

Studying the relationship between the operational risk management and optimizing managers' turnover in financial institutes

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Abstract: There have been many reasons for the financial institutes especially banks to show interest in risk management, because the operational environment of financial institutes has noticeably changed and encountered more hazards in the last few years. In this survey, given the importance of matter, it has been tried to study the relationship between managing this kind of risk with optimizing managers' turnover in banks by identifying the most important aspects of the operational risk in financial institutes. In this regard, the researcher has stated four hypotheses, one of which has been rejected with statistic tests and the software SPSS, while the other three ones have been approved of. The results of this survey indicate that the most important aspects of operational risks in financial institutes is the human errors, and controlling this aspect leads to optimize managers' turnover in the Prosperity Bank (Bank-e-Refah). Moreover, applying tangible and intangible control systems in different branches of the Prosperity Bank in the city of Kermanshah, managers' turnover has been optimized. The result of the unaccepted hypothesis shows that controlling computer errors which are of other aspects of the operational risks doesn't result in optimizing managers' turnover in the Prosperity Bank (Bank-e-Refah), or in other words, there is no meaningful relationship in controlling computer errors and optimizing managers' turnover.

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1. Introduction

Competition in the commercial atmosphere requires the ability of business and financial institutes to optimally absorb the environmentally limited resources including customer, qualified manpower, and optimally monetary resources. Using these resources optimally is the second factor bearing an effective role in gaining a competitive advantage for financial companies and institutes. In this regard, despite all the plans and considerations made by the experts and specialists of financial companies and institutes, there are some factors being out of companies' controls, which may increase companies' likelihood not to achieve any of the operational goals at different levels of probability. In this regard, the possible lack of access to the predetermined goals is called risk. According to the goals affected by risk, and also given the factors influencing the likelihood to achieve the goal, the dominant risk on banks and financial institutes can be categorized in different groups. In this paper, it has been tried to identify the most important aspects of the operational risk, and then to study these aspects thoroughly. In the next stage, the relationship between managing the operational risk and optimizing managers' turnover in the Prosperity Bank (Bank-e-Refah) in the city of Kermanshah will be studied.

1.1. History

Risk management is one of the familiar concepts in banking and its history dates back to the time of banks' formation. The ordinary banks have participated in two financial markets since a long time ago. From one hand, they are considered as the demanders of depositors' financial resources; on the other hand, they are considered as the suppliers of funding sources. The relativeness of bank services and products with money in the intermediation activities alongside the effort and endeavor to maintain competitiveness in the market has assumed the necessity of risk management as the main pillar of modern banking in the institutes of monetary intermediation. There have been many reasons for the financial institutes, especially banks to show interest in the operational risk management. Historically studying the matter, the first banks which took the initial steps in order to create this area in their risk management 15 years ago, having economic incentives with the purpose to minimize their noticeably harmful events, while nowadays due to fulfilling the contents of the first declaration by Ball committee, published in 1999, this matter is crucial for many banks, and now, meeting the legal requirements of the operational risk to expand the activity field of banks to the international banking scope is necessary. In this regard, the great management thinker, Peter Drucker, stated in the 1970s, "Economic activities mean applying the

present resources for an uncertain future." The historical studies done by Dr. Drucker showed that obtaining the better economic operability is always followed by more uncertainty, so the importance of risk management becomes more visible (Nguen H. and Faff R., (2006)).

This survey has studied banking problems by stating two hypotheses, and using a descriptive-traversal research plan and random sampling. The required information of 100 board members and senior bank managers have been collected through a valid and reliable questionnaire and nonparametric statistical methods were used to test hypotheses. The results have indicated that:

1. There is a significant relationship between the board of managers and the senior management of banks with the optimization of the operational risk management for electronic management.
2. There is a significant relationship between the domestic controls with the optimization of the operational risk management for electronic banking.

2.1. Describing the concepts and terminologies

Given different scientific resources, various definitions for risk can be found, which each of them of course present different definitions depending on their angles. In the Help Management Dictionary, risk is defined like this: "Risk is everything which jeopardizes the present, the future, assets, or the earning power of a company, institutes, or an organization." Weston and Brygma define the risk of an asset like this: "Risk of an asset is the possible change of the future productivity due to the asset."

