risk is the risk of record loss or failure to accomplish estimated profits due to non-fulfillment from the counterparty of its obligations stated in the contract. It is the potential that a contractual party will fail to meet its obligations in accordance with the agreed terms (Brown, K.,& Moles,P. (2011). Default risk is the likelihood of nonpayment of debt maturity. Failure of payment is declared when the scheduled payment was not made in a minimum period from the due date. Economic failure occurs when the economic value of the debtor's assets falls below the outstanding liabilities, which may not pay back debt. Exposure risk is risk of exposure quantifies uncertainty on the collection of amounts borrowed. If the loan is repaid under a firm contract program, the risk of exposure can be considered low or negligible. Unfortunately, this is not true for all lines of credit. If committed credit lines allow the debtor to access these lines whenever desired, according to his needs and a maximum limit set by the depositary institution so the depositary institution's risk exposure in this situation is considerable. Recovery risk is the risk of default in which recoveries are not expected. The extension of credit has always been at the core of banking operation, and applied both to the loan and investment portfolio (Arunkumar & Kotreshwar, 2006).

Credit risk has the single largest risk most depositary institutions or face and arises from the possibility that loans or bonds held by a depositary institution will not be repaid either partially or fully. Credit risk was often synonymous with default risk. Due to this risk, there is uncertainty of net-income and market value of equity arising from non-payment and delayed payment of principal and interest. Similarly, trading book credit risk arises due to a borrower's inability or unwillingness to discharge contractual obligations in trading contracts. This can result in settlement risk when one party to a deal pays money or delivers assets before receiving its own assets or cash, thereby, exposing it to potential loss. While a part of the credit risk is diversifiable, it cannot be eliminated completely. Credit risk means a risk resulted from inability of facility receiver in payment of the obligations to depositary institution and/or risk of non-returning of original and profit amount of investment which caused decrease in current value of firm's assets (Altman, E.,& Saunders,A. 1998). It is also described in-depth in the upcoming topics.

Risk Management: UNESCO state that, the risk management is the process of identifying, assessing, acting on, understanding, and communicating risk has through a systematic approach. Reliable operation of a depository firm is founded by how risk management practices and procedures have been followed within organization (Shafiq, A.,&Nasr,M. 2010). Though risk management is mostly term for the producers, within an organization, it has followed to protect itself, its staff, its clients, and its other stakeholders. It is an ongoing process and important part of planning of every business. The risk management should framework to reduce or eliminate the risk of certain kinds having a shock on the business (Six, K.,& Kowalski E, 2005).

Risk management designs and implements effective control mechanisms in any organization that prevents and mitigates risks. Different risk management frameworks have been developed to effectively manage and mitigate unforeseen risks such as the Basel framework, PEARLS framework, etc. a risk management system composed of different guidelines aimed at efficiently managing risks. An effective risk management system should take into consideration all the critical risks involved in the process of a business. Management of risk in banking sector is effected by different factors such as technology, corporate governance, human capital and regulation (Ciuci Consulting, 2010).

Process of Risk Management

Depositary institutions or Cooperatives having banking role have to make banking system sound through diversify the risk. Therefore, it is necessary to deal with all kinds of risk related with banking for them. Risk management is main as well as important function of depositary institutions. It is the course of identifying risk and controlling them; i.e. keeping the risk at acceptance level. It contains identification, measurement, aggregation, planning and management, as well as monitoring of risk components within banking operational scope (OeNB & FMA, 2004).

Risk Identification: It is the process of identifying risks that could potentially prevent the program, firm, or investment for achieving its objectives (Project Management Institute, 2008).

Risk Analysis: Risk analysis is the comprehensive function of risk assessment, risk characterization, risk communication, risk management, and policy relating to risk (Wikipedia). Risk analysis process consists of two components quantitative analysis and qualitative analysis. Quantitative analysis consists of analysis of financial and statistical data available from the day to day and record keeping system of any organization; the analysis of annual financial statements

has a central position in this context. Qualitative analysis is done through the expert, experience and management skill of executives.

Risk Control: There must be an appropriate mechanism to regulate or guide the operation of the risk management system in the entire organization through a set of control devices. These can be achieved through a host of management processes such as assessing risk profile techniques regularly, analyzing internal and external audit feedback from the risk angle, and using it to activate control mechanisms (Oldfield, G. S.,& Santomero, A. M, 1997). The credit union should establish and communicate control limits through policies, standards, and procedures that define responsibility and authority. The credit union should adjust these management tools if conditions or risk tolerances change. Further, the credit union should implement a process to authorize exceptions or changes to risk limits if warranted.

Risk Monitoring: The importance of monitoring risks is to make sure that they can be managed after identification. The SAC play an increasingly important role in local financial economies. SAC or MPC has high competition for customers and resources with micro finance institutions and other commercial bank therefore they require effective and efficient risk control systems.

Methods

This study tracked neither of philosophical patterns purely nor ideological pattern. The philosophical postulation behind doing any rigorous study is based on researchers' background (Wolf, H., &Pant, 2002). The research process usually starts with a broad area of qualitative and quantitative approach, but especially use in mixed methods. This study have mind set about his or her thought, norms, value, belief, etc. created through attributes of environment such as study, culture, work experience, people, socio-political dynamism, etc.

where she or he inherited. It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner (Collins, H., 2011). Positivist paradigm relates to business studies to a greater extent compared to other disciplines. This is because business relationships are just perceived as aggregation of relationships between individuals within and between firms and positivism is one of the most suitable approaches to study the nature of relationships.

The capital city, people from all around the country are living and working in Kathmandu. The demographic and economic heterogeneity gives resonance strata to do sampling, so Kathmandu district has selected as study area. It represents all varieties of Cooperatives such as small, medium and large, multipurpose (MPC) and saving and credit (SAC), women, agricultural, business, trade, etc. Studying the whole number of cooperative is quite unrealistic. Sample size is determined around 10 percent of total number of Cooperatives of Kathmandu assuming the year 2009 i.e. base sample year. Out of this sample size, 91 cooperatives are SAC, and remaining 35 are MAC. Sample is taken from the same sample for 5 years' time series secondary data from 2009 to 2013 for each cross sectional observation. Year 2009 represents the Nepalese fiscal year 16th July 2008 to 15th July 2009, and respective years represent in respective way. One questionnaire was filled by one respondent of each 126 sampled Cooperatives.

The study has used both primary and secondary surveyed data. The data collection procedures, objectives of data collection, data variables are collecting information by submitting structured questionnaire for respondent Cooperative society. Interviews were conducted with managing directors and senior staff, the questionnaire was categorized in six different parts: board

information activities, operational activities, organizational setup, loan investment procedures, and risk and credit risk management.

Discussion and Analysis

This study has collected subjective and categorical respondent opinion. Categorical data has analyzed by frequency distribution and percentage distribution. Register or secondary data has used for quantitative in nature. This information has analyzed by using different tools and techniques.

Descriptive Analysis: Descriptive analysis uses descriptive statistics to describe the simple summaries about the data in a study. Descriptive statistics helps us to simplify a large amount of data in a sensible way. Descriptive analysis in this study has been done by using different statistical tools such as distribution analysis, measurement of central tendency, and dispersion.

Financial Ratio Analysis: Financial ratios are mathematical comparisons of financial statement accounts or categories. These relationships between the financial statement accounts help investors, creditors, and internal firm management understand how well a Cooperative is performing and areas of need improvement. Ratios are just a raw computation of financial position and performance (Penman, S. 2009). Following three categories of ratio have been analyzed in chapter five and estimated as:

Profitability Ratios

Net Profit Margin (NPM): NPM is a ratio of profitability calculated as after-tax net income divided by total operating income which includes all interest income and noninterest income from different sources. It shows the amount of each rupee operating income from different sources left over after all expenses have been paid. A higher net profit margin means that a company is more efficient at converting operating revenues into actual profit (Thapa, K. 2012). In equation form it can be express as:

$$NPM = \frac{NetIncomeAft\ \ erTax}{OperatingIncome} = \frac{NetIncomeAfterTax}{InterestandNonInteresIncome}$$

Net Interest Margin (NIM): NIM is a measure of the difference between interest income generated by cooperatives and the amount of interest paid out to their lenders (e.g. deposits), relative to the amount of their interest-earning assets (Thapa, K. 2012). In mathematical expression it can be written as:

$$NIM = \frac{NetInterestIncome}{EarningAssets} = \frac{InterestIncome\ \ -InterestExpenses}{Loan\ +OtherInvestment}$$

Return on Assets (ROA): ROA is the ratio of annual net income to average total assets of a business during a financial year. It measures efficiency of the business in using its assets to generate net income. ROA indicates the number of rupees earned on each rupee of assets. Thus higher values of return on assets show that business is more profitable (Brealey, R. A., Stewart,C.M.,&Franklin,A., 2011). It can be estimated as:

$$ROA = \frac{NetIncomeAfterTax}{TotalAssets}$$

Return on Shareholders' Equity (ROE): ROE measures the ability of a firm to generate profits from its shareholders investments in a business firm. Investors want to see a high return on

equity ratio because this indicates that the company is using its investors' funds effectively (Penman, S. 2009).

$$ROE = \frac{NetIncomeAfterTax}{Total\ Equity} = \frac{NetIncomeAfterTax}{Sharecapital + UndistributedProfit + ReserveFund}$$

Risk Measurement Ratios

Liquidity Ratio (LR): LR is a measure of the solvency or liquidity of a business. It tells whether a cooperative has enough liquid assets to meet its financial obligations (i.e. deposit) as they become due. An LR that is too high may indicate investment in current assets that could otherwise be used to produce income. An LR that is too low means there may not be enough cash equivalent assets to meet financial obligations when they are due (Brealey, R. A., Stewart,C.M.,&Franklin,A., 2011).

$$LR = \frac{LiquidAssets}{TotalDeposit}$$

Capital Adequacy Ratio (CAR): CAR is used in commercial banking industry. Regulatory authorities keep an eye on the capital adequacy ratio of banks to ensure that they can absorb losses and meet capital requirements. Here, CAR is calculated as total capital other than deposit divided by total assets. This will give a gross estimation of long term capital strength and credibility of cooperative to protect against risk arises from high degree of financial leverage.

$$CAR = \frac{TotalPermanentCapital}{RiskWeightedAssets} = \frac{TotalAssets - Deposit}{TotalAssets}$$

Interest Spread (Spread): Spread is the interest rate charged by cooperative on loans to members minus the interest rate paid by Cooperative on deposits. This is the measure of profitability as well as risk. Higher degree of spread implies higher degree of earnings as well as selection of risky sector by Cooperatives.

$$Spread = Earning\ Rate - Paying\ Rate = \frac{Interest\ Income}{EarningAssets} - \frac{Interest\ Expenses}{PayingLiabilities}$$

$$= \frac{Interest\ Income}{Loan + OtherInvestment} - \frac{Interest\ Expenses}{Deposit + OtherLiabilities}$$

Non-Performing Loan Ratio (NPL): NPL means nonperforming loans to total gross loans that it is the value of nonperforming loans divided by the total value of the loan portfolio (including nonperforming loans before the deduction of specific loan-loss provisions) of any cooperative NPL here is made provision for outstanding interest and principal amount due from borrower to total loan (Thapa, K., 2012). It measures the debt default rate of a Cooperative.

$$NPL = \frac{Loan\ Loss\ Provision}{TotalLoan}$$

Efficiency Ratios

Assets Utilization Ratio (AU): AU ratio calculates the total revenue earned for every rupee of assets a cooperative owns. Increasing AU means the cooperative is being more efficient with each rupee of assets (Penman, S. 2009) it has,

$$AU = \frac{OperatingIncome}{TotalAssets}$$

Credit to Deposit Ratio (CD): CD calculates the efficiency of deposit utilization. Since deposits are liabilities of cooperatives they have to utilize as far possible. CD ratio measures the efficiency and risk (Thapa, K., 2012).

$$CD=\frac{\text{Credit}}{\text{Deposit}}$$

Financial Performance Model

In financial performance model four regression equations are passed:

$$CAR= \alpha+\beta_1 ROA +\beta_2 NPM +\beta_3 NIM +\beta_4 ROE+ e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (A_1)$$

$$NPL = \alpha+\beta_1 ROA +\beta_2 NPM +\beta_3 NIM +\beta_4 ROE+ e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (A_2)$$

$$LR = \alpha+\beta_1 ROA +\beta_2 NPM +\beta_3 NIM +\beta_4 ROE+ e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (A_3)$$

$$Spread = \alpha+\beta_1 ROA +\beta_2 NPM +\beta_3 NIM +\beta_4 ROE+ e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (A_4)$$

Where, ROE, NPM, NIM and ROA are profitability measurement factors. In hypothesis testing, higher CAR variable implies less risky but also expected to generate low degree of ROE by multiplying ROA by lower equity multiplier (i.e. equity multiplier = total assets/equity). Thus, it is assumed to be positive relationship between CAR and profitability ratio. NPL is absolute risk; means this type of risk taking does not increase the profit but is the results from poor management of credit portfolio. Thus there must be negative relationship between LR and profitability ratio. LR is a measure of liquidity risk, higher the liquidity, lower the risk but also lower the profitability due to the opportunity cost of liquidity. Thus, there must be negative relationship between LR and profitability ratio. Spread measures the investment risk. Higher spread gives higher net interest income that implies the positive relationship between investment risk and profitability.

