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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	INTERNATIONAL STUDENT COLLABORATION AND EXPERIENTIAL EXERCISE PROJECTS AS A PROFESSIONAL, INTER-PERSONAL AND INTER-INSTITUTIONAL NETWORKING PLATFORM <i>JOSE G. VARGAS-HERNANDEZ, DR. ADRIAN DE LEON-ARIAS, DR. ANDRES VALDES-ZEPEDA & DR. VICTOR MANUEL CASTILLO-GIRON</i>	1
2.	AN EMPIRICAL STUDY ON MARKETING OF GADWAL SARIS IN INDIA <i>DR. K.V. ACHALAPATHI, PREETI SHRIVASTAVA & SHAILAJA BANGARI</i>	10
3.	IDENTIFYING THE FACTORS EFFECTIVE ON ORGANIZATIONAL INNOVATION IN SERVICES <i>MOSTAFA ALIMIRI, MOHAMMAD HASSAN MOBARAKI & FATEMEH MOHEBBI FAR</i>	17
4.	THE EFFECT OF INDIVIDUALITY AND POWER DISTANCE ON INCOME SMOOTHING <i>SEYED HOSSEIN HOSSEINI & MOHAMADREZA ABDOLI</i>	22
5.	MANAGEMENT OF ELECTRICITY POWER SUPPLY IN DELTA AND EDO STATES OF NIGERIA: PROBLEMS AND PROSPECTS <i>ANTHONY A. IJEWERE</i>	26
6.	EMOTIONAL INTELLIGENCE AND ITS IMPACT ON TASK PERFORMANCE AND CONTEXTUAL PERFORMANCE <i>U.W.M.R. SAMPATH KAPPAGODA</i>	32
7.	THE RELATIONS BETWEEN CASH MANAGEMENT POLICIES AND PROFITABILITY OF SMEs IN KANO <i>DR. MUHAMMAD AMINU ISA</i>	37
8.	ACCELERATED LEARNING SOLUTIONS (ALS) – A MODEL FOR LEARNING ON THE JOB & PRODUCTIVITY ENHANCEMENT OF FRESH ENGINEERING GRADUATES THROUGH TITP (TELECOM INDUSTRY TRAINING AND PLACEMENT) <i>SREENIVASAN RAM, SUDHIR WARIER & LRK KRISHNAN</i>	40
9.	RURAL E-BANKING: A TECHNICAL FRAMEWORK USING MOBILE TERMINALS <i>DR. V. B. AGGARWAL, DEEPTI SHARMA & ARCHANA B. SAXENA</i>	47
10.	BIOMETRIC SECURITY IN MOBILE BANKING <i>S. T. BHOSALE & DR. B. S. SAWANT</i>	52
11.	SPIRITUAL INTELLIGENCE – A CHANGE MANAGEMENT STUDY <i>MADHUSUDAN.V & DR. NAGALINGAPPA.G</i>	56
12.	INTEGRATED RELIABILITY MODEL AND FAILURE MODES EFFECTS & CRITICALITY ANALYSIS FOR OPTIMUM RELIABILITY <i>K. S. LAKSHMINARAYANA & Y. VIJAYA KUMAR</i>	59
13.	FACTOR ANALYSIS OF DEFECTS IN SOFTWARE ENGINEERING <i>DR. SEETHARAM.K, LAXMI B RANANAVARE & CHANDRAKANTH G PUJARI</i>	65
14.	CONCERNS FOR SECURITY IN MIGRATING TO CLOUD COMPUTING <i>NITASHA HASTEER, DR. ABHAY BANSAL & TANYA SHARMA</i>	67
15.	PREDOMINANCE OF TRADITIONAL SECTOR IN UNORGANISED MANUFACTURING OF INDIA <i>DR. NEERU GARG</i>	70
16.	THE INSIGHT VIEW OF QUALITY OF WORK LIFE: A STUDY ON THE EMPLOYEES OF PUBLIC SECTOR AND PRIVATE SECTOR BANKS IN TIRUNELVELI DISTRICT <i>A. MADHU, T. RITA REBEKAH & DR. R. MOHAN KUMAR</i>	73
17.	DATA MINING FOR MOVING OBJECT DATA <i>VOORE SUBBA RAO & DR. VINAY CHAVAN</i>	78
18.	ECONOMIC TOURISM MANAGEMENT: AN APPLIED S.H.G. MODELING THROUGH CASE ANALYSIS OF ELLORA CAVES & DAULATABAD FORT – AN INDIAN APPROACH <i>DR. S. P. RATH, DR. BISWAJIT DAS, SATISH JAYARAM & MEENA SINHA</i>	81
19.	IMAGE RETRIEVAL USING CONTENT OF IMAGE <i>PREETI MISHRA & AVINASH DHOLE</i>	87
20.	FACTORS INFLUENCING COMPANY VALUATION: AN EMPIRICAL ASSESSMENT OF THE INDIAN CORPORATE SECTOR <i>DR. KAUSHIK CHAKRABORTY & NILANJAN RAY</i>	90
21.	CHRONOLOGICAL STUDY ON POSITIONING WITH EMPHASIS ON MALLS <i>SURESH SANNAPU & NRIPENDRA SINGH</i>	94
22.	CYBER ATTACK MODELING AND REPLICATION FOR NETWORK SECURITY <i>B.VENKATACHALAM & S. CHRISTY</i>	98
23.	WORKING CAPITAL MANAGEMENT OF HUL – A CASE STUDY <i>SOMNATH DAS</i>	102
24.	A STRATEGIC FRAMEWORK TOWARDS INDIAN RURAL RETAIL INDUSTRY IN THIS COMPETITIVE ERA <i>URVASHI GUPTA</i>	107
25.	EVALUATION OF THE PERFORMANCE OF TRAINING PROGRAM AT CARBORUNDUM UNIVESAL LIMITED, RANIPET <i>R. GEETHA & DR. A. DUNSTAN RAJKUMAR</i>	112
26.	QUALITY DATA REPRESENTATION IN WEB PORTAL – A CASE STUDY <i>S. CHRISTY, S. BRINTHA RAJAKUMARI & DR. M. SURYAKALA</i>	117
27.	PERFORMANCE ANALYSIS OF FIRE ALARM SYSTEM BASED ON WIRELESS SENSOR NETWORKS USING NS-2 <i>B. RAJESH, D. UPENDER & K. SRINIVAS</i>	120
28.	COMPARISON AND ANALYSIS OF WIRELESS NETWORKS FOR HEALTH CARE TELEMONTORING SYSTEM <i>KANTA JANGRA & KAVITA DUA</i>	125
29.	ECO-FRIENDLY MARKETING AND CONSUMER BUYING BEHAVIOR: AN EMPIRICAL STUDY <i>ADIL ZIA</i>	131
30.	A PROPOSED FRAMEWORK FOR AUTO REGULATED MIGRATING PARALLEL CRAWLER <i>VISHAL, SUBHASH CHANDER & NEELAM</i>	136
	REQUEST FOR FEEDBACK	140

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IDENTIFYING THE FACTORS EFFECTIVE ON ORGANIZATIONAL INNOVATION IN SERVICES

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ABSTRACT

In market economy, development and introducing new services are essential for an organization's survival. Today, the service organizations find themselves facing various competitive pressures. Currently, the development and efficiency of such organizations rely on new services development. Due to extensive competitions, the organizations are forced to rapidly expand the new services. Usually, this increases the uncertainty and risks related to the new services. Therefore, it is necessary for the managers to have sufficient information on success and failure of new service projects. The combination of required organizational factors effective on performance of the new services is also essential. The main objective of this paper is to identify the factors effective on services innovations in ministry of labor. In fact, this paper intends to investigate how to promote the service innovation and what are the effective organizational factors on it. The research is considerable from this perspective that by identifying the effective organizational factors on service innovation, proper policies could be made in order to guide the improvement in the service innovation. Therefore, it is attempted, by obtaining models from previous researches, to create a proper basic framework to perform this research. In this research, in order to study the effective organizational factors on service innovation, the previous literatures were used. Then, based on information obtained from the case study and interviews, the research's framework was extracted. The questionnaires were created based on this framework. Finally, the analysis of the acquired data signified that the aspects of the effective organizational factors are categorized into technical development, new products development, organizational structure, organizational competence development, and technical chain combination. 8 factors in technical development aspect, 6 factors in development of new products aspect, 7 factors in organizational structure aspect, 3 factors in development of organizational competence, and 6 factors in technical chain combination factor were extracted from the interviews and the previous researches. In the research's quantitative stage, a statistical population consisted of managers and employees of the case study were considered and the simple random sampling method was used for sampling. Also, in this stage, the questionnaires were used as the data collection tool and the research's validity was measured by the experts in the qualitative stage, and the questionnaire's reliability was approved through Cronbach's alpha of 0.82. The factor analysis was applied in this stage for the data analysis.

KEYWORDS

Effective Organizational Factors, Service Innovation, Ministry of Cooperatives, Labor and Social Welfare.

INTRODUCTION

The organizations should consistently adapt themselves with changes occurring in their environment and catch up with them. An organization should not change its status occasionally, but must consider that the change phenomenon is permanent and should change continuously and consistently. The current organizations should move along the path of innovation and change, and this should not be performed in order to increase their prosperity and success, but this process ensures their survival in the competitive world (Lusch and Vargo, 2006).

Learning and innovation are substantial needs of organizations which seek survival and effectiveness, and several organizations are extensively looking for innovative methods and approaches to improve effectiveness, efficiency, and flexibility (Paulson, 2006).

The boundary between tangible and intangible products is increasingly vanishing. Day after day, for most products, it is getting harder to distinguish whether it is a commodity or service. Most considerations related to new product development and innovation, whether the final consequence is tangible (e.g. commodities) or intangible (e.g. service), are identical. Schiirr (2008) describes the innovation process in services section as "the learning process and the non-systematic search". However, it seems that most companies engaged with manufacturing of tangible products have already officialized the product development processes. According to the investigations carried out in 2000 on 700 American companies, the results show that about one third of these organizations' profit is due to the new services they provided, while it was one fifth in 1985 investigations. Considering these issues, the new service development process management also needs applying new managing approaches (Tidd and Hull, 2003).

These changes indicate a process at the verge of the new service emergence, the signs of which are as follows:

Competitive advantage: The service development for companies and individuals has become the competitive advantage's determining factor.

Strategic problem: Services innovation has turned into a strategic problem for companies.

Increasing activity: The amount of new services introduction doubles every 5 years. Reducing the period of services introduction is consisted of reducing the time of services introduction and increasing the amount of services development.

Each organization's special conditions: Each organization must implement a proper services innovation program, by considering endogenous and exogenous special conditions.

Consistent improvement: The consistent improvement of activities and services innovation performance is an essential issue (Akmavi, 2005).

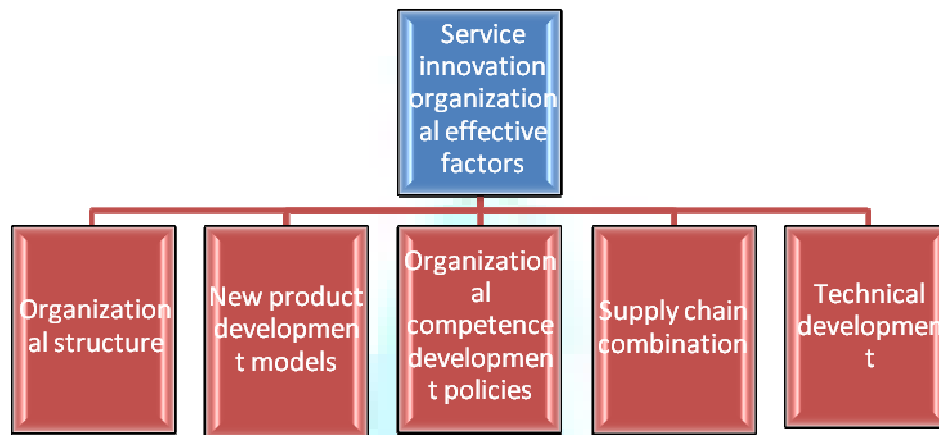
The question that this paper is looking for its answer is that what are the effective organizational factors on services innovation in ministry of labor and social affairs and how is their effect?

LITERATURE REVIEW

Research's theoretical framework

In this research, in order to create a proper theoretical framework, the Leonard et al. (2007) classification including five main topics (strategic, organizational, technical, planning, control, and operational) which mostly cover the effective factors of this field, was used. The reason to choose this framework was its generality in employing all the expected variables of the past literatures.

FIGURE 1 – RESEARCH'S CONCEPTUAL MODEL

*Research's background*

The innovation is a management system emphasizes on the organization's purpose, looks for exceptional opportunities and determines whether they are suitable for the organization's strategic path, identifies the success criteria, and also looks for new opportunities (Blazevic et al., 2003). The organizational innovation is described in literatures carried out on changing and innovation as "a single-aspect event that signifies the company's tendency towards creating and implementing different innovations, such as technological, executive, product, and process (Munoz, 2008).

It is mandatory for the managers and employees to be aware of the innovation and creativity so that they could enter to the job and activity area by possessing the required and new knowledge and it is in this area that they would play an effective role in purposes realization and organization's progress, through being creative. The innovation is essential for every organization's survival and as the time goes by, the uncreative organizations would disappear, and although such organizations might be successful in a period of their life in an operation they are engaged in, in the end they would have no choice but to shut down or to change their system. In organic organizations, an innovative and creative process, which runs in an upward path, will be enhanced and approved.

Different studies performed on services innovation field define the service innovation organizational main effective factors (Oldenboom and Abratt, 2000). Some of these factors are as follows: service innovation structured process (transparent strategy, strategies, operational programs, etc.), determined purposes, service definition, long-term perspective (to have future programs), powerful leaders, to perceive the environment, senior management support, customer participation in the process, and paying attention to him/her, as well as the team. The team must have a common and transparent perspective (Lusch and Vargo, 2006).

The organizational characteristics which are mentioned in the topic's literature include: new service innovation projects organizing method, project's organizational structure, the mergedness level of two sections of marketing and R&D, and personal characteristics of key individual who are engaged in new services innovation activities (Reamer and Icerman, 2003).

Lovelock and Wirtz (2004) mention some of the services performance factors. Although this study concentrates on new services development processes and do not directly point out the success or failure of the services, the obtained results provide an interesting viewpoint on aspects effective on new services success. They found that relationships are the key point in new services development in order to avoid work mistakes among line personnel.

Paulson (2006) published an article titled "a model for new service development in tourism different services". The purpose of this paper was to create an NSD model to aid individuals active in tourism industry in order to perceive the complexities of new service development. They presented four major steps for new service development: detecting new opportunities, defining the service notion, defining the service system, and introducing the service to the market. The first step, namely detecting new opportunities, includes the strategic purposes factors and the informal manufacturing of purposes. The second step, defining the service notion, contains the ideas screening factors, clarifying the notion elements, and adjusting and formulation scenarios. The factors of the third step, defining the service system, include processes, participants, and physical facilities. The final step's factors, introducing the service to the market, include process's final revision, training, and the trial run.

Ragot (1994) conducted two case studies in this field on Swedish communication industry. It was found that different qualitative factors are applied in development process. Reliability, commitment to service, service distinct notion.

Drew (1994a) evaluated the innovation activities in service organizations based on a field study of 44 banks and financial institutes in Canada. The main identified obstacles for innovation are a decentralized strategy, lack of investment, increasing bureaucracy, economical conditions, and industry laws. Proper management information systems, employment of new employees, change in job description, and bonus systems have the most contribution to innovation. Management and marketing are the main stimuli of innovation. Almost all organizations adopt a team approach, employ product champion, and apply project management methods. They have a medium application of strategic links in innovation and planning progress to increase their future application.

Easingwood (1986) showed by research that service properties are effective on new products development. The simultaneity of production and consumption is effective on new product idea production and new products evaluation. Also, the need to participate personnel in the NPD process was emphasized. The intangibility leads to customers' reliance on the organization's image; therefore, organizations should pay more and precise attention to the image of their new product's introduction. Usually, the screening of new products has been informal and the trial marketing has rarely been carried out. This is because: most new products are copied and speed of utmost importance, they are usually provided to complete the product's line and therefore profit is not the main purpose, the experiencing cost is not lesser than entering cost. The new services evaluation presents difficulties due to the problems in determining the common providing systems costs.

Atuahene-Gima (1996a) named the major factors in new services as existence of a human resources strategy in product development and cooperation/teamwork during development process. The other important factors are success in entering to market skill and marketing synergy. For services, application of new technologies is also important while for products, the technology synergy is more important.

The Schirr's (2008) study, "new services innovation: the user's role in the process" was a proof for the fundamental data theory derived from De Brentani's studies. Two of the substantial questions of this study are as follows: how do new services develop? What is the role of customers' interference in new services development? The summary of the research's findings are the proof of the following hypotheses: the application of customers' interference methods to predict the success of more innovative NSD's is more effective than application of market research limited tools. The NSD attempts are more successful when the process is more formal but more flexible and more iterated.

A model consisted of (1) customer-oriented and forward organizational culture, (2) market research methods, and (3) formal and repeatable NSD processes, guarantee the NSD's success.

Munoz (2008) in a research conducted on mobile operators industry identified a set of success factors in new services delivery development process. Two endogenous success factors and four exogenous factors were introduced, and in order to complete it, five success measures were determined.

Edvardson et al. (2005) in a study called challenges in service development and creating value by services identified the challenges and success factors on new service development. Their primary emphasis was on challenges in new business field. The field in which the services and new technologies competition puts pressure on companies and market in order to develop new services which can create value for customers. Then they concentrated on creating values which are suitable for customers.

Martin and Horne (1993) in their paper called "service innovation: successful vs. unsuccessful organizations", showed that the success rate of unsuccessful organizations is less than 49 percents. This study asked participants to explain their approaches to new service development. The successful organizations plan their new services closer to their current portfolio and allow their champion product to manage the first phase of product entering to the market. However, there is no difference between the amount of strategic planning behind processes and using an official process. Generally, the service organizations are weak in this domain. Additionally, it was signified that the competitive motives are extensively effective in idea creation.

RESEARCH METHODOLOGY

The present research is considered a practical research. The data is gathered through combinational research method. In the qualitative stage we will examine the qualitative data collection in the case study. In the quantitative stage the survey method is used.

STATISTICAL POPULATION

In the qualitative stage of the research, the statistical population is experts in the innovation and organization. Expert in this research is defined Innovation in management consulting services have, in service innovation and entrepreneurship are related to organizational research. The statistical population in the quantitative stage includes managers and employee of ministry.

SAMPLING METHOD

In the **qualitative** method the sampling was limited. It was done to the saturation level; a list of experts was prepared by the researchers, then the respondents were called and they were informed about the meeting subject. Then, meetings were held at their offices and interviews were done. Finally 18 individuals cooperated in the research and the data for research was gathered.

In the quantitative stage, since the employees and business managers were limited, the statistical sample was calculated and gathered according the sample volume estimation in unlimited population. A hundred and fifty individuals responded. Measurement error (ϵ) in the formula which shows the precision of the estimation is 8% and certainty level 0.95%. To maximize the sample volume, p and q values were assumed 0.5. This way, the questionnaires were distributed among the respondents and finally 137 questionnaires were gathered (return rate, 91%).

SAMPLING METHOD

In the **qualitative** method, sampling was targeted (purposeful); the list for all experts was prepared and the respondents were told about meeting time and subject. The sampling method in the quantitative stage was random.

DATA COLLECTION METHODS

In the qualitative stage, authentic journals and library studies were used for data collection. Also, half-structured interviews with experts about organizational factors affecting the service innovation were done to collect data. As multiple validation resources, documents related to innovation services were reviewed. In the quantitative stage, data was gathered with the help of interviews done with the managers and employees. Measurement scale in the questionnaire was the five scale Likert questionnaire ranging from "Completely disagree" to "Completely agree".

System's validity and reliability measurement method:

In the qualitative stage, the research's repeatability or reliability increases by data and methods documentation while plan's implementation and by using qualitative standard methods. The system's validity is determined through service innovation experts counseling. In the quantitative stage of the study, in order to measure the measurement tool reliability, the Cronbach's alpha method was applied. As it is shown in table (1), the Cronbach's alpha value for technical development components was 0.96 (very good), for product development components was 0.84 (very good), for technical chain combination components was 0.76 (medium), and for competence development policies components was 0.70 (medium). Also it should be mentioned that the questionnaire's validity was measured by experts during the qualitative stage.

TABLE 1 – QUESTIONNAIRE'S CRONBACH'S ALPHA VALUES

Scale	Number of questions	Cronbach's alpha coefficient
Technical development components	8	0.96
New product development components	6	0.80
Organizational structure components	7	0.84
Supply chain combination components	5	0.76
Competence development policies components	3	0.7

DATA ANALYSIS (RESEARCH'S FINDINGS)

Data analysis of the qualitative stage was performed in form of open and axial codings. Some codes, or notions and concepts as in this research, were directly extracted from interviews and others were researcher-designed, based on concepts derived from theoretical basics review and service innovation literature's observations, experiences, and findings documentations (pre- or researcher-designed codes), and the participants viewpoints were introduced as current concepts for representation. Therefore, the subjective classes were chosen based on the described theoretical framework, and after data classification and management, the verbal propositions were collected in five default theoretical framework's components. It is worthy to mention that due to article space limitations, these propositions and their components are not presented.

TABLE 2 – ORGANIZATIONAL COMPONENTS EFFECTIVE ON SERVICES INNOVATION (TOPICS, ASPECTS) (RESEARCHER-DESIGNED)

Topics	Aspects
Organizational structure	Management support
	Personnel independence
	Organization’s social capital
	Human capital (people qualified to perform tasks)
	Organizational concepts
	Available time
	Organizational culture
Supply chain combination	Suppliers and customers interference in R&D projects
	Turning the organization into a network of customers coalitions
	Suppliers and rivals
	The organization’s geographical cover by customers
	The number of rivals providing the service
	Number of suppliers
Technical development	Employees and managers traffic among customers
	Employees and managers capabilities relevance to the company’s current technology
	The amount of changing company’s activity processes to maximize the success of a new technology
	The amount of performance and marketing knowledge changes with technology change
	Organization’s structure change status in some of organization’s technological changes
	The strong and stable role of product’s supporters in innovation process
	The role of supporting senior manager’ services in an organization
	The stable role of product’s supporters in an organization
Competence development policies	The amount of personnel’s awareness of the substantial and stable role of product’s supporters in innovation process
	The amount of senior managers discussion and analysis on how to adapt the organization’s axial capabilities with market needs
	The number of created innovations based on the organization’s axial capabilities
New product development	The personnel and managers knowledge about the organization’s axial capabilities
	Using market researches in sample product evaluation
	Concentrating new product ideas on the companies competences
	Informal relations during work process
	The ability to track new product information
	Sharing knowledge inside the team
	Using market researches for leading R&D plans
	To have a plan for new product development

In the topics’ qualitative section, the aspects and components of the organizational effective factors on service innovation in ministry of labor were extracted. These results were used as the inputs for future analyses which is a proof for the extracted factors of this stage. Based on qualitative stage results, the research’s conceptual pattern was approved as show in figure 1.

According to the research’s conceptual pattern, five hypotheses were formed as following which were examined through confirmatory factor analysis, the results of which are reported in the next section:

Hypothesis title: The technical development factors are effective on the service innovation in ministry of labor and social affairs. The investigated variables are as follows:

Employees and managers capabilities relevance to the company’s current technology, the amount of changing company’s activity processes to maximize the success of a new technology, the amount of performance and marketing knowledge changes with technology change, organization’s structure change status in some of organization’s technological changes, the strong and stable role of product’s supporters in innovation process, the role of supporting senior manager’ services in an organization, the stable role of product’s supporters in an organization, the amount of personnel’s awareness of the substantial and stable role of product’s supporters in innovation process.

Hypothesis title: Do the supply chain combination factors have effect on the service innovation of the ministry of labor and social affairs? The investigated variables are as follows:

Suppliers and customers interference in R&D projects, turning the organization into a network of customers coalitions, suppliers and rivals, the organization’s geographical cover by customers, the number of rivals providing the service, number of suppliers, employees and managers traffic among customers.

Hypothesis title: Do the organizational competences development policies factors have effect on the service innovation of the ministry of labor and social affairs? The investigated variables are as follows:

The amount of senior managers’ discussion and analysis on how to adapt the organization’s axial capabilities with market needs, the number of created innovations based on the organization axial capabilities, the personnel and managers knowledge about the organization’s axial capabilities.

Hypothesis title: Do the new product development models factors have effect on the service innovation of the ministry of labor and social affairs? The investigated variables are as follows:

Using market researches in sample product evaluation, concentrating new product ideas on the companies’ competences, informal relations during work process, the ability to track new product information, sharing knowledge inside the team, using market researches for leading R&D plans, to have a plan for new product development.

Hypothesis title: Do the organizational structure factors have effect on the service innovation of the ministry of labor and social affairs? The investigated variables are as follows:

Management support, personnel independence, organization’s social capital, human capital (people qualified to perform tasks), organizational concepts, available time, organizational culture.

Quantitative method:

As it is shown in the table, all the fit indices approve the pattern. Generally, if the GFI value is equal or higher than 0.98, it would be the sign of pattern’s proper fit. On the other hand, RMSEA must be lesser than 0.05 and its confidence interval must not be very large, which in this pattern is about 0.035. Also, the values for NFI, CFI, and RFI which are larger than 0.9 represent the pattern’s section satisfactory level. The ratio of chi-squared to degree of freedom, as the most important index for pattern’s fit determination, was less than 2 and equal to 1.57, which is in a suitable domain.

TABLE 3 – PATTERN'S FIT CRITERIA

Criteria	Acceptable limit	The earned score
Ratio of chi-squared to degree of freedom	Less than 2	
Root Mean Square Error of Approximation	Less than 0.05	
Goodness of Fit Index (GFI)	Larger than 0.98	
Comparative Fit Index (CFI)	Less than 0.9	
Relative Fit Index (RFI)	Larger than 0.9	

After rationally proving the pattern's fit using the data, the significance of pattern's components and the relations between them was evaluated. All of these parameters indicate the simultaneous effectiveness degree of each observer and hidden parameter in the general pattern. Generally, the hidden parameters (the detected factors in the qualitative research) define 89% of the service innovation dependant variable variance. That is, by using this pattern, 89% of the organizational effective factors on the service innovation which were in ministry of labor, were identified and 11% of the effective factors were not identified.

DISCUSSION AND CONCLUSION

This research is consistent with the Munoz's (2008) research in which it was concluded that technical and expert resources in fields combination are effective on solution optimization for new services in form of cost/efficiency. The technical skills and specialty in IT equipments and systems have simplified the new service combination and have reduced the time of entering to the market.

Also these results confirm the Jong and Vemeulen (2003) results that examined the existing literatures on service innovation and identified 5 success determining factors classes in service innovation.

Also the results of Schirr (2008), Edvardson et al. (2005), Atuahene-Gima (1996a), and Abratt and Oldenboom (2000) are confirmed. By confirming the research's conceptual model, the organizational factors effective on service innovation are identified as: new product development, organizational competence development policies, organization's technical development, organizational structure, and also the emphasis on technical chain combination in organizations, which considering it in form of a concept has a significant effect on service innovation development.

SUGGESTIONS

Finally, the following suggestions are presented in order to develop and deepening this section of knowledge:

SUGGESTIONS FOR FUTURE RESEARCHERS

1. Performing explorative researches by using other qualitative research approaches;
2. Performing case study in other service organizations;
3. Implementing the results obtained from the current study on non-governmental organizations (NGO's) and governmental organizations and performing their comparative study.

SUGGESTIONS FOR POLICY-MAKERS

In addition to the mentioned suggestions, finally, some application suggestions for managers and policy-makers of ministry of labor are presented as follows:

1. Enhancing these aspects and criteria in organizational domains and organization's active units;
2. Supporting the service innovation systems and attempting to deploy this system in order to strengthen the organizational entrepreneurship;
3. Eliminating the negative environment related to innovations and explaining the key points of service innovation and presenting integrated programs in order to enhance the services and performed innovations;
4. Supporting the creative and managers and employees in order to utilize the long-term positive results;
5. Explaining the service innovation aspects by indicating the successful examples of service innovation throughout the world and encouraging managers to employ this pattern.

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