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ABSTRACT

In the highly competitive global market, only organizations survive in which, knowledge has replaced labor and natural resources as the key source of sustainable growth and development. The organizations that have learnt doing things differently and doing different things. In such organizations knowledge and learning are widely considered as sustainable sources of competitive advantage.

In this paper first we take a look at the history and the pioneers of knowledge management in Iran analyzing the evolutionary trend of knowledge management and its current condition in Iran.

Then we trace the emphasis put on knowledge management in the fourth economic, social and cultural development plan proposed by the Iranian Government with an analytical approach.

Next but still important we present the summary of the 5th Seminar of the Industries and Mines Research and Development Centers by the name of Research and Development and Knowledge Management which was held on 23 and 24th of Nov. 05 in Tehran by The R&D Society of Iranian Industries and Mines with the help of the Deputy Office for Planning, Research & Development of the Ministry of Industries & Mines and the Deputy Office of Research of the Ministry of Science, Research & Technology. Since we were directly involved in the above mentioned seminar from both scientific and executive point of view we believe this seminar is the most up to date case study about knowledge management in Iran.

Keywords

Knowledge Management, Iran, The Fourth Economic, Social and Cultural Development Plan, The 5th Seminar of the Industries and Mines Research and Development Centers, The R&D Society of Iranian Industries and Mines.

1.0 THE HISTORY OF KNOWLEDGE MANAGEMENT IN IRAN

Iran which is a country with a civilization of more than 3000 years can be regarded as one of the first founders of knowledge based approaches in the time when the superiority indicators of the nations were power and the number of soldiers or the weapons and no attention was paid to knowledge and science.

Ferdosi the famous Iranian poet regarded knowledge as the key to success and power and Naser Khosro another well known poet believed by knowledge the human being will be able to conquer the universe.

Darius one of the kings of Achaemenians which is the first dynasty in Iran asked God , as written in the historical remnants, to purify his country from lies and wrong doings and to grant his nation knowledge and wisdom that once more highlights the importance of knowledge in the ancient Iranian culture.

However, unfortunately knowledge based approaches have always been fundamental. Those who intended to expand science and knowledge through out the country were always defeated .Qaem Maqam Farahani can be regarded as one of the first persons who really grasped the importance of knowledge inside the country and he sent some delegations to the west so that knowledge can be transferred from the west to Iran but unfortunately the authorities who deeply believed in people's ignorance as their only success factors opposed and stopped such movements. Many intellectuals such as Qaem Maqam, Amir Kabir and Dr.Mosadeq who were some of the victims of the mentioned oppositions and resistances could never find an outlet for their abilities and talents to develop and expand knowledge.

In conclusion the Islamic revolution is known as a turning point of the values, a regime that was

based on consumerism turned into a value based regime in which a lot of emphasis was put on theology and moral models which in itself lead to more attention to knowledge. However this trend faced a lot of difficulties such as the Imposed War or the Embargoes that served to slow down the movements. By the time the war ended and parallel to the renovation of the Industries the need for knowledge and knowledge expansion was felt more.

According to the statistics that was conducted by ISI Iran stands in the second rank after Turkey as the second leading country in knowledge among the Islamic Countries.

In the recent years a special attention has been paid to knowledge so that according to the ISI database Iran's knowledge creating proportion ratio in the world is 0.009 although still not very satisfactory but has had a very noticeable growth from 0.001 in 1996.

2.0 THE ROLE AND THE IMPORTANCE OF KNOWLEDGE MANAGEMENT IN THE ECONOMIC DEVELOPMENT OF THE COUNTRY

Parallel with the expansion of information technology and the necessity of optimum application of knowledge and the advent of knowledge management in the world ,the need for reaching a knowledge based society was felt in our country.

As a consequence the fourth development plan is intended to prepare the grounds for the development of knowledge management in the Iranian society with a knowledge based approach.

Now we will elaborate more on the sections dealing with knowledge management in the fourth development plan.

2.1 Knowledge Based Economic Growth:

The first section of the fourth economic, social and cultural development plan law that this year is the first year of its implementation; by the name of Knowledge based Economic Growth in interaction with the world economy is being implemented. According to the fifth article of this law The Management and Planning organization shall set up some productivity indicators in order to assess and rank the

executive organizations so that the annual budget assignments are done according to further assessment of the productivity of these organizations and the extent of satisfying the targeted goals.

2.2 Knowledge Based Competitiveness

Due to the fact that the interaction with the world economy seriously requires competitiveness in the country business units and the one and the only way to competitiveness is being knowledge based, the third chapter of the above mentioned law is competitiveness and the fourth chapter is knowledge based development which contains the message and the idea that sustained competitiveness is the predecessor of sustained growth and requires knowledge management in the country.