From some of the past findings we can say that sound credit and other risk management practices result lower default in loan investment that further results to higher interest income and profitability of depository institutions. This will also increase the vital of absorbing loan default loss. Profitability and financial health can be adversely affected by risk. In contrast of that observed credit risk management does have positive effects on profitability. Furthermore, Credit risk has been affected the profitability of the Nigerian banks negatively. For this reason, it is important to examine credit policies today.

Efficiency Model

In risk versus efficiency model four regression equations are passed as:

$$CAR= \alpha+\beta_1 AU+\beta_2 CD + e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (B_1)$$

$$NPL = \alpha+\beta_1 AU+\beta_2 CD + e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (B_2)$$

$$LR = \alpha+\beta_1 AU+\beta_2 CD + e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (B_3)$$

$$Spread = \alpha+\beta_1 AU+\beta_2 CD + e_i \quad \ldots\ldots\ldots\ldots\ldots\ldots (B_4)$$

Where, AU and CD are efficiency measurement factors. The relation is defined to seek the efficiency influences on risk level of cooperative.

Organizational Factors Model

In organizational factors model four regression equations are passed as:

$CAR = \alpha + \beta_1 Div + \beta_2 \text{ In TA} + \beta_3 D_1 + e_i$ .....(C_1)

$NPL = \alpha + \beta_1 Div + \beta_2 \text{ In TA} + \beta_3 D_1 + e_i$ .....(C_2)

$LR = \alpha + \beta_1 Div + \beta_2 \text{ In TA} + \beta_3 D_1 + e_i$ .....(C_3)

$Spread = \alpha + \beta_1 Div + \beta_2 \text{ In TA} + \beta_3 D_1 + e_i$ .....(C_4)

Where, Div, In TA and D_1 are the organizational factor measurement variables. Div is dividend rate, InTA is natural logarithm of total assets and measure the size and D_1 is the dummy variable of types, i.e. D_1=1 if SAC else 0. The relation is defined to seek the influences of dividend distribution, size and types on risk level of cooperative.

Ratio Analysis

A financial ratio (or accounting ratio) analysis is a process of comparing scale of two selected numerical values taken from a venture's financial statements. Financial ratios may be used by managers within a firm, by current and potential owners of a firm, by competitors, by researchers, and by a firm's creditors. Financial analysts use financial ratios to compare the strengths and weaknesses in various companies. Ratios can be expressed as a decimal value, such as 0.10, or given as an equivalent percent value, such as 10 percent. Some ratios are usually quoted as percentages, especially ratios that are usually or always less than 1, while others are usually quoted as decimal numbers, especially ratios that are usually more than 1. Financial ratios are categorized according to the financial aspect of the business which the ratio measures. Ratios generally are not useful unless they are benchmarked against something else, like past performance or another firm. Financial ratios allow for comparisons between firms, between industries, between different time periods for one firm, between a single firm and its industry average. Thus, the ratios of firms in different industries, which face different risks, capital requirements, and competition, are usually hard to compare [1]. For this study, profitability ratios, risk ratios, efficiency ratios has calculated and analyzed for Nepalese cooperatives, and descriptive statistics of those ratios are presented as:

Profitability Ratios

Profitability ratios measure a cooperative's ability to generate earnings relative to total operating revenues, assets and equity. Common examples of profitability ratios those this study has calculated and presented here include return on operating revenues i.e. net profit margin (NPM), return on investment or assets (ROA), return on equity (ROE) and net interest margin (NIM). All of these ratios indicate how well a cooperative is performing in generating profits or revenues relative to a certain aspect. Different profitability ratios provide different useful insights into the financial health and performance of a cooperative. For example, NIM and NPM ratios tell how well the cooperative is managing its expenses. ROA tells how well the cooperative is using capital employed to generate returns. ROE tells whether the cooperative is generating enough profits for its shareholders. For most of these ratios, a higher value is desirable. Here, from entire sample some, cooperatives are receiving government and other agency fund as subsidies in free for priority sector mobilization and thus, abnormal results such as NIM of 72.27%, ROE of 166.79%, etc have observed but all of those earnings are not subject to dividend distribution.

Descriptive statistics of profitability ratios of entire sample, by categorizing in to saving and SAC and MPC, and for entire period from 2009 to 2013 of Nepalese Cooperative society are presented in table 1. Drawn statistics shows average ROE of the sample is 5.20%, and suggests

in average cooperative shareholders are receiving 5.2% return (i.e. net profit) on their investment or shareholder fund. Standard deviation of ROE is 22.21% that shows in average ROE of cooperative may deviate by ±22.21% in estimation from given set of data. The maximum ROE of the industry with in sample is 166.15% and minimum ROE score of the industry with in sample is -315.79% having range of 481.94% score. This shows the much variation of the ROE in cooperative society of Nepal. The earning pattern shows by ROE is much fluctuating that might has created more risk on cooperative society of Nepal. The median score divides the data into two parts, and the ROE score is 5.07% for entire sample. If we compare the descriptive scores of SAC and MPC, SAC has higher ROE than MPC but also higher fluctuation of earnings. This suggests MPC operating less risky than SAC. Similarly, descriptive statistics of ROA, NIM, and NPM are presented in the same table.

TABLE 1 PROFITABILITY RATIOS OF ENTIRE SAMPLE (IN PERCENT)

	ROE			NPM			ROA			NIM		
	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC
Avg.	5.20	5.23	5.12	4.53	3.36	7.80	0.82	0.69	1.17	4.97	5.30	4.06
Md.	5.07	4.73	7.68	6.25	5.81	10.16	0.81	0.72	1.28	4.07	4.26	3.49
SD	22.21	22.98	20.00	29.02	32.14	17.22	2.04	1.93	2.29	5.91	5.14	7.60
Max	166.15	166.15	35.26	55.37	50.57	55.37	6.72	6.70	6.72	72.27	38.41	72.27
Min	-315.79	-315.79	-102.19	-493.33	-493.33	-59.42	-17.92	-17.92	-7.00	-9.38	-9.38	-7.03
N	539	397	142	539	397	142	538	396	142	539	397	142

(Avg.=Arithmetic average, Md.=Median, SD=Standard deviation, Max=Maximum, Min=Minimum, N=No of Observations)

TABLE 2 PROFITABILITY RATIOS OF 2009-13 (IN PERCENT)

		ROE			NPM			ROA			NIM		
		Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC
2009	Avg.	5.94	4.06	11.36	0.99	-3.52	14.02	0.58	0.23	1.57	5.39	5.36	5.46
	Md.	4.12	3.36	11.23	6.16	4.60	14.37	0.60	0.53	1.87	4.01	4.15	3.20
	SD	16.83	18.32	9.89	52.09	59.48	12.04	1.96	1.83	2.01	8.61	5.75	14.03
	Max	100.00	100.00	31.39	35.90	35.89	35.90	6.35	3.33	6.35	72.27	28.66	72.27
	Min	-74.00	-74.00	-10.03	-493.3	-493.3	-11.86	-8.95	-8.95	-5.05	-3.60	-3.60	-3.20
	N	101	75	26	101	75	26	100	74	26	100	74	26
2010	Avg.	8.65	8.73	8.45	5.23	3.68	9.35	0.74	0.54	1.27	5.05	5.34	4.28
	Md.	4.95	4.28	8.85	5.80	5.19	8.19	0.81	0.64	0.93	4.01	4.20	3.76
	SD	23.20	26.52	10.44	19.68	21.11	14.79	2.56	2.69	2.12	4.81	4.63	5.27
	Max	166.15	166.15	26.32	37.69	32.70	37.69	5.54	4.64	5.54	24.29	22.75	24.29
	Min	-71.18	-71.18	-25.61	-133.0	-133.0	-40.66	-17.9	-17.9	-4.88	-4.34	-3.39	-4.34
	N	106	77	29	106	77	29	106	77	29	106	77	29
20	Avg.	6.47	6.75	5.69	7.76	7.91	7.34	1.10	1.09	1.13	5.61	6.06	4.32
	Md.	5.55	5.48	7.31	6.57	6.49	8.62	0.94	0.91	1.17	4.68	5.18	3.99

11	SD	9.43	7.71	13.27	11.77	9.17	17.34	1.63	1.32	2.33	5.12	5.25	4.58
	Max	33.88	25.56	33.88	55.37	50.57	55.37	6.72	6.70	6.72	25.66	25.66	14.80
	Min	-28.99	-16.22	-28.99	-44.68	-10.78	-44.68	-4.03	-2.85	-4.03	-9.38	-9.38	-4.23
	N	111	82	29	111	82	29	111	82	29	111	82	29
2012	Avg.	1.38	1.66	0.58	3.17	3.02	3.61	0.81	0.79	0.85	4.53	4.95	3.33
	Md.	5.43	5.30	7.62	6.20	5.48	10.28	0.82	0.81	1.33	4.15	4.28	3.01
	SD	34.78	37.20	27.38	30.93	33.62	22.10	2.16	1.93	2.76	4.53	4.24	5.15
	Max	35.26	32.56	35.26	30.20	30.20	28.26	6.60	6.60	4.59	21.18	21.18	17.51
	Min	-315.8	-315.8	-79.66	-282.6	-282.6	-59.42	-9.85	-9.85	-7.00	-7.35	-7.35	-7.03
	N	111	82	29	111	82	29	111	82	29	111	82	29
2013	Avg.	3.78	5.08	0.14	5.22	5.19	5.30	0.84	0.76	1.06	4.35	4.81	3.04
	Md.	4.97	5.30	4.24	6.16	6.06	8.18	0.81	0.78	0.86	3.50	3.93	3.43
	SD	17.77	12.04	28.23	12.74	10.91	17.09	1.77	1.58	2.24	5.82	5.72	6.02
	Max	30.88	30.88	30.70	31.81	24.64	31.81	6.16	4.55	6.16	38.41	38.41	18.06
	Min	-102.2	-59.96	-102.2	-46.54	-35.25	-46.54	-4.81	-4.81	-3.61	-6.91	-5.62	-6.91
	N	110	81	29	110	81	29	110	81	29	111	82	29

(Avg.=Arithmetic average, Md.=Median, SD=Standard deviation, Max=Maximum, Min=Minimum, N=No of Observations)

The table 2 presents year-wise descriptive statistics of entire sample, SAC and MPC for 2009 to 2013. The table shows Standard deviation of NIM is 5.12% for 2011, and shows in average NIM of cooperative may deviate by ±5.12% in estimation from given set of data. The maximum NIM of the industry with in sample is 25.66% and minimum NIM score with in sample is -9.38% having range of 35.04% score, and shows the much difference of NIM in cooperative society of Nepal. Drawn statistics also shows average ROA of the sample is 0.81% for 2012, and suggests in average cooperative shareholders are receiving 0.81% return (i.e. net profit) on investment or on total assets. Standard deviation of ROA is 2.16% that shows in average ROA of cooperative may deviate by ±2.16% in estimation from given set of data. From same table, statistics shows average NPM of the sample is 5.22%, and suggests in average cooperative shareholders are receiving 5.22% return (i.e. net profit) on cooperative total operating revenues for 2013. Standard deviation of NPM is 12.74% that shows in average NPM of cooperative may move away by ±12.74%. The maximum NPM of the industry for 2013 is 31.81% and minimum NPM score of the industry with in sample is -46.54%. Average NIM of the sample is 4.35%, and Standard deviation of NIM is 5.82% that shows in average NIM of cooperative may deviate by ±5.82% in estimation from given set of data for 2013. The maximum NIM of the industry with in sample is 38.41% and minimum NIM score of the industry with in sample is -6.91% having range of 45.32% score.

Risk Measurement Ratios:

Risk measurement ratios measure a cooperative risky behavior or risk taking during its day to day operation. These ratios assess the level of a cooperative to tolerate possible fluctuations on earnings, profits or cash flows, often the quality of activities. They highlight how effectively the risk of a cooperative is being taken and managed. Common examples of those risk measurement ratios this study has estimated and presented here include liquidity ratio (LR), capital adequacy

ratio (CAR), net interest spread (Spread) and nonperforming loan to total loan ratio (NPL). Higher LR and CAR correspond risk managing, unlike that lower degree of NPL and Spread correspond the risk is managing.

The descriptive statistics of risk measurement ratios of entire sample, SAC and MPC and for entire period from 2009 to 2013 of Nepalese cooperative society are presented in table 35. Drawn statistics shows average LR of the sample is 20.40%, and suggests in average cooperative has 20.40% liquid assets to pay day to day liquidity demanded by depositor. Higher amount of LR stands higher ability of paying debt but low degree of efficiency and profitability due to opportunity cost of liquidity. Standard deviation of LR is 14.54% that shows in average LR of cooperative has deviated by ±14.54% in estimation from given set of data. Maximum LR of the industry with in sample is 136.98% and Minimum LR score of the industry with in sample is 1.34% having range of 135.64% score. The median score is partition value into two equal upper and lower parts of data. For entire sample, 50% of cooperatives are operating above 17.07% LR scores. If we compare the descriptive scores of SAC and MPC, SAC has higher LR than MPC. This suggests MPC operating more risky than SAC.

From the table 4, year-wise statistics shows average Spread of the sample is 5.56% for 2011, and suggests average difference in earning and paying rate of cooperative is 5.56%. Standard deviation shows in average Spread of cooperative may deviate by 4.87% either in positive or in negative direction. The maximum Spread of the industry with in sample is 22.72%, and minimum Spread score of the industry with in sample is -8.75%. This suggests cooperatives of Nepal are taking much risky decision while making borrowing and lending activities. The median score divides the data into two parts, and the Spread score is 5.10% for entire sample. It shows average LR of the sample is 19.81% for 2013, and suggests in average cooperative has 19.81% liquid assets to pay day to day liquidity demanded by depositor. Drawn statistics also shows average CAR of the sample is 22.89% for 2013, and suggests in average cooperatives' long term or permanent capital is 22.89% total assets. The standard deviation of CAR is 13.67% that shows in average CAR of cooperative may deviate by ±13.67% for estimated mean. In comparison, SAC has lower CAR than MPC and lower fluctuation for 2013.

TABLE 3 RISK MEASUREMENT RATIOS OF ENTIRE SAMPLE (IN PERCENT)

	LR			CAR			Spread			NPL		
	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC
Avg.	20.40	20.75	19.50	24.08	23.95	24.41	5.29	5.62	4.34	4.82	3.13	6.43
Md.	17.07	17.47	16.76	20.31	20.30	20.56	4.59	4.72	4.07	3.49	2.21	5.15
SD	14.54	14.64	14.28	14.78	14.40	15.75	6.44	5.77	7.98	3.63	2.64	3.77
Max	136.98	136.98	89.72	94.38	94.38	89.05	71.48	60.76	71.48	14.77	9.15	14.77
Min	1.34	1.34	2.31	-17.21	-2.71	-17.21	-40.29	-13.71	-40.3	0.05	0.05	1.71
N	608	438	170	612	441	171	539	397	142	47	23	24

(Avg.=Arithmetic average, Md.=Median, SD=Standard deviation, Max=Maximum, Min=Minimum, N=No of Observations)

TABLE 4 RISK MEASUREMENT RATIOS OF 2009-13 (IN PERCENT)

	LR			CAR			Spread			NPL		
	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC	Total	SAC	MPC
2 Avg.	20.53	20.64	20.25	25.46	26.24	23.39	5.28	5.68	4.16	6.37	3.35	7.13
0 Md.	15.65	15.56	17.79	19.31	21.25	18.10	4.05	4.16	2.68	4.18	3.35	5.67

0	SD	17.41	18.88	13.12	18.44	16.56	22.85	10.83	8.06	16.52	5.02	0.00	5.46
9	Max	136.98	136.98	56.06	89.05	76.99	89.05	71.48	60.76	71.48	14.77	3.35	14.77
	Min	1.34	1.34	3.65	-17.21	-1.48	-17.2	-40.3	-3.45	-40.29	2.40	3.35	2.40
	N	108	78	30	113	82	31	100	74	26	5	1	4
	Avg.	20.28	21.05	18.38	23.62	23.69	23.46	5.07	5.32	4.42	5.18	5.27	5.13
2	Md.	17.09	18.08	14.87	20.81	21.44	19.49	4.42	4.33	4.79	3.74	5.27	3.74
0	SD	15.32	16.01	13.50	14.22	14.17	14.52	4.02	4.30	3.15	2.83	2.79	3.28
1	Max	118.42	118.42	73.17	69.80	69.80	64.88	21.97	21.97	10.72	10.01	7.24	10.01
0	Min	2.65	3.80	2.65	-2.71	-2.71	4.42	-2.11	-1.74	-2.11	3.04	3.29	3.04
	N	122	87	35	121	86	35	106	77	29	6	2	4
	Avg.	18.93	19.58	17.23	25.64	25.72	25.45	5.56	5.91	4.55	3.28	6.49	3.28
2	Md.	16.10	16.13	16.09	22.29	21.86	22.76	5.10	5.48	4.19	2.12	5.52	2.12
0	SD	12.54	12.45	12.79	14.61	15.56	11.97	4.87	5.05	4.23	3.51	4.58	3.51
1	Max	72.40	61.23	72.40	94.38	94.38	59.95	22.72	22.72	13.12	9.15	12.38	9.15
1	Min	2.31	2.54	2.31	5.85	6.11	5.85	-8.75	-8.75	-4.01	0.21	2.52	0.21
	N	126	91	35	126	91	35	111	82	29	5	4	5
	Avg.	22.49	22.28	23.03	22.91	22.17	24.82	5.51	5.91	4.38	2.43	6.75	2.43
2	Md.	18.50	18.55	18.39	19.55	18.95	22.03	5.09	5.42	4.09	1.97	5.15	1.97
0	SD	14.69	13.20	18.21	12.72	12.53	13.20	4.48	4.23	5.02	2.60	4.25	2.60
1	Max	89.72	65.46	89.72	64.14	64.14	61.52	21.00	21.00	18.14	7.85	12.56	7.85
2	Min	1.82	1.82	2.49	2.69	2.69	6.62	-7.35	-7.35	-6.43	0.05	2.33	0.05
	N	126	91	35	126	91	35	111	82	29	9	6	9
	Avg.	19.81	20.23	18.71	22.89	22.16	24.80	5.00	5.30	4.16	3.31	6.47	3.31
2	Md.	17.41	17.64	17.17	19.82	19.81	20.71	4.43	4.41	4.77	3.05	8.11	3.05
0	SD	12.65	12.57	12.99	13.67	12.80	15.74	6.18	6.57	4.89	2.35	2.91	2.35
1	Max	78.19	78.19	59.56	80.78	74.55	80.78	38.35	38.35	17.47	7.73	8.75	7.73
3	Min	1.56	1.56	3.27	3.55	3.55	5.47	-13.7	-13.7	-6.66	0.82	1.71	0.82
	N	126	91	35	126	91	35	111	82	29	6	6	6

(Avg.=Arithmetic average, Md.=Median, SD=Standard deviation, Max=Maximum, Min=Minimum, N=No of Observations)

Efficiency Ratios:

Efficiency Ratio measures how efficiently a cooperative utilizing its valuable resources such as assets, liquidity, human capital etc. These ratios assess efficiency or productivity level of a cooperative to produce higher earnings, profits or cash flows, or lower risky behavior. Common examples of those efficiency ratios this study has estimated and presented here include assets utilization ratio (AU) which is also called total assets turnover ratio or activity ratio and credit to deposit ratio (CD).

TABLE 5 EFFICIENCY RATIOS OF ENTIRE SAMPLE (IN PERCENT)

	AU			CD		
	Total	SAC	MPC	Total	SAC	MPC
Avg.	13.61	13.62	13.60	99.27	100.35	96.47
Md.	13.25	13.35	12.72	95.81	97.69	92.44
SD	3.56	3.31	4.21	24.68	23.96	26.32
Max	42.62	30.19	42.62	196.27	196.27	189.61
Min	1.81	1.81	7.36	41.30	41.30	45.22

N	539	397	142	607	438	169

(Avg.=Arithmetic average, Md.=Median, SD=Standard deviation, Max=Maximum, Min=Minimum, N=No of Observations)

The descriptive statistics of efficiency ratios of entire sample, SAC and MPC polling entire sample data of 2009 to 2013 are presented in table 5. The statistics show average AU of the sample is 13.61%, and suggests in average cooperative has generated 13.61% total operating revenue of total assets. Higher amount of AU stands higher ability of generating revenue, and thus, higher degree of efficiency and profitability. Standard deviation of AU is 3.56% that shows in average AU of cooperative has deviated by ±3.56% in estimation from given set of data. A maximum AU of the industry with in sample is 42.62% and minimum AU score of the industry with in sample is 1.81% having range of 40.79% score. Drawn statistics also shows average CD of the sample is 99.27%, and suggests in average cooperative of Nepal are utilizing it's near to 100% deposit to credit for revenue generation. A maximum CD of the industry with in sample is 196.27% and Minimum CD score of the industry with in sample is 41.30% having range of 154.97% score.

CONCLUSION

The Cooperatives do not have separate risk management department. Nearly ninety percent of respondent opine that significantly large amount of loan, longer credit repayment period, no risk control mechanism, and no proper documentation in loan file as some of the serious problems for solution. Risk variables are significantly associated with financial performance, efficiency and organizational factors. NPM and ROE influence CAR negatively and positively respectively as expected. Big cooperatives do not have adequate long term capital and in higher degree of solvency risk. NPM and ROA positively whereas NPM is negatively associated with LR suggesting possible reduction in liquidity risk by holding adequate liquidity, but optimize the tradeoff between LR & NPM. The causation on LR from NIM and ROA is inconsistent. Cooperative having adequate capital can supply more loan even if deposit collection is not much suggesting higher CD ratio has higher permanent. NIM is positively associated with investment risk. Cooperatives should balance tradeoff between risk, efficiency and return while taking investment risk since AU significantly affects spread. The management needs to work seriously in order to reduce debt default so that it could insure healthy credit management. Most sensitive operational scope is leverage risk having CVR of 60 percent. Commercial Banks in Nepal apply BASEL system to manage long term solvency and leverage risk. This indicates practitioner to apply appropriate long term solvency management technique to insure healthy operation that credit default risk could be reduced through proper credit rationing.

The management and control committee needs to emphasize risk management and practical implementation. Since almost all respondents recognized the need for credit information center, managements of Cooperatives should use credit information from credit information center to seek the past record of borrower and to avoid the credit duplication risk. Members and board of directors should not be profit oriented in the short run but they should seek the progress of cooperatives in long run. A few cooperatives follow PEARLS system and 5Cs principle but it is important to all. Illegal managerial practices such as assigning executive role to more than one board member, assigning managing director and chairman of board as chief of loan committee, providing loan to outsider through temporary membership, providing significantly huge amount

of loan to the single member, charging 1 to 2 percent service fee of loan should be avoided are risk of Cooperatives.

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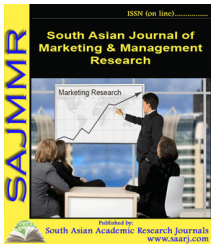

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MODELS FOR PREDICTING GROSS AGRICULTURAL OUTPUT

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ABSTRACT

This article discusses the econometric model of error-free calculation of gross agricultural output. In Asia, Egypt and India, the first systematic cultivation and collection of plants that had previously been collected in the wild began. Initially, agriculture depleted the diet of people - dozens of constantly used plants for agriculture, a small proportion. In such countries, whose economy is of the agrarian type, indicators of mechanization, chemicalization, land reclamation, etc. are low. We solve the equation by any method (for example, by the substitution method or the Cramer method) and we obtain the formula for finding the coefficients by the least squares method. For data a and b, the function formula takes the smallest value.

KEYWORDS: *Agricultural Products, Industry, Forecasting Models, Gross Output, Calculation, Correlation Coefficient.*

INTRODUCTION

Agriculture is an industry aimed at providing the population with food (food, food) and the extraction of raw materials for a number of industries. This industry is one of the most important, represented in almost all countries. About 1 billion economically active people are employed in the world's agriculture.

State food security depends on the state of the industry. Sciences such as agronomy, animal husbandry, land reclamation, crop production, forestry, etc., are directly or indirectly related to agricultural problems.

The emergence of agriculture is associated with the so-called "Neolithic revolution" in the means of production, which began about 12 thousand years ago and led to the emergence of a productive economy and the subsequent development of civilization. The econometric model is an economic-mathematical model, the parameters of which are estimated using methods of mathematical statistics. It acts as a means of analysis and forecasting of specific economic processes both at the macro level and at the microeconomic level based on real statistical information. The most common econometric model, which is a system of regression equations

that reflect the dependence of endogenous values (desired) on external influences (current exogenous values) under the conditions described by the estimated parameters of the model, as well as lag variables. In addition to the regression equations, other mathematical statistical models are used. To determine the relationship between time and gross agricultural product, quantitative estimates based on econometric models are needed. To quantify the relationship of both indicators, we use linear regressions. Based on the data presented in the table, we build a linear regression model.

Agriculture with the domestication of animals and growing plants appeared at least 10,000 years ago, first in the region of Central Asia, and then in China [2]. Agriculture has undergone significant changes since the beginning of agriculture. In Asia, Egypt and India, the first systematic cultivation and collection of plants that had previously been collected in the wild began. Initially, agriculture depleted the diet of people - dozens of constantly used plants for agriculture, a small proportion.

Main part

The development and productivity of agricultural production is affected by the balance of the state's economy, the political situation in it, and its food independence. At the same time, agriculture in a market economy is not able to fully compete with other sectors, therefore, the level and effectiveness of its support from the state correlates with the welfare of the state itself. Support measures may include:

- Preservation of certain prices for various types of agricultural

Products (regulation of market prices, ensuring profitability Production) by controlling foreign trade and other instruments;

- Subsidies, compensation payments;

- Preferential loans to peasants;

- Preferential taxation of agricultural organizations;

- financing of research, education and advanced training of agricultural workers;

- Measures to attract foreign direct investment;

- Development of rural infrastructure;

- Land reclamation and irrigation projects;

- Development of legal acts.

The role of agriculture in the economy of a country or region shows its structure and level of development. As indicators of the role of agriculture, the share of people employed in agriculture among the economically active population is used, as well as the share of agriculture in the structure of gross domestic product. These rates are quite high in most developing countries, where more than half of the economically active population is employed in agriculture. Agriculture has an extensive development path, that is, an increase in production is achieved by expanding sown areas, increasing the number of livestock, and increasing the number of people employed in agriculture. In such countries, whose economy is of the agrarian type, indicators of mechanization, chemicalization, land reclamation, etc. are low. Approved progressive changes are also taking place in countries of an industrial type, but the level of intensification in them is

still much lower, and the share of people employed in agriculture is higher than in post-industrial ones. Moreover, in developed countries there is a crisis of overproduction of food products, and in the agricultural, on the contrary, one of the most acute problems is the problem of nutrition (the problem of malnutrition and goloda)

Developed agriculture is one of the country's security factors, as it makes it less dependent on other countries. For this reason, agriculture is supported and subsidized in developed, industrialized countries, although from an economic point of view it would be more profitable to import products from less developed countries.

TABLE 1 GROSS AGRICULTURAL PRODUCTS OF UZBEKISTAN

Year	Time (X)	Gross Agricultural Product (Y)
2000	1	980,1
2002	2	2242,5
2004	3	3285,9
2006	4	5302,4
2008	5	7677,1
2010	6	11229,8
2012	7	17235,5
2014	8	25377,2
2016	9	33486,6

To determine the relationship between the economic growth of both countries, a correlation coefficient is used. The correlation coefficient is a statistical indicator of the dependence of two random variables. The correlation coefficient can take values from -1 to +1. At the same time, a value of -1 will indicate a lack of correlation between values, 0 means zero correlation, and +1 means a complete correlation of values. That is, the closer the value of the correlation coefficient to +1, the stronger the relationship between two random variables

$$r_n = \frac{\sum_{i=1}^{n} (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n} (x_i - \bar{x})} \sqrt{\sum_{i=1}^{n} (y_i - \bar{y})}} \quad (1)$$

$$r_{xy} = 0,72$$

The following table is used to verbally describe the values of the correlation coefficient:

TABLE 2 THE VALUE OF THE CORRELATION COEFFICIENT AND ITS INTERPRETATION

The value of the correlation coefficient r	**Interpretation**
0 <r <= 0.2	Very weak correlation
0.2 <r <= 0.5	Weak correlation
0.5 <r <= 0.7	Average correlation
0.7 <r<= 0.9	Strong correlation
0.9 <r <= 1	Very strong correlation

The result of calculating the correlation shows that the economies of China and Uzbekistan have strong correlations, that is, they are closely related to each other. This means that the development of the Chinese economy affects the development of the economy of Uzbekistan.

To build a linear regression, it is necessary to determine the parameters of the equation. To do this, using least squares methods, we will determine the regression parameters.

The least squares method is a mathematical method used to solve various problems, based on minimizing the sum of the squared deviations of some functions from the desired variables. It can be used to "solve" uncertain systems of equations (when the number of equations exceeds the number of unknowns), to search for solutions in the case of ordinary (not redefined) nonlinear systems of equations, to approximate point values, a certain function. OLS (Least Squares Method) is one of the main methods of regression analysis for estimating unknown parameters of regression models from sample data.

So, the essence of using the least squares method is linear dependence, for which the function of two variables a and b F (a, b) = $\sum_{i=1}^{n}(y_i-(ax_i+b))^2$ takes the least value. That is, with data a and b, the sum of the squared deviations of the experimental data from the line will be the smallest. This is the essence of the least squares method.

Thus, the solution to the problem is to find the extremum of the function of two variables. A system of two equations with two unknowns has been compiled and solved. We find the partial derivatives of the function F (a, b) = $\sum_{i=1}^{n}(y_i-(ax_i+b))^2$ with respect to the variables a and b, equating these derivatives to zero.

$$\begin{cases} \dfrac{\partial F(a,b)}{\partial a} = 0 \\ \dfrac{\partial F(a,b)}{\partial b} = 0 \end{cases} \Rightarrow \begin{cases} -2\sum\limits_{i}^{n}(y_i-(ax_i+b))x_i = 0 \\ -2\sum\limits_{i}^{n}(y_i-(ax_i+b)) = 0 \end{cases} \quad (2)$$

$$\begin{cases} a\sum\limits_{i=1}^{n}x_i^2 + b\sum\limits_{i=1}^{n}x_i = \sum\limits_{i=1}^{n}x_iy_i \\ a\sum\limits_{i=1}^{n}x_i + \sum\limits_{i=1}^{n}b = y_i \end{cases} \Rightarrow \begin{cases} a\sum\limits_{i=1}^{n}x_i^2 + b\sum\limits_{i=1}^{n}x_i = \sum\limits_{i=1}^{n}x_iy_i \\ a\sum\limits_{i=1}^{n}x_i + nb = y_i \end{cases} \quad (3)$$

We solve the problem using the equation method, using the equation method (for example, using the substitution method or the Cramer method), and get the formula for finding the coefficients using the least squares method. Using least squares formulas, find the coefficients a and b.

We solve the equation by any method (for example, by the substitution method or the Cramer method) and we obtain the formula for finding the coefficients by the least squares method. For data a and b, the function formula takes the smallest value. This is all the least squares method. The formula for finding the parameter is the formula, formula, formula, and the parameter n is

the amount of experimental data. The values of these amounts are recommended to be calculated separately. The coefficient is determined after calculation b.

In our problem n = 9, the necessary formulas for the required coefficients were added in the applications.

We use least squares formulas to find the coefficients a and b. Substitute them in the corresponding values from the last column of the table:

Y = 3887.612 * x - 7569.49 (4)

Using the Fisher test, we check the adequacy of the model. F - Fisher's criterion is a parametric criterion and is used to compare the variance of two variational series. The empirical value of the criterion is calculated by the formula:

$$F = \frac{r^2}{1-r^2}(n-2)$$

$$F = \frac{0,52}{1-0,52} * 7 = 7,58$$

Ftab = 3.78

If a;

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Thus, the correspondence of the constructed econometric requirements to the Fisher criterion is a process of studying the adequacy of the constructed models.

Student T-test is the common name for a class of statistical methods for testing hypotheses based on student distribution. The most common cases of the t-test are related to checking the equality of average values in two samples.

T-statistics are usually a combination of the following: the numerator is a random variable with zero expectation (when the null hypothesis is satisfied), and the denominator is a sample of the standard deviation of this random variable, obtained as the square root of the unbiased variance estimate.

$$t_a = \frac{a}{m_a} \quad t_b = \frac{b}{m_b}$$

$$m_a = \sqrt{\frac{\sum (y - \hat{y})^2}{n-2} * \frac{\sum x^2}{n\sum (x - \bar{x})^2}}$$

$$m_b = \sqrt{\frac{\sum (y - \overline{y_x})^2 / (n-2)}{\sum (x - \overline{x})^2}}$$

$$m_a = \sqrt{\frac{0,47}{5} * \frac{556,9}{7*9,2}} = \sqrt{\frac{261,7}{322}} = \sqrt{0,81} = 0,9$$

$$t_a = \frac{a}{m_a} = \frac{6,3}{0,9} = 5,67$$

$$m_b = \sqrt{\frac{0,47/5}{9,2}} = 0,1$$

$$t_b = \frac{b}{m_b} = \frac{0,21}{0,1} = 2,1$$

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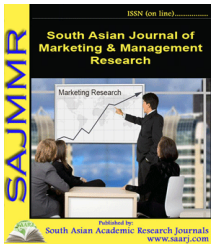

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SPIRITUAL MANAGEMENT AND EMOTION MANAGEMENT: NEW MANTRAS IN CORPORATE CORRIDORS FOR SUSTAINABLE DEVELOPMENT OF HR PROFESSIONALS

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ABSTRACT

Spirituality within the workplace is the need of the hour. Today organizations are finding that there is something more required to business than profits alone. Money as the single bottom line for efficiency and effectiveness for HR professional is now a thing of the past. What is more essential in present scenario is the management of spirituality and of emotion. This is of great concern in modern era where the environment is highly dynamic and there is a need to deal with the turbulent situation with emotional stability and spirituality. The first section of the paper explores the theoretical concepts of spiritual management and emotional management. The second section elucidates the relationship between spiritual management and careful handling of the emotions. The third section outlines how enhanced emotional intelligence level of HR professional leads to heightened spiritual quotient. The last section explores the benefits which HR professional can accrue through these two mantras for their sustainable growth and development in specific at individual level and in a holistic way at the organizational level.