1.2.1. Definition of risk management

There are many different definitions for risk management, all of which includes the same concept and focus on the process of risk management. We review the most important ones. "Risk management is the process of identifying a risk, reducing it to an acceptable level, and finally evaluating the results on the system." [Roychowdhury S., (2006)]

1.2.2. Definition of the operational risk

There are a lot of different definitions for the operational risk, all of which almost includes the same concept. The most important ones are mentioned in the following:

"The direct and indirect losses due to inappropriate and inefficient internal processes, people, and systems or the external events are called the operational risk. (Such as creating flaw in computer systems, abusing and cheating bank documents, robbery and embezzlement, embezzlement in balances, intentional and unintentional human errors.)" [Michaels. Gibson, 1997]

Optimizing managers' functionality: Managers' functionality consists of three parts of ability, environment, and motivation. In this paper, managers' ability is tested with a questionnaire designed by Lykert's spectrum.

3.1. The concept of risk

Risk is defined as a deviation in events which exist in a certain situation. Risk in banking has a different nature from the other economic aspects, due to the following reasons. In other words, risk management is more sensitive, complicated, and difficult in banks than other economic sectors.

1. The number and variety of banking operations.
2. Different natures of this operation.
3. The capital position of banks and its limitation.
4. Protecting the interests of bank shareholders.
5. Status of depositors' resources and their frequency.
6. Maintaining depositors' interests.
7. Variety in interests of banks and depositors.
8. The type of bank duties which distinguish them from other economic agencies.
9. The number of recipients of credit facilities.
10. Different statuses of each facility-taker.
11. A large number of bank clerks dealing with financial resources.

Lack of enough expertise in resource management, registering many financial operations, many domestic and foreign monetary transfers, and [Klein A, (2002)].

1.1.3. Types of banking risks

Banking risk falls into the following types in many countries:

1. Credit risk: The likelihood of not returning the principal and interest of the facility granted.
2. Liquidity risk: The likelihood of inability to fulfill the short-term financial commitments.
3. Market risk: Prediction error that is resulted from fluctuations in market rates including:
 - Risk of fluctuations in benefit and inflation rate.
 - Risk of fluctuation in currency rate.
 - Risk of fluctuation in prices.
4. Risk of capital: The likelihood to encounter shortage of the required capital as the last financial support.
5. Operational risk and settlements of accounts: The likelihood to observe error in control and fluidity of the financial settlement accounts systems. [Smith C. W. et.al1986]

2.3.1. The most important banking risks

The most important risks which financial institutes like banks encounter fall into 3 groups:

Credit risk: The relevant risk to losses caused by lack of payback or delayed payback of the principal or the interest of the loan by the customer. Market risk: The relevant risk to possible losses on banks' assets according to changes and fluctuations of market factors. (Like currency rate, interest rate, shares price). Operational risk: The relevant risk to direct or indirect losses caused by incomplete or incorrect processes within the organization, people, system, or events outside the organization. [Khiari W., Karaa A. and Omri A., (2007)]

4.1. Risk management model

The paradigm or model of risk management is a set of tasks which are like a sequence of chained activities throughout the lifecycle of a mission, which are:

Identifying risks: Searching and locating risks, before they turn to problems. Analysis: Converting risk data to decision-making information. Evaluation of the impact levels, the likelihood and time limit of risk, classifying, and prioritizing them. Planning: Compiling the risk data to decisions and activities (both now and future) and applying them. Tracking: Scrutiny of risk indices and reducing activities.

Control: Reform of deviations toward reducing-risk programs. Communications: Information and feedback from external and internal risk activities provides existed and arisen risks.

1.4. 1. Strategies of risk management

When risks are identified and evaluated, all the techniques of managing risks fall into some classes of 4 main levels:

- Transfer
- Avoidance
- Reduction (or relieve)
- Acceptance (or maintenance)

The correct use of these strategies may not be possible. Some of them may involve trade-offs which might not be acceptable for the individual or organization deciding in the risk management area.

Risk avoidance: The avoidance strategy means not to do an activity which causes risk. For example, an asset may not be bought, or entering a business may be overlooked so that its problems and disasters are avoided. Another example in this regard is not to fly the plane so that the risk of theft is avoided.

Risk reduction: The reduction strategy means to apply practices which reduce the intensity of loss.

Risk acceptance: The acceptance strategy means to admit the loss when it happens. In fact, self-guarantee or personal guarantee is classified in this level. This is an acceptable strategy for small risks against which the cost of protection may be greater than all resulted losses.

5.1. The purpose of survey

The main purpose of this survey is to find the relationship between the operational risk management and optimization of managers' turnover, and in fact, it seeks solutions to control and manage the operational risks in Bank-e-Refah to optimize managers' turnover in different branches. The minor purposes of this survey are:

1. Management of the operational risks and optimization of managers' turnover through reducing computer errors.
2. Management of the operational risks and optimization of managers' turnover through reducing manpower errors.
3. Management of the operational risks and optimization of managers' turnover through creating and deploying tangible control systems.
4. Management of the operational risks and optimization of managers' turnover through creating and deploying intangible control systems.

Fulfilling these goals, the ultimate purpose of risk management will be achieved, which is the survival of organization and reduction of expenses in long term.

6.1. The importance and necessity of research

Risk can be stated in every area, example of which is bank and banking affairs. Banks are in the center of attention in this area, due to their great importance in economic system. The reasons for risks to exist in banks can be justified with its type of operation, because on one hand, banks collect people's capital for which they are responsible, on the other hand, using this capital, they attempt to do banking operations and economic activities. Also, banks' and institutes' activities in the realm of giving facilities, investments, issuing various savings bonds, different certificates of deposit, and warranties, opening credit letters, and all in all, playing roles in the market of money and capital have exposed them to hazards and specific risks of such activities. Therefore, the more time passes and each sheet of banking system's calendar turns, the more the importance of managing banks in order to grow and develop economically becomes obvious and the necessity to pay attention to the risk management by presenting definitions and concepts of current importance in controlling a financial agency or the banking industry will be clearer. Since, the business and industry world is encountering many changes like globalization, outsourcing, and forming strategic alliances, the operational risk management bears an increasing importance in the activities of business and non-profit organizations.

The importance of this matter is more prominent when banks which haven't conducted the risk management plan will not be able to do monetary and financial trades with the European banks, especially Euro realm banks which are under the management and regulations of the Central Bank of Europe, according to the rules of Ball 2 from January 2006. Nowadays, the successful banks all over the world pay a lot of attention to the risk subject, especially the operational risk. So, in most of them, the overall management responsibility has been on the shoulder of a newly established entity called "Risk Management Committee".

The programs of operational risk management can accumulate the available risks at the company level on the business line in regard with obtaining a general viewpoint of the existing risks. This action helps identify natural immunity and direct management attention to damages at the level of company.

7.1. The operational risk

Managers deal with risk in every organization. The focus of management at the high levels of organization is often on the speculative nature or risk. Management moderates the investment risk of organization's assets toward the potential return of the investment, and with the strategic considerations, it manages risk in the portfolio of activities and investments. However, at the operational levels of an organization, staff, and the management usually focus on managing one dangerous type of risk which is called operational risk. As the staff and managers perform the job processes, the operational risks emerge. The existing deficit in the nature of processes can lead to inefficiencies and problems during the operation, which can have an unpleasant impact on organization's success.

2.1 Reasons of operational risk and its management

For two reasons in recent years, a lot of attention has been paid to operational risk in organizations:

1. The exponential growth of technology use
2. Increase of communication among participants in capital markets

Although technology has facilitated many tasks in organizations and more importantly resulted in the growth of organizational productivity, its development has made organizations face new difficulties. [lewis, N.C.2004].

2.1.1 Methods of measuring operational risk:

The methods of measuring operational risk are: the basic indicator method; the standardized method, the advanced methods of measurement.

8.1. The basic indicator method

It is the simplest method which relates the cost of required capital in order to deal with every type of operational risk to a unique index (like gross income). Gross income here is an index which states the total size of financial activities by the institutes. So, the required capital to deal with operational risks is equal to a constant percentage (α) of the gross income.

Generally, in this method:

$$(1) \text{ KBIS} = \alpha * \text{GROSS INCOME}$$

KBIS indicates the amount of capital that be placed to deal with the operational risk based on the basic indicator method.

α shows the amount of coefficient for the minimum legal capital.

GROSS INCOME shows the average gross income of the bank over three years ago. Here, the gross income is an indicator which states the total size of activities by the financial institute.

1.8.1. The standard indicator method

The Ball 2 committee classified the activities of scrutinized banks in 8 sections based on the standard indicator in 2003, and calculated the required capital for each section to deal with operational risk with the coefficient β .

The β factor indicates the relationship between losses caused by operational damages of each section with the mentioned financial indicator which states the size of activities in that section. To execute the standard method, first the activities of banks must be designed in the proposed framework of Ball committee, then, each of these digits must be multiplied by the β factor which is related to its organizational unit.

Having the β factor, the cost of operational risk is calculated as following:

$$(1) \text{ Cost of operational risk} = \sum_i \beta \phi_i$$

That ϕ_i is the relevant indicator to the business line i. [Geczy, C. C., B. A. Minton, C. Schrand, (2006)]

2. Material and Methods

1.2. The advanced methods of measurement

The advanced approaches of measurement are more complicated than the other ones, and like the previous approaches, they don't have standard and completely specific methods to measure the required capital for the operational risk, and they don't let banks use the advanced methods to measure the operational risk.

2.2. The research methodology

Given the fact that this survey scrutinizes the relationship between managing the operational risk and optimizing managers' turnover in Bank-e-Refa in the city of Kermanshah from the experts' point of view, it is a descriptive-traversed study from the viewpoint of research methodology, and it is an applied survey in terms of purpose.

3.2. The statistical society

One of the important steps in each scientific survey is to study the statistical society. After the conducted inspections in this survey, it was clarified that the mentioned society includes the total master and bachelor alumnus of business administration from the Islamic Azad University of Kermanshah from the beginning of establishment to the year 1387, and the total staff of Bank-e-Refah in the city of Kermanshah, which all in all form a society, and the dominant proportion is to have the bachelor degree of business administration for sample people.

4.2. Sample size and the determination method

The number of people in the statistical society of business administration graduates and Bank-e-Refah's staff according to the provided statistics by the statistic department of Islamic Azad University of Kermanshah and the statistic department Bank-e-Refah in the city of Kermanshah is 2112 people. Given the fact that the considered proportion to determine the sample size is to have the bachelor degree in business administration, and considering that 2006 people have this degree, the success ratio or p is calculated as following:

$$p = 2006/2112 = 0.95$$

$$q = 1 - p = 1 - 0.95 = 0.05$$

To calculate the sample size, the Cochrane's formula or the estimation of ratios is used so that the sample size of 55 people is achieved, and they have been asked to answer the provided questionnaire. The confidence interval is considered 95%, which consequently, α is 0.05 and $\alpha/2$ is 0.025, which according to the normal distribution table, the relevant Z to $\alpha/2$ is equal to 1.96. The value of D or the tolerance is considered 5%. The method of calculating sample size with Cochrane's formula is as following:

$$N = 2112$$

$$D = \%5$$

$$P = 0/95$$

$$Q = 0/05$$

$$Z_{\alpha/2} = 1/96$$

$$n = \frac{N(Z_{\alpha/2})^2(pq)}{(N.d^2) + (Z_{\alpha/2})^2.p.q}$$

$$n = \frac{2112 \times (1/96)^2 \times (.95 \times .05)}{(2112 \times .05^2) + (1.96^2 \times .95 \times .05)} = 54/66 \approx 55$$

As the calculations show, according to the above formula, the sample size has been resulted for 55 people, and the researcher in this survey has considered the sample size as 63 people, according to what the faculty members and consultants said, and to raise the research's precision.

5.2. The data collection tools

1. The library approach (taking notes and etc.)
2. Books, articles, journals, and internal or external published statistics
3. The internet
4. The primary data source (questionnaire and interview)

5. Validity and reliability of the questionnaire

Before distributing the questionnaire, its validity and reliability must be evaluated. In this survey, Cronbach's alpha has been taken with the help of SPSS software to test the reliability of questionnaire as the following:

$$r_{\alpha} = \frac{j}{j-1} \left(1 - \frac{\sum S_j^2}{S^2} \right)$$

j = the number of question subsets of the questionnaire or the test

S^2_j = the variance for the test j

S^2 = the total variance

3. Results

In this survey, the relationship between operational risk management and optimization of managers' turnover in Bank-e-Refah in the city of Kermanshah has been analyzed, from experts' viewpoints and using collected data through questionnaire, and using the independence test and K2 test, the frequency table, the frequency percentage, figures and tables, descriptively and analytically. According to those hypotheses, the survey has been tested and the power of relationship between the independent and dependent variables have been tested using Fee and Kramer approach.

In the first hypothesis of the survey, the frequency table and figures of questions from 1 to 5 which relate to the first hypothesis showed that there is a meaningful difference between many and very many choices with few and very few choices. On the other hand, according to the independent test using K2 test, the calculated statistics is greater than the table statistics, which show the approval of mentioned hypothesis is done. However, the test of determining power between dependent and independent variables show 30% relationship power between these two kinds of variables. Therefore, it can be concluded that reduction of manpower errors results in optimization of managers' turnover in Bank-e-Refah, from experts' viewpoint, and given Freedman's analysis, this hypothesis is of the first degree of importance and priority. In terms of analyzing the second hypothesis, according to the independent test by using K2 test, the calculated statistics is smaller than table's statistics, which shows the denial of the mentioned hypothesis. On the other hand, the test of determining relationship power between the dependent and independent denies this hypothesis, too. So, it can be concluded that from experts' point

of view, there is no relationship between reduction of computer errors and optimization of managers' turnover in Bank-e-Refah. In regard with analyzing the third hypothesis, the frequency tables and figures of questions 12 to 16 on the questionnaire which relate to the third hypothesis show that there is a meaningful difference between high and very high choices with low and very low choices. On the other hand, according to the conducted independent test by using K2 test, the calculated statistics is greater than table's statistics, which shows the approval of the mentioned hypothesis. However, the test of determining relationship power between dependent and independent variables shows 33% relationship power. Therefore, it can be concluded that applying tangible control system results in optimization of managers' turnover in Bank-e-Refah, from experts' point of view, and given Freedman's analysis, this hypothesis is of the second degree of importance and priority. The frequency table and figures of questions 17 to 21 on the questionnaire related the fourth hypothesis, showing that there is a meaningful difference between high and very high choices with low and very low choices. On the other hand, according to the conducted independent test by using K-score test, the calculated statistics is greater than table's statistics, which shows the approval of the mentioned hypothesis. However, the power determining test of the relationship between the dependent and independent variables show 31% relationship power between these two variables. Therefore, it can be concluded that applying intangible control systems results in optimization of managers' turnover in Bank-e-Refah. Given Freedman's analysis, this hypothesis is of the third degree of importance and priority.

4. Discussions

Having studied the relationship among the mentioned factors in survey's hypotheses and optimization of managers' turnover in branches of Bank-e-Refah in the city of Kermanshah from experts' viewpoints, using the statistical tests, it has been proved that there was a meaningful relationship between the reduction of manpower errors and application of tangible and intangible control systems with the optimization of managers' turnover. The priority of each of them, according to Freedman's approach, is as following:

1.4.The first hypothesis: Reduction of manpower errors results in optimization of managers' turnover in Bank-e-Refah in the city of Kermanshah.

2.4. The third hypothesis: Application of tangible control systems results in optimization of managers' turnover in Bank-e-Refah.

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3.4. The fourth hypothesis: Application of intangible control systems results in optimization of managers' turnover in Bank-e-Refah.

However, in this survey, the second hypothesis has not been approved of, and it has been proved that there is no meaningful relationship between reducing manpower errors and optimizing managers' turnover in Bank-e-Refah in the city of Kermanshah. In other words, the researcher's claim about optimization of managers' turnover in Bank-e-Refah by reducing computer manpower has not been admitted.

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