2.3 Growth Due to Knowledge Based Productivity

In the 37th article of this law the government is known responsible for increasing the work force productivity by 3.5 percent on average each year, non oil exports by 10.7 on average and share of advanced technology goods in non oil exports from 2 to 6 percent and finally achieving 31.3 percent of the total economic growth targeted in the plan by promoting productivity with the purpose of strengthening and deepening competitiveness.

For achieving these goals ,according to article 43 of the development plan law, the government shall improve and upgrade the knowledge, technology and the work force skill level as the main way of creating added value in the modern economy.

3.0 THE IMPORTANCE AND THE POSITION OF KNOWLEDGE MANAGEMENT IN IRAN'S INDUSTRIES

Today, the field of business for industrial and mining units has become very competitive and its complexity increases everyday, and sooner or later all the Country's Production Units will have to accept this competitive and complex atmosphere; so that it is necessary to obtain the needed capability in order to speed up the conformity conditions with the developments occurring in their business. As a matter of fact,

the company that can conform to the conditions of development faster and better, will be more successful and therefore the expressions, Knowledge Management, and knowledge creation have been presented as complementing those of Learning Organizations and Organizational Learning.

Due to the critically significant role that knowledge management can play in the industrial development of the country from one side, and reaching a knowledge based society from the other side it has received a lot of attention from industrial sectors of our country.

4.0 THE 5TH SEMINAR OF THE INDUSTRIES AND MINES RESEARCH AND DEVELOPMENT CENTERS

The R&D Society of Iranian Industries and Mines as a pioneer of Iran's industrial development has held 5 seminars highlighting the importance of knowledge management in Iran's Industries.

We believe this last seminar by the name of Research & Development and Knowledge Management can be regarded as the most up-to-date reference for the status of knowledge management in Iran as a result we in the next sections we will take a closer look at this seminar by analyzing the paper and the conference feed forward and feed back .

Then we will make an analytical comparison between this seminar the previous four.

The 5th Seminar of the Industries and Mines Research and Development Centers by the name of Research and Development and Knowledge Management was held on 22-23 November 2005 in Tehran Summit Hall the specialized bases are as follows:

1- RESEARCH & DEVELOPMENT AND CREATION OF KNOWLEDGE IN THE PRODUCTION UNITS

- “ Knowledge Orientation” in Organizations and the Role of Research & Development in it;
- Development of Knowledgeable Employees and the need for it in the continual development of the said Production Units;
- Research & Development, Prerequisite in Attaining Fast Response Organizations

(FRO) and Fast Learning Organizations (FLO);

- Creation of “ the Wealth of Knowledge Orientation”, the Main Condition for the Continual Development of Countries;
 - Research & Development, Creation, Attainment, Retaining & Developing Knowledge in the said Production Units;
 - Research & Development of the Technology State and Practical use of Knowledge in the said Production Units;
- ##### **2- INTERACTION OF RESEARCH & DEVELOPMENT OF KNOWLEDGE IN THE GLOBALIZATION OF THE PRODUCTION UNITS**
- Knowledge Management and Development of Intellectual Assets, Sub-structure for the globalization of the said Production Units;
 - Knowledge Management and its Place in the Globalization of the Country’s Industry & Mining;
 - Research & Development, Breeding Ground of Creativity and Inventiveness in Organizations with the Knowledge Management Tool;
- ##### **3- INTERACTION OF RESEARCH & DEVELOPMENT AND KNOWLEDGE MANAGEMENT IN CREATIVITY & INVENTIVENESS OF THE PRODUCTION UNITS**
- The Relation between Research & Development, Knowledge Management with Recognition and Increase of creative and Inventive Potential in the said Production Units;
 - Creation of Knowledge in Research & Development and its Management, basic condition for Attaining Creative and Inventive organizations;
 - Research & Development, Breeding Ground of the Organizations’ Creativity & Inventiveness with the tool of Knowledge Management;
- ##### **4- RESEARCH & DEVELOPMENT AND KNOWLEDGE MANAGEMENT AND ITS RELATION WITH NEW MANAGEMENT TOOLS & SYSTEMS**
- Relation of Research & Development & Knowledge Management with Incubators, Growth Centers and Science and Industrial Parks;
 - Management Tools & Soft wares and their Use in Research & Development & Knowledge Management;
 - Strategic Planning & its Place in Research & Development & Knowledge Management in Production Units;