KEYWORDS: *Spiritual Management, Emotion Management, Emotional Intelligence, Spiritual Intelligence, Sustainable Development.*

INTRODUCTION

Spirituality is fundamentally about further development of self-awareness, a sense of interconnectedness of all things and a relationship to a higher power or higher purpose (Hamilton and Jackson, 1998). According to Tisdell (2003), spirituality is an important part of human experience. It is fundamentally about how people construct meaning, understood their life purpose and more towards greater authenticity. According to him it is a personal journey toward growth and understanding, but it is a journey that we can articulate through shared

approximations of meaning, intuition and experiences. Spirituality is a reflection, deepened self understanding and heightened consciousness of their individual human purpose (Morton, Nino, Tassi, White, 2000). In other words, it is consciousness that drives individuals to be spiritual. It is innate human attribute. All people bring this as an integral part of themselves to the workplace. It is a state or experience that can provide individuals with direction or meaning or provide feelings of understanding, support, inner wholeness or connectedness. Connectedness can be to themselves, other people, nature, the universe, a god or some other supernatural power.

Spiritual management seems to be a new buzzword in business and management field today but its seeds were sown in the very beginning of humanity. Spiritual management is the management of spirituality by focusing on values, principles and beliefs. In the organizational context, it basically consists of dealing with the employees and the labor on the grounds of humanity, rather, than the traditional approaches of senior and junior. Though that relationship has to be maintained, but at the same time, the human factor should not be ignored, which often is the case. This traditional approach often creates chaos and unrest in the companies, and people often find themselves grinded in the congested atmosphere. They certainly need some fresh air, and spiritual management offers them much relief. This spiritual management is possible when the professionals are spiritually intelligent which is the "the ability to behave with compassion and wisdom while maintaining inner and outer peace (equanimity) regardless of the circumstances." Compassion and wisdom together form the manifestation of Love. "Behave" is important because it focuses on how well we maintain our center, stay calm, and actually treat others with compassion and wisdom. The statement of "regardless of the circumstances" shows that we can maintain our peaceful center and loving behaviors even under great stress.

Daniel Goleman popularized the phrase "Emotional Intelligence" with the publication of his book by the same title in 1995. In his book, Goleman cites research at Bell Labs that examined star performers, and tried to determine what distinguished them from more average performers. It appeared that star performers had significantly stronger relationship skills and personal networks than average performers. Harvard Business Review published the results of the Bell Labs study in 1993. Business interest in the study of "Emotional Intelligence" or "EQ" began in earnest. EQ is actually a large collection of skills. Basically it comprises of four main skills:

- Self awareness
- Self management
- Relationship management
- Social awareness

It is no doubt that these skills are vital for personal and business success. For many years emotion in the workplace was only considered important in relation to employee well being and job satisfaction. More recently, however, it has been recognized that emotions play a role in almost all work activities. Emotions influence what tasks employees' work on, what effort they exert, how they react to situations, and how they influence other people. In other words, what employees feel and how they express their emotions affects their performance and the performance of others. These skills can be mastered and the mastery of these skills is called emotion management. Effective emotion management is therefore important.

Emotion management refers to the ways in which people influence their own feelings and experiences and the ways in which they influence other people's feelings. All employees are

engaged in emotion management as part of their jobs and employer often play a significant role in shaping emotions. Emotion management is the mastery on emotions which can be attained by managing emotion, thoughts and behaviors. Managing emotion means that professionals have to be aware of doing an emotion, an honest description of an emotion's purpose and acceptance of response or ability for emotions. Management of thoughts means that professionals have to manage identification of facts vs. beliefs, identification of beliefs about "self" and acceptance of responsibility for thoughts. By managing behavior it is meant that professionals have to manage, identify desired behavioral goals, relationship between present behavior and desired goals and acceptance of responsibility for behavior. Research into emotional intelligence and sustainable development of HR professional show that heightened emotional stability help the professionals to move ahead on a personal journey which aims at growth and development by looking deep within them and thus they crave towards authenticity, honesty and truth.

Relationship of spirituality with emotion management

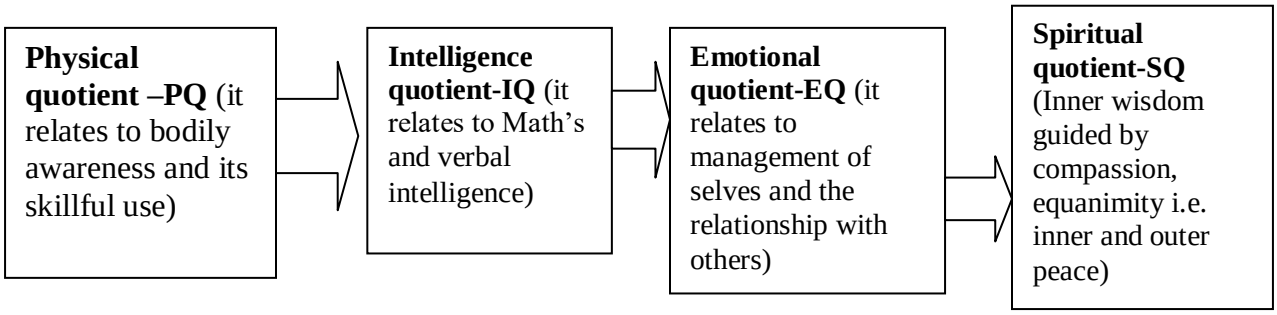

Fig: 1.Diagram showing hierarchical relationship between EQ and SQ.

The first intelligence, physical quotient as put by Mariah Burton Nelson in the Washington Business Journal, physical intelligence is "the ability to listen to the subtle signals your body gives, and then respond wisely." It is the most important one on which any life can exist. Without it no other superstructure can be built upon it. It involves body fitness and body wellness. Thus Physical Quotient is nothing but a person's ability to persevere. When this intelligence is attained the next in the hierarchy is intelligent quotient. Traditionally Intelligent Quotient has been defined as a uniform cognitive capacity that people are born with and can be measured by IQ tests. But today advance researches have accepted that one's IQ can grow and change according to one's response to conditions and new opportunities.IQ primarily solves logical problem. Emotional Quotient is the third one that is gaining importance today. Recent studies have revealed that EQ deals with one's developed ability to deal with both intrapersonal and inter-personal matters. EQ allows us to judge the situation we are in and behave appropriately. "SQ" or spiritual intelligence is the last in the hierarchy. It is asking to oneself "what is my ultimate concern" This can be only attained when all the other lower intelligence/quotient is achieved. Spiritual Quotient though comes last, is the most important one. It represents the truest and deepest self of every individual-- his innermost self. It is the inner struggle of the self.

SQ and EQ are related to each other. We need some basics of EQ to even successfully start our spiritual growth. Some degree of emotional self-awareness and empathy is an important foundation. Then, as our spiritual growth unfolds, there would be a strengthening of EQ skills – which would further reinforce and assist the growth of SQ skills. Hence they are positively reinforcing each other. This relationship can pictorially be represented as follows:

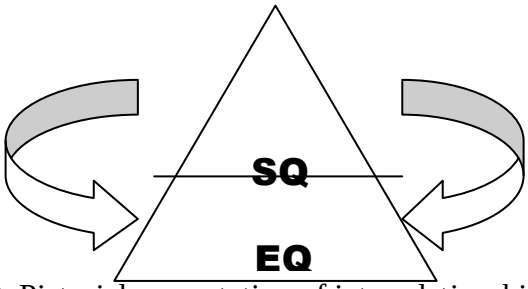

Fig:2 .Pictorial presentation of interrelationship of SQ and EQ.

It is clear from the above pictorial diagram that EQ growth assist SQ and SQ growth enhances EQ growth. Both the intelligences relates to inner most feelings of the employees. It allows employees to be motivated intrinsically rather than extrinsically. Thus our spiritual quotient is determined by three different traits; our IQ, our emotional quotient and our physical quotient. The reason why these three traits determine our spiritual growth is that in our physical existence, these things matter the most. The sharpness of our intelligence, the gravity of our emotions and the extent of our physical capacities determine our rate of success.

HOW EMOTIONAL INTELLIGENCE LEADS TO SPIRITUAL MANAGEMENT

Current researches into spirituality shows that it is nothing but a personal journey, an identification of self. The very definition of emotional intelligence concentrates on two types of self: personal self and social self. Spirituality is the innate human need to connect with something larger than ourselves."But what is this "something larger than us?" It is something beyond our ego-self or constricted sense of self. It may be defined as having two components: the vertical and the horizontal.

- Vertical component: something sacred, divine, timeless and placeless…a Higher Power, Source, Ultimate Consciousness – or any other language the person prefers. Desiring to be connected to and guided by this Source.
- Horizontal component: being of service to our fellow humans and to the planet at large.

Thus at this point of time when we try to correlate and connect ourselves with others we are showing the social skills which is a very important EI trait.

Spirituality takes place at the unit of the individual within the community. It involves the interior life of the individual, as well as the community manifested by individuals acting both singly and in cooperation with one other. This is what equivalent to one of the dimension of emotional intelligence which is relationship management. Relationship skills mean an effort made by the HR professionals to develop others, to act as change catalyst, to work with collaboration and inspire teamwork.

Spirituality is about bringing passion –bringing your heart, soul and spirit to what you do, be responsible, respectful and behave in a caring way because people are not instruments but they are valuable human beings. Spirituality teaches individuals to curb the negative emotions and always uphold the positive emotions. An individual with spirituality poses the deepest questions of existence about the meaning and purpose of life, reflecting on these questions in daily life, seeking out a spiritual community and engaging in spiritual practices that give meaning to their questions and reflections which is the result of strong EI trait of self management. Self management means recognition of one's own emotions and the emotions of others. People who know how to manage their emotions are more attuned to the subtle social signals that indicate

what others need or want. Spiritually driven professionals accept themselves as they are. This acceptance of oneself and self –understanding develops when that spiritual person accept and understands others. Hence the spiritual professional understands the interrelationship of him or her with the organization as a whole and with the individual member as a unit which results from high self awareness.

Spiritual professional operate in an ethical framework displaying increased ethical and moral behavior. The behavior based on ethical background serves as a delicate and sophisticated internal guidance system which helps them to better understand their emotions and its impact on their behavior relationship and performance which in turn provide them the technique to better manage them and create productive emotional spaces.

Creativity is a mental and social process involving generation of new ideas or concepts or new associations of the creative mind between existing ideas or concepts which is the outcome of high emotional intelligence. The person who creates becomes the creator. We posit that in order to create something out of nothing, one needs a deeper authentic connection that is linked to the source. And to be able to trigger the inner thoughts and experience, an individual needs to connect to his or her spirituality. Therefore it is not surprising that emotionally intelligent professional promotes spirituality leading to higher productivity.

BENEFITS OF SPIRITUAL MANAGEMENT AND EMOTION MANAGEMENT FOR HR PROFESIONALS

Companies that incorporate spiritual management to their concepts indulge in a variety of activities. They become more caring to the needs of the employees which may include their family problems. Many companies start their work by offering prayers and asking God for grace on each individual employee and on the company as a whole. They tend to bring spiritual ethics and code of conduct in their work-culture. This often involves reading from spiritual texts in meetings and maintaining that the directives of those highly authoritative texts can be implemented in the present scenario. Instead of buzzing parties and enjoying swagger in terms of pomp-shows, companies turn to some social activities that are oriented to provide social service, valuable information to people, and helping the social sector. Thorough mastery on emotions by managing thoughts, behavior and emotions coupled with these spiritual practices has got a great value to businesses in terms of the benefits which the HR professional accrue for their sustainable development.

The benefits of spiritual and emotion management are innumerable. At the organizational level the benefits are:

- Creation of more favorable work environment as the HR professional work with more emotional stability and great spiritual practices.
- When the organizations together with the professionals are committed to ethical principles, they do better financially than companies that don't make ethics a key management component.
- The productivity improves and turnover is greatly reduced when companies engage in programs that use spiritual techniques for their employees and when their professionals are emotionally strong and sound.
- Organizations wrapped with the spiritual and emotional values are fully committed to employees and also to quality goods and services.

- Organizations with spiritual and emotional practices outperform non-spiritual and non-emotional organisations in terms of net earnings, return-on-investment and shareholder value.
- Spiritually and emotionally driven organizations favour the democratic style of leadership and hence higher HR professional's tolerance of human diversity.
- When organizations increase their community involvement they are more likely to show an improved financial picture over a period of time. This community involvement is totally because of the great contribution of the professionals as their emotional stability ignites this desire of interrelationships.

  The benefits which HR professionals accrue from a blend of spiritual and emotion management are:
- People at all levels in the corporate hierarchy increasingly want to nourish their spirit and creativity. When employees are encouraged to express their creativity, the result is a more fulfilled and sustained workforce. Happy people work harder and are more likely to stay at their jobs.
- People increasingly want to bring a greater sense of meaning and purpose into their work life. They want their work to reflect their personal mission in life. Many companies are finding the most effective way to bring spiritual values into the workplace is to clarify the company's vision and mission, and to align it with a higher purpose and deeper commitment to service to both customers and community. This search of meaning and purpose in life is the result of enhanced EI traits.
- They become morally obligated to help customers and solve their problems" – they're not just to sell people products but also to offer best services.
- HR professionals display increased "creativity and intuition, empowerment, cohesive vision and purpose leading to enhanced team and community building".
- At the individual level stronger the spiritual and emotional factor of personality, the more tolerant HR professional is of work failure and less susceptible to stress";
- HR professional exhibits altruistic and citizenship behavior thereby commitment and work group increases".

CONCLUSION

On the basis of the preceding justifications and the fact that human is primarily emotional and spiritual in nature embodying both the emotional values and the spiritual values, it is essential that both these values should be managed in a balanced way by the HR professionals for their effectiveness and efficiency. An inclusive blend of the two in the balanced and appropriate manner is the only path open for sustainable development of human resource as a unit and the organization as a whole.

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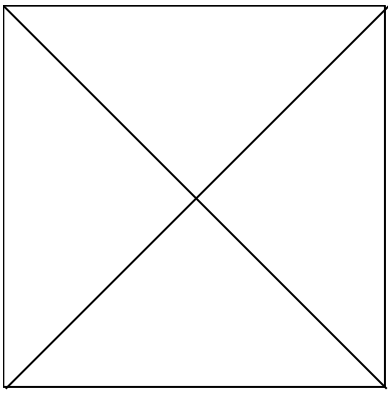

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TOTAL QUALITY MANAGEMENT: A SOURCE OF COMPETITIVE ADVANTAGE- A COMPARATIVE STUDY OF MANUFACTURING AND SERVICE FIRMS IN NEPAL

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NEPAL

ABSTRACT

The study investigated whether or not Total Quality Management (TQM) is a source of competitive advantage in both service and manufacturing sectors in Nepal. Among the objectives were; to find out the impact of TQM on organizational performance, challenges in the implementation of TQM policies and practices, and to ascertain whether TQM is a source of competitive advantage in both service and manufacturing firms in Nepal. The study employed a survey design by using questionnaire and interview guides as the data collection instruments. Simple random and stratified sampling techniques were used to select 4 service firms and 4 manufacturing firms in Kathmandu, the capital of Nepal for the study. It was found out that when properly implemented, TQM will be a source of sustained competitive advantage. The study also revealed that while the quality of manufacturing products can be tested and controlled, it is difficult to control the quality of services before delivery because of their intangibility nature. It was recommended among others that organizations should cultivate a total quality management culture; properly designed training programs on TQM should be regularly organized for staff of organizations so as to ensure that best practices of TQM are implemented if they want to achieve a sustained competitive advantage.

KEYWORDS: *Competitive advantage, Total quality management, Service firms, Manufacturing firms.*

1. INTRODUCTION

The intensity of global competition has led to significant changes in the way companies conduct their businesses (Al-Rfou *et al.*, 2012). Providing a higher quality service as a strategy for achieving competitive advantage has become a strategic imperative for organizations and senior

managements around the world. Therefore, quality has become a strategic tool for measuring business performance in today's dynamic environment (Hassan *et al.*, 2012).

Some companies in Nepal today are making every effort to put in total quality management process in their operations to help produce quality products and services in meeting customer needs. Others have also failed as far as total quality management is concerned. Several literatures have suggested that proper TQM implementations can lead to better competitive advantage. In addition, many studies have investigated the notion that TQM practices provide an approach to improve financial performance. A research carried out by Hendriks and Singhal (1997);Hendriks and Singhal (1999) and cited by (Agus and Sagir, 2001), indicated that an effective TQM programs actually improved operating performance.

Even though there is much awareness on total quality management in Nepal, there is more work to be done when it comes to total quality management in all sectors of the economy. In Nepal, the complaints from consumers of service providers and producers of products are on the increase. For instance, there is a huge perception that locally produced goods are substandard compared to products from abroad. This is an indication that most organizations are paying little or no attention to the importance of total quality management in their organizations.

In view of this the implementation of Total Quality Management has been found by organizations as a very important tool to gain competitive advantage. However as to whether customers and organizations really appreciate and feel the impact of TQM, and if indeed TQM is a source of competitive advantage in the service and manufacturing sectors in Nepal was the motivation for this study.

1.1. Research questions

a. What challenges do Nepalese firms face when implementing total quality management?

b. What is the effect of total quality management on the performance of Nepalese firms?

c. Is total quality management a source of competitive advantage in both the service and manufacturing sectors in Nepal?

1.2. Objectives of the study

a. To examine the challenges in the implementation of total quality management by Nepalese firms.

b. To evaluate the impact of total quality management on Nepalese firms.

c. To find out whether total quality management is a source of competitive advantage in both service and manufacturing sectors in Nepal.

2. REVIEW OF LITERATURE

According to Crosby (1984) and Juran (1988) and cited by Hassan *et al.* (2012) definitions of quality include “conformance to requirements‟ and “fitness for use‟. To them the word “quality‟ was initially associated with the goods sector.

With the recent trend in global businesses, Total Quality Management (TQM) has been widely implemented throughout the world. Manufacturing organizations have been using Total Quality Management extensively since the 1920’s. Many firms have arrived at the conclusion that effective TQM application can improve their competitive abilities and provide strategic

advantages on the world market (Wade, 2008). Such benefits are winning customer loyalty, reduction in cost of production and service and well informed and motivated staff, satisfied shareholders and positive recognition (Gilbert, 1992).

Al-Rfou *et al.* (2012) defines competitive advantage as the ability of an organization to produce goods or services more effectively than competitors do, thereby outperforming them.

According to Porter (1980), and cited by Pace *et al.* (1995) organizations achieve competitive advantage through one or a combination of three approaches: differentiation, cost leadership, or focus. They moved on further to explain that firms employing a differentiation strategy attempt to achieve a competitive advantage by distinguishing their firm's products or services from those of its competitors (ie making their products unique).

Firms employing a cost leadership strategy effectively compete on the basis of price. Cost advantages can be achieved through such means as efficiency, cost reductions, tight cost controls or volume. Firm's employing a focus strategy attempt to achieve a competitive advantage by concentrating their efforts on a specific regional market or buyer group. In Porter's research, businesses that did not consciously adopt one of these three strategies had no strategic advantage (Daft, 1991). Firms employing a Total Quality Management approach can simultaneously achieve all three of Porter's competitive strategies. The focus on improving the quality of products and services to the organization's current customers (thereby increasing customer value), leads both to lower costs of production (cost leadership) which produce both greater profits and lower prices, and differentiation (the firm's products and services are seen as providing higher levels of reliability, quality, and value).

According to Romero (2005) many leaders find it difficult creating a competitive advantage because they are not sufficiently aware of the threats and opportunities in the external environment or their firm’s strength, weaknesses and unique competencies. Again when some managers or firms or organizations are successful in business they think they have a competitive advantage. This is not entirely true, because it is not based on any scientific proof. Such managers, firms or organizations are temporarily successful despite having a weak, or no competitive advantage. It is just a matter of time before other firms, with a strong competitive advantage, will take away their business Romero (2005).

3. METHODOLOGY

A survey design involving both qualitative and quantitative research methodology was employed in the study. All service and manufacturing firms in Kathmandu, Nepal formed the population of the study. Simple random and stratified sampling technique were used to select 4 manufacturing firms and 4 services firms from Kathmandu, the capital of Nepal for the study. So in all 8 questionnaires were administered to the firms. In each firm the head of TQM department, the CEO, or the Managing Director was interviewed and asked to fill the questionnaire. The researcher personally administered the questionnaire and conducted the interviews as well. In short, in each firm the one who is in charge of TQM was interviewed and also asked to fill the questionnaire. With respect to the secondary data, relevant literature on Total quality management and Competitive advantage from books and articles in journal were reviewed.

4. RESULTS AND DISCUSSION

TABLE 1
INCLUSION OF TQM PHILOSOPHY IN VISION AND MISSION OF SAMPLE ORGANIZATIONS

S.N.	Organization	Vision	Mission
1.	Norvic Hospital	cost and quality	be committed to CARE
2.	Grandy Hospital	leading healthcare provider	To deliver quality, patient centric healthcare at an affordable cost.
3.	NABIL	can provide myriads of financial solution and create values for all stakeholders	Is driven by the spirit for realizing those visionary aspirations.
4.	Nepal Bank Limited	"Pioneer Bank with complete banking solution"	Network for inclusion
5.	Panchakanya Groups	To be the preferred brand in the nation	To provide quality products at affordable prices
6.	Unilever Limited	sustainability, especially among consumers	"*to add vitality to life.*
7.	KUSOM	"To become a world-class university devoted to bringing knowledge and technology to the service of mankind".	"To provide quality education for leadership"
8.	Pokhara University	to be a leader in the promotion of education through quality higher education, health and community service	a Center of Excellence for Higher Education

Source: Articles of association of organizations, 2017

From table 1, it reveals that all organizations try to adopt some philosophies of total quality management in their mission and vision statements. Especially, hospitals are more conscious about cost and quality whereas, commercial banks are more prone to customer satisfaction. Similarly, manufacturing organizations give more emphasis on sustainability and finally academic institutions try to enhance leadership and being center of excellence for higher education.

A study conducted by Kanji and Asher (1996) showed that in Western European countries, for instance France, Italy, England, and Norway the way firms implement their TQM practices is very complicated and has a long process. The analysis carried out shows that the level of TQM implementation in telecommunication institutions is even worse. The following were the problems noted in the implementation of TQM.

a. The industries do not have even a single conception of quality;

b. There is no clear vision, mission and concrete quality policy for the institutions;
c. The leaders of the institutions do not understand the modern concept of quality and obligation to it;
d. Firms have poor observation, care and control of quality of industrial practice;
e. There is lack of time and resources and most enterprises prefer short-term goals to the long-term ones;
f. The process of achieving total quality management is complicated involving all members of the organization;
g. Organizations require enough time to change employees' traditional standpoint to the concept of quality.

The respondents were asked about the impact of TQM on the performance of their organizations. According to them service quality has gone up, the client base and hence market share has increased, reduction in operational and overall unit cost and consequently increase in profit. The implication is that the implementation of TQM has indeed given their firms a competitive edge over its competitors. This confirms the assertion made by Daft (1991), that firms employing a Total Quality Management approach can simultaneously achieve all three of Porter's competitive strategies. The focus on improving the quality of products and services to the organization's current customers (thereby increasing customer value), leads both to lower costs of production (cost leadership) which produce both greater profits and lower prices, and differentiation (the firm's products and services are seen as providing higher levels of reliability, quality, and value).

All the respondents said or indicated that an efficient and effective implementation of TQM is a source of sustained competitive advantage. All of them stressed the words "efficient and effective" because they feel that if TQM is poorly implemented it will rather increase cost and as a result be a source of competitive disadvantage rather. So all the respondents answered "Yes" to the question; is TQM a source of competitive advantage?

5. CONCLUSION

TQM has been based on the quest for progress and continual improvement in the areas of cost, reliability, quality, innovation, efficiency and business effectiveness. TQM has been a method or technique for constantly enhancing the quality of goods and services delivered through the involvement of personnel at all levels and functions of the organization. Organizations have viewed TQM as the totally integrated efforts for gaining competitive advantage by continuously improving every facet of organizational culture. The application of TQM could be due to many reasons. For example the major drivers for financial institutions to apply TQM are competitive pressures, customer demand for quality and desire to reduce cost. Financial service organizations are very labor intensive, and their staffs come into frequent contact with the public. To deliver quality service, organizations must see teamwork, co-operation and motivation as key elements. Customer satisfaction can only be a result of a range of factors which in financial institutions would include friendly and courteous personnel, the quality of financial products, credit facilities, bank charges and user friendly online system.

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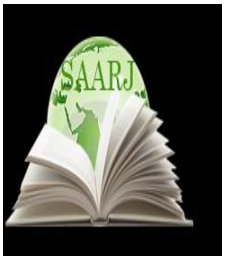

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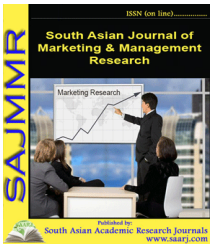

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EFFECTIVENESS OF MODERN METHODS IN THE DEVELOPMENT OF THE INTEGRATION TRANSPORT SYSTEMS

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ABSTRACT

This article presents suggestions for modern ways of managing a single transport system, the creation of complex organizational and technical facilities, the application of logistical engineering principles for effective infrastructure management, and the use of proactive (preventive) management in single transport systems.

KEYWORDS: *Integration Transport System, Logistics Engineering, Complex Organizational And Technical Facilities, Management Methods, Proactive (Preventive) Management*

INTRODUCTION

The importance of transport infrastructure in the globalization process is increasing. Effective establishment of an integrated transport system in developed countries will have a structural impact on the development of all sectors, including the real sector and the social sector. Therefore, it is important to apply modern management techniques to improve international shipping, to align and operate transport infrastructure in line with international standards [1]. The development of international economic relations requires carriers to focus on optimizing their operations in the face of intense competition. Creation and functioning of modern transport and logistics infrastructure, including transport and logistics centers (TLM) and complexes, providing free access to goods in Uzbekistan and foreign markets, are becoming an important issue for the modern stage of development of the transport complex of Uzbekistan.

In the 21st century, state models of formation and use of the state innovation system are developing as complex organizational and technical facilities designed to integrate flexible information technologies and high-efficiency supply chains. From this point of view, the issue of

interaction with various sectors of the economy is very important in terms of improving the efficiency of management and ensuring its stable operation with the transport system of Uzbekistan, its infrastructure, and the system of multimodal transportation.

LITERATURE REVIEW

A number of scholars who have studied the effective management of transport and logistics infrastructure, its content and its impact on other sectors of the economy have expressed different views on the management of transport and logistics infrastructure.

D. According to Bauersoks, he paid particular attention to the problems of the organization of multimodal and intermodal freight, including the benefits and cost-effectiveness of the organization of cargo transportation in comparison with traditional methods. The author also highlights transportation and logistics infrastructure, including transportation networks, vehicles and transport companies [2].

AL Nosov, in the present conditions investigates the problems of establishment and optimal functioning of international transport and logistics systems. Prospects for the development of mixed cargo transportation with a focus on improving the organization of mixed foreign trade on international flights [3].

S. M. Rezer, in his work, addresses the models and challenges of managing regional transport systems in the context of changes. The production and transport system of the country has analyzed in detail the methods of interaction of modes of transport, the methodology of forecasting of the market of transport operations and the principles of planning the work on trunk road transport [4].

Taking into account the above considerations, it is possible to consider the economic and technological feasibility issues, including identifying the needs for the development of transport and logistics infrastructure, developing the infrastructure using modern management techniques to improve the efficiency of management.

RESEARCH METHODOLOGY

In order to effectively manage a single transport system in the country, to solve problems in this process, we have analyzed the logistics index of developed countries, modern methods of management of the transport system, provided directions for the development of their activities by means of comparison, analysis and synthesis.

Analysis and Results

New opportunities are created for the development of multimodal and intermodal freight delivery services in the single transport system and the integration of various participants in freight forwarding. The need for logistics technologies and high-speed transport systems to serve consignors and consignees is becoming a driving force in global transport systems. This increases the complexity of the organizational and technical facilities. Integration processes also aim to improve transport performance, which is reflected in improving customer service, reducing overall costs and transport risks. The application of logistical engineering principles is seen as one of the most important conditions for improving the efficiency of integrated supply chains.

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Delivery of goods and passengers in the transport is characterized by the specificity of life-cycle processes. Different types of vehicles, production and distribution systems are not sufficiently interconnected, which results in lower efficiency, quality and reliability of transport services, which is especially reflected in the operation of supply chains, including their infrastructure. For example, there has been an increase in rail freight traffic in recent years, and there is a risk of loss of access to operating assets (rolling stock, containers).

To assess the role of the railway network in the economy of the country, to study the prospects and trends in the sector, to carry out research on forecasting, to develop material and technical resources, labor and financial status, directly affecting the medium and long-term strategy, the current policy. and developing a long-term strategy.

Therefore, the main issue today is to study the performance of the rail transport system, the stages of development of the transport and logistics infrastructure, and to develop recommendations to address the existing problems in the system. Table 1 presents data on freight turnover and volume of transportation by types of transport in 2012-2018.

TABLE 1 FREIGHT TURNOVER BY TYPES OF TRANSPORT IN 2012-2017 AND SHIPPING [3]

Types of transport	**2012й.**		**2013 й.**		**2014 й.**		**2015 й.**		**2016 й.**		**2017**		**2018**	
	млн. т.	млрд. т-км	млн. т.	млрд. т-км	млн. т.	млрд. т-км	млн. т.	млрд. т-км	млн. т.	млрд. т-км	млн. т.	млрд. т-км	млн. т.	млрд. т-км
Шу жумладан транспорт орқали														
Railway	61,5	22,7	63,7	22,8	65,7	22,9	67,2	22,9	67,6	23	68,1	22,9	68.4	23.1
Automotive	1203,2	27,5	1258,3	29,2	1327,4	31,5	1399,8	33,9	1473,7	13,3	1013.1	13,9	1015.5	14.1
Pipe	64,5	33,0	65,0	31,5	65,8	31,2	60,0	30,0	62,2	28,9	30,2	65,1	31.2	65.9
Air	24,0	121,9	22,2	116,3	23,0	125,1	24,6	131	26,5	132,2	156,9	26,4	157.2	27.1
Total	**1329,3**	**83,4**	**1387,1**	**83,7**	**1458,9**	**85,7**	**1527,0**	**86,9**	**1603**	**88,0**	**1146,2**	**66,9**	**115.2**	**67.1**

Table 1 shows that in 2012-2018, the total volume of freight transported by German railways increased 1.6 times compared to 2000, and the total passenger traffic by 1.3 times. In total, by

2018, railroad transport will reach 68.4 million tonnes. The freight traffic testifies to the development of this sector from year to year in our country. As a result of the measures taken, in 2017 the volume of freight increased by 42% compared to 2012, including by 44% on automobile and by 73% on air transport.Умумий юк айланмаси 2017 йилда 66.9 млн.тонна-км.ни ташкил этган. Умумий юк айланмасида энг юқори улуш автомобиль транспорти (40,11%), қувур транспорти (34,96%) ва темир йўл транспорти (25,5%) га тўғри келмоқда[4].

As a result of the measures taken, the volume of freight traffic in 2018 increased by 5.5% compared to the previous year, including by 5.3% and by 8.8% on air transport. The volume of freight turnover was 91172.6 million ton-km, with the highest share in total freight turnover (39.4%), pipeline transport (35.0%) and railway transport (25.4%). %). Estimating the prospects for the development of Uzbekistan's economy and the development of other types of transport, it is envisaged that the growth in rail transport will be 5% or 2.3% annually on average, to $ 83.7 million in 2016. tons to 146 million tonnes in 2030 tons per year [5].

It is estimated that the 1% increase in investment in the transport sector will increase the volume of freight transport by 0.94%. It should be focused on further optimizing the management of the consumer-oriented transport logistics system while ensuring better diversification of transport routes for improving the quality of services and transportation.

One of the most important tasks is to reduce the share of transport costs in the cost of production, as the increase in transport costs in the cost of industrial production has a direct impact on the competitiveness of domestic goods. Domestic shipping costs, such as the cost of international shipping services (including transit services), remain relatively high and have been increasing rapidly in recent years.

The high cost of freight is also typical of the railway sector. Specifically, a comparative price analysis shows that manufacturers in Uzbekistan pay $ 5.15 for 1 kilometer of freight (60 tons of textile products) per kilometer. In Kazakhstan, this figure is $ 0.93, in Kyrgyzstan - $ 2.65, in Tajikistan - $ 6.83, and in Turkmenistan - $ 2.65. In Uzbekistan, shippers pay $ 2.51 for a distance of 500 to 1,000 kilometers, $ 0.68 in Kazakhstan, $ 2.60 in Turkmenistan [5].

The transport system is characterized by the fragmentation of the supply chain, the overloading and unloading of goods from the supplier to the recipient, which results in increased costs for integrated logistics services. This is due to the underdeveloped transport and logistics companies and related infrastructure. Most of the transport and logistics operations in the country occur in 1PL and 2PL, with some companies providing limited services in 3PL format. There is a lack of large operators capable of establishing effective cooperation between road, rail and aviation.

The main constraints to increasing freight traffic are:

-Underdeveloped transport and logistics system;

- Significant pace of development of the road network is lower than the rate of automation of the society;

- Underdeveloped transport infrastructure (border crossings);

- Limited capacity of rail companies;

- Unreasonable high cost of aviation fuel.

Large transport links are underdeveloped with a network of multimodal terminal logistics centers (TLMs) across Uzbekistan's railways network. As a result, it is impossible to ensure the speed of container turnover, as well as the large number of freight connections, and the increased distribution of freight flows in the transport infrastructure of various types of transport [6].
As mentioned above, one of the ways to increase the efficiency of establishing and managing Transport Logistics Systems (TLTs) is logistics engineering. Some projects do not use logistical engineering or all the processes required to organize projects within the infrastructure, but the principle of 'joining many'. As an example, the transport process can be considered in the direct supply chain linking the manufacturer, TLM, and consumer (Figure 1).

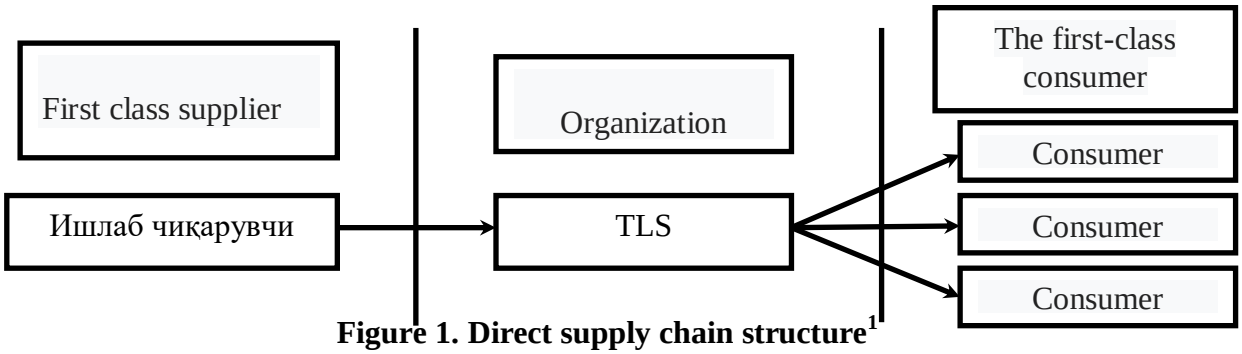

Figure 1. Direct supply chain structure[1]

Such a supply chain fully meets the requirements of technological integrity, which is crucial for determining the impact of transport-specific processes on the end of the chain. Technological integrity is achieved by combining intermediate links so that the product "outputs" from one syndicate to another at the same time as the delivery time is reasonable.

In this case, the transport acts as a conveyor, which completes the continuous technology process and provides service to all supply chains. However, this approach requires up-to-date information, mathematics, and software that allow for the evaluation of a holistic transport process. It is considered as a mobile technology bridge in digital logistics based on the standard of electronic data interchange in management, commerce and transport.

Under current economic conditions, manufacturing, warehousing, customer placement, and flexible delivery of traditional (functional) logistics processes modeling the supply chain to optimize costs and orders. Not only does a supply chain, but also a separate enterprise based on the logistics mechanism of integrated management in intellectual and Internet technologies (such as the Internet of Things), require a new firm approach.

It is difficult to imagine the modern production and service systems that are currently distributed across the territories of international corporations and holdings that are not yet integrated into the transport system. The systems, tools and complexes used are often multifaceted, ambiguous in operation, hierarchy, superfluous elements and connections, versatility and complexity of tasks and processes.

Under current conditions, life-cycle infrastructure can facilitate the creation of conditions for innovative development of robotic load-handling equipment and advanced technology solutions, including international engineering and transport construction. For example, it is difficult to imagine the principle of a systematic approach to warehouse activities in railroad transport without the use of logistical engineering technologies in commercial use [7].

It is important to keep in mind that due to resource shortages it is impossible to maintain the required level of operation of modern organizational and technical facilities that should be designed to be used in the event of failures, accidents and even disasters. (in a wider sense).

To this end, new processes of proactive (alert) management can be recommended, which include targeted procedures for changing the structure of organizational and technical facilities and providing a comprehensive systematic forecasting of the system's performance and enhancing its performance [6].

In contrast to reactive management, which is traditionally used in proactive (alerting) management infrastructure of organizational and technical facilities, the latest predictor and stimulus in formulating and implementing management effects based on the concept of systematic (integrated) modeling in relevant monitoring and management systems. preventing accidents by creating opportunities. The proactive (alert) management and monitoring technology of complex organizational and technical facilities can be considered as promising technology for complexity management for multi-structured systems (logistics facilities), whereby, in the event of (predicted) situations, the objects can achieve the required tasks with a required level of stability. [7].

CONCLUSIONS AND SUGGESTIONS

In short, the expanded logistics engineering model and the lifespan model for the single-vehicle infrastructure and development require adaptation, which will lead to the emergence of innovative recovery modeling in the 21st century. Such development must be based on the concept of complex organizational and technical facilities aimed at the merging and merging of enterprises to overcome the problem of uncertainty and chaos. The multimodal and intermodal methods of freight forwarding based on trends are considered to be the most important locomotive for the development of transport infrastructure and will create new opportunities for productive integration of the participants.

While "digital logistics" is the burden of electronic data readiness for infrastructural redundancy, it is important to focus on the complexity of forecasting complex logistics and logistics infrastructure when misleading ministries come to fruition. . Innovative logistics technologies in the transport market of Uzbekistan will allow to improve the multimodal and intermodal transport development and the degree of impact on the efficiency.

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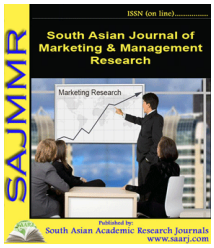

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PROBLEMS IN THE MARKETING OF AGRICULTURAL PRODUCTS IN INDIA -AN OVERVIEW

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ABSTRACT

Agriculture is the backbone of an agriculture country, like India. The marketing of farm products is a complex process in agriculture. Agricultural marketing involves many activities and processes through which the nutriment and raw material move from the farm to the final consumers. The marketing system should be so designed as to give proper reward to the efforts of the agriculturist. But unfortunately, in India, the middlemen enjoy the benefits at the cost of disability, illiteracy of the poor Indian farmers. This paper focuses to know the problems faced by the farmers in the marketing of agriculture products and to offer valid suggestions to overcome the problems faced by the Indian farmers at the time of marketing their produced goods.

KEYWORDS: *Problems Of Farmers, Agricultural Marketing, Middlemen And Farm Products*

INTRODUCTION

Agriculture plays a key role in the economic development of a nation. India's prosperity depends upon the agricultural development. Agriculture process is basically different from industry works. Marketing of Agricultural products is very complex process in India. In our country the farmers produced various types of agricultural commodities. It covers the services involved in moving an agricultural product from the Farm to the consumer. Numerous interconnected activities are involved in doing this, such as planning production, growing and harvesting, grading, packing, transport, storage, agro -and food processing, distribution advertising and sale. The agricultural sector in India is the largest sector in the country's economy. Agriculture sector contributes nearly 30% to India's Gross Domestic Product (updated on January of 2017), and it contributes nearly 23% of the country's total export.

Agricultural Marketing in India

India is an agricultural country and one third population depends on the agricultural sector directly or indirectly. Indian agriculture contribution to the national gross domestic product (GDP) is about 25 per cent. With food being the crowning need of mankind, much emphasis has been on commercializing agricultural production. For this reason, adequate production and even distribution of food has of late become a high priority global concern.

Today's agricultural marketing has to undergo a series of exchanges or transfers from one person to another before it reaches the consumer. There are three marketing functions involved in this, i.e., assembling, preparation for consumption and distribution. Selling on any agricultural produce depends on some couple of factors like the demand of the product at that time, availability of storage etc.

In India, there are several central government organizations, who are involved in agricultural marketing like, Commission of Agricultural Costs and Prices, Food Corporation of India, Cotton Corporation of India, Jute Corporation of India, etc. There are also specialized marketing bodies for rubber, tea, coffee, tobacco, spices and vegetables. Under the Agricultural Produce (grading and marketing) Act of 1937, more than forty primary commodities are compulsorily graded for export and voluntarily graded for internal consumption.

Agriculture Marketing

Agricultural marketing involves many activities and processes through which the nutriment and raw material move from the agriculture land to the final consumers. Agriculturist supplies goods for consumption and for exports and manufacturing sectors. The marketing system should be so designed as to give proper reward to the efforts of the agriculturist. But unfortunately, in our country, the middlemen enjoy the benefits at the cost of disability, illiteracy of the poor Indian agriculturists. A little part of the price paid by buyers reaches the farmers while the big part is engulfed by the middlemen.

Problems of Marketing of Agricultural products

Mahatma Gandhi once remarked that India lives in the villages, which in true sense means that more than 80 percent of the population has their domicile in rural areas and 89 percent of the workers belong to the rural sector while almost 99 percent of the farming community lives in villages. Therefore, much stress is to be given on improving the rural economy. Almost three quarters of the word's 1.2 billion poorest people live in remote rural areas and depend on agriculture for their survival.

One of the worst problems faced by the farmers o f Meghalaya is that o f marketing their products for which majority o f the farmers fail to get remunerative prices and compel to dispose their products at a very low price and thereby the middlemen avail the opportunity of deriving due benefits. It is no denying the fact that the present scenario of agricultural marketing in Meghalaya is very unacceptable and unfavorable which is mainly due to the major constraint that the farmers usually do not have information about the prevailing market prices of commodities.

Theoretical background of the study

Due importance should be given to reviewing the earlier literatures which is the stepping stone for carrying out the new study. The prime motive behind review of literature is to substantiate and publish the new work from that of the previous ones. This chapter focuses its attention on problems in marketing of agricultural products in India. An effort is made by the researcher to compile the problems provided by agricultural concerns by referring various journals, news papers, magazines, dissertations, thesis, internet and other sources.

*Jayasubramanian.P and Sasikumar (2015)***,** this study focused to identifying the "Problems and prospects of Turmeric production as perceived by small farmers in Erode District". In their study observed that India is basically an agrarian society where sole dependence has been on agriculture since time immemorial. Trading of agriculture produce began for exchange of money, and from then, trading to marketing of agricultural produce began although mostly it is a way of traditional selling. Agricultural marketing as a concept is still evolving in Indian society.

*Rajendran.G and Karthikesan.P (2014)***,** while analyzing the "overview of Agricultural Marketing in India", the organized marketing of agricultural commodities has been promoted through a network of regulated markets. While by the end of 1950, there were 286 regulated markets in the country, their number as on 31 march 2006 stood at 7566. In addition, India has 21780 rural periodical markets, about 15 per cent of which function under the ambit of regulation. But the rural periodic markets in general and the tribal markets in particular, remained out of its developmental ambit.

Problems faced by the farmers in the Marketing of Agricultural Products

In this paper we analyze and discuss the major problems in marketing of agricultural products in India. Hence the government of India has taken various steps to bring about revolutionary change in agricultural by establishing APMCs (Agricultural Produce Marketing Committees), Co-operative societies, information centers, Kisaan call centers and other institutions which provide services to farmers and to regulate the markets but still many problems are being large. Those main problems are as follows:

- **Lack of awareness:** Due to the limited access of the information, farmers are not familiar with new Innovation, Policies, Recent change in the price and distribution policies, new innovations and techniques, new rules and regulations etc.
- **Lack of Finance:** To finance seasonal requirements more finance is necessary in a particular period. Financial need also varies from year to year depending upon the quantity of production.
- **Large Number of Middlemen:** Concentration process is very important for agricultural goods. The middlemen sell the agricultural goods to the consumers at a higher price and give lower returns to the agriculturist.
- **Transportation and Storage Facilities:** There is high demand for transportation and storage facilities in the harvest seasons, in order to protect the produce from deterioration in quality. So special transportation and storage facilities have to be provided.
- **Grading and Standardization:** Grading and standardization is important for agricultural products. But it is not easy to grade and standardize the products, as there are many agricultural goods and one produce has many qualities.

- **Branding:** Agricultural products do not create demand. Advertising is not possible due to the limited resources of agriculturists. As there are many qualities branding is also not an easy job.

AGRICULTURAL MARKETING REFORMS

Agricultural sector need to develop to drive the market in the form of growth, employment and economic prosperity both in rural and urban areas from above problems. The government of India has launched inundated schemes and programs to enhance the marketing of agricultural produces.

Grading and Standardization:

The Agricultural Produce (Grading and Marking) Act, 1937 empowers the central government to fix quality standards, known as „AGMARK" standards, and, to prescribe terms and conditions for using the seal of AGMARK. So far, grade standards have been notified for 181 agricultural and allied commodities. The purity standards under the provision of the PFA Act and the Bureau of Indian Standards (BIS) Act, 1986, are invariably taken into consideration while framing the grade standards. International standards framed by Codex/International Standards Organization (ISO) are also considered so that Indian produce can compete in international markets.

Marketing Research and Information Network:

This is a central sector scheme that was launched by the Department of Agriculture and Cooperation in March 2000. The scheme aims at progressively linking important agricultural produce markets spread all over India and the State Agriculture Marketing Boards/ Directorates and the DMI for effective exchange of market information. The market information network, AGMARKNET (agmarknet.nic.in), is being implemented jointly by DMI and NIC, using NICNET facilities available throughout the country.

Agricultural Marketing Infrastructure, Grading and Standardization

The scheme for the development/strengthening of agricultural marketing infrastructure, grading and standardization was launched on 20 October 2004. Under this scheme, a credit-linked investment subsidy is being provided on the capital cost of general or commodity-specific marketing infrastructure for agricultural commodities and for strengthening and modernization of existing agricultural wholesale markets, and rural or periodic markets in tribal areas. The scheme covers all agricultural and allied sectors including dairy, poultry, fishery, livestock and minor forest produce.

Farmers' awareness Camps:

The APMB"s is organizing farmers awareness camps to make them aware of postharvest management, and other important components of agricultural marketing, i.e. market regulation, food safety & quality, grading and standardization, market information and good agricultural practices etc. so that they can get adequate yields and fair returns their produce.

Establishment of cooperatives:

NGO's Co-operatives and NGO"s are opened to help the farmers at village levels. They help them by providing information about new technologies, conveying the advantages of contract farming, and banking system which help farmers in solving their financial problems etc.

SUGGESTIONS

It is very important to remove the problems in the marketing of agricultural products. Following measures can be adopted to improve the agricultural marketing

- For proper marketing of agricultural products adequate and appropriate transport facilities are necessary. They government must take proper steps to improve the transport facility to the farmers for marketing their products.
- Agricultural growth, particularly in staple crops, is among the best routes for achieving these and other development goals in developing countries.
- The world agriculture and food systems must become more productive, more resource efficient, more resilient, and less wasteful.
- The government should increase the credit facilities to the small farmers. No doubt all the commercial banks are providing this facility to the farmers but still it is not sufficient.

CONCLUSION

In this paper concluded that if the government and farmers work together the problems of marketing agriculture products can be solved. The department of agriculture and Cooperation also formulated a model law on agricultural marketing for guidance and adoption by the state governments. The model legislation provides for the establishment of private markets/yards, direct purchase centers, consumer/farmers' markets for direct sale and promotion of public-private partnership (PPP) in the management and development of agricultural markets in India. The Central and State government should frame policies to protect the welfare of the farmers, because farmers are the backbone of Indian economy. The government should provide special incentives and motivation to the farmers to incorporate an agriculture based production and marketing companies in their location.

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