- Research & Development's Information Network;
 - NGOs, Industrial Societies and Organizations and their role in Research & Development & Knowledge Management;
 - Role & Place of Knowledgeable Employees in the development of Research & Development & Knowledge Management in Production Units;
 - Introduction of Tools & Evaluation Systems and their Place in the Management of Research & Development Units;
- 5-IMPASSES, PROBLEMS AND OBSTACLES FACING RESEARCH & DEVELOPMENT ACTIVITIES IN PRODUCTION UNITS AND PRESENTING SOLUTIONS
- 6-SCIENTIFIC AND RESEARCH ACHIEVEMENTS RELATED TO THE SEMINAR'S BASIS

Holding this seminar gave us a valuable insight about knowledge management in Iran.

5.0 THE SCIENTIFIC SPECIFICATIONS OF THE FIFTH SEMINAR

5.1 The Quantitative Development of the Papers

- The increase in the number of papers can be taken into account as an indicator showing the positive attention trend of this subject among the individuals and the companies as shown in Fig.1 the rise by 88 percent in the number of the paper abstracts and also 65 percent growth in full paper submissions, compared to the previous seminar, strongly supports the above mentioned fact.

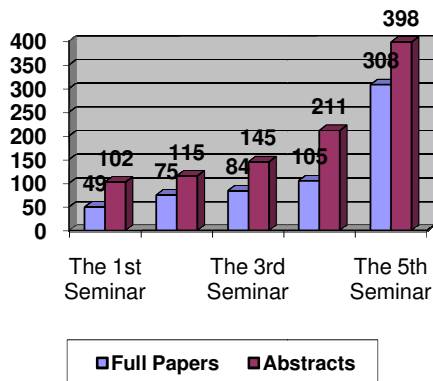


Figure 1: Comparative Abstract and Full Paper Submission Trend

5.2 The Industrial Sector Participation

As another noticeable point, regarding the 5th seminar, we can refer to the remarkable participation of the industrial sector in the Seminar. Prior to this seminar most of the papers were submitted by the universities in this seminar however 42 percent of the papers (as shown in Fig.2) belonged to industrial sector and companies which is in itself another major improvement compared to the 31 percent of the previous seminar.

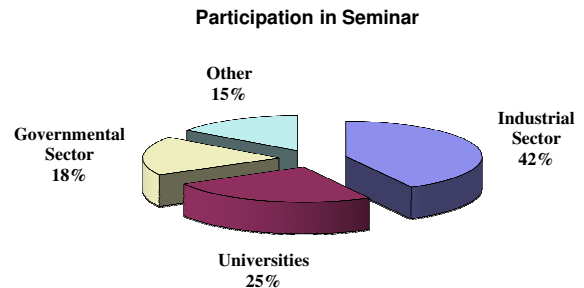


Figure 2: The leading participation of the industrial sector in the fifth seminar

5.3 Qualitative Development of the Papers

The emphasis of the Head Conference scientific Committee on upgrading the scientific level and the attention to the quality of the papers, The call for papers was sent to the intellectuals, University Scientific Boards and reputable companies organizations and enterprises with the purpose of coming up with higher quality papers. In the fifth seminar we were not looking for quantity, quality was all we were looking for.

The conference chairs were selected from the Knowledge Management Experts and university professors who had academic background besides the experience in this regard.

The paper assessment process which was handled by internet was completely paperless. For a more accurate and precise assessment 3 scorers evaluated each paper.

The call for paper as mentioned earlier upgraded the scientific level of the papers in the very first step. In the fifth seminar 77% of the submitted abstracts were accepted whereas in the previous seminar less than 50% of the abstracts were accepted.

5.4 The Content Variety of the Papers:

The variety of the papers subjects and approaches can be considered as the next but still significant point regarding the fifth seminar. In this seminar the participants looked at Knowledge Management and its interaction with Research and Development from different scopes and angles that provided a perfect situation for learning and experiencing valuable views and approaches toward knowledge management.

5.5 Case Studies and Experiences:

In the previous seminars most of the submitted papers centered on theories and the literature of knowledge management however in this conference more emphasis was put on case studies and practicalities. Many companies presented their experiences of knowledge management application which in turn gave others practical ideas about knowledge management.

5.6 The Presented Papers

5.6.1 First Section: The Interaction between R&D Management and Knowledge Management: Synergy

- The Role of R&D and Knowledge Management in Industrial and Economical Organizations
- Knowledge Management Strategies and R&D Activities in a Knowledge-based Economy
- R&D as the Precondition of Having Quick Learner and Quick Responsive Organizations
- The Role of Knowledge workers in Persistent Development

5.6.2 Second Section: The Interaction between R&D Management and Knowledge Management: Planning & Strategies

- Following others to Encourage Knowledge Management Process in Iranian Islamic Congress(Parliament) to Realize the vision
- Providing a Mixed Pattern for Planning and Controlling of R&D Activities
- Reorganizing Research Department in an Educational Institute with a Customer-oriented Approach
- Knowledge Management Development Strategy in R&D Department of Technology Consultant Organizations

5.6.3 Third Section: The Interaction between R&D Management and Knowledge Management: Competeability and Globalization

- The Role of Knowledge Management in the Fourth Development Plan
- Knowledge Orientation, R&D and Production in WCM Global Scale
- Knowledge Earning substitute Mechanisms in the Age of Competition
- The Role of R&D Departments in Globalization of National Industries with the Aid of Knowledge Management as a Tool

5.6.4 Fourth Section: The Interaction of R&D Management and Knowledge Management : Creation and Innovation

- Using National Innovation System Approach to Evaluate Research and Innovation Activities in the Country
- R&D as Foundation of Creation and Innovation with the Aid of Knowledge Management as a too
- The Role of Knowledge Management in Promotion of Innovation of the New Generation of R&D
- Technology, Development and R&D
- The Role of Knowledge Management in Corporation Creation and Innovation Processes

5.6.5 Fifth Section :Interaction of R&D Management and Knowledge Management: New Tools and Systems

- Applying System Dynamics to Confront Complex Decision Making in R&D Systems
- Knowledge Management Invented Process Model
- Introducing Valid Knowledge Management Evaluation Methods in an Organization

5.6.6 Sixth Section: The Interaction of R&D Management and Knowledge Management: Challenges and Solutions

- Providing a Road Map for Deploying Knowledge Management in Organizations
- Interaction of Education and R&D Systems (Challenges in Cooperation of Education and Industry)
- Improving R&D in IDRO Subsidiaries
- Research Centers Reinforcement Methods for Creating Knowledge

5.7 Some of the Other Papers

- The ten principles of knowledge management
- Knowledge Management Development in Siemens
- The Interaction between Research and Development and Knowledge Management with Identifying Increase in Innovation and Creativity
- Knowledge Management and Documentation in Projects
- Knowledge Management Analysis in a National Strategic Project
- Knowledge Management Application Strategy in an Organization
- The Experience of Knowledge Management in Technology Research Project
- Applying Lean Thinking Approach for Waste (Muda) and Knowledge Creating Barriers Elimination in Organizations
- The Interaction Between Knowledge Management and Information Technology
- Establishing a Knowledge Based Society
- Knowledge Management in Business Units

5.8 Evaluation of the Topics Presented in the Seminar

As mentioned earlier the papers presented in this seminar centered around 6 chief bases and we also mentioned that all the papers that were accepted in the conference passed through different filters that we believe without doubt increased the overall quality of the papers and that's why the overall score of the papers in different bases is now very high.

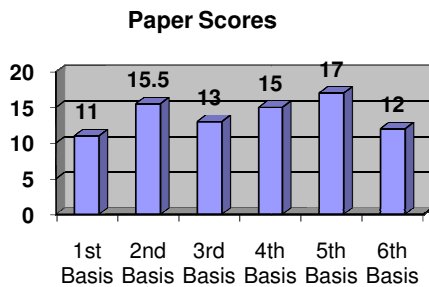


Figure 3: Paper scores in each basis

In this section of the paper we will take a closer look at each basis with the purpose of scientific evaluation.

5.8.1 Basis 1: RESEARCH & DEVELOPMENT AND CREATION OF KNOWLEDGE IN THE PRODUCTION UNITS

The low score level in this basis is a result of the variety of the papers presented. This basis was well received by the university students who mainly did not have any practical experience in the knowledge management field.

5.8.2 Basis 2: INTERACTION OF RESEARCH & DEVELOPMENT OF KNOWLEDGE IN THE GLOBALIZATION OF THE PRODUCTION UNITS

Some valuable papers regarding globalization were presented in this basis. One of the noticeable points of this basis was that most of experts in this field whose papers are normally published in the press presented their papers in this field. Due to the importance of globalization more participation was expected from the industrial sector and in accordance with this expectation 72 percent of the papers belonged to the industrial sector and once more in the selected papers 3 out of 4 were from this companies.

5.8.3 Basis 3- INTERACTION OF RESEARCH & DEVELOPMENT AND KNOWLEDGE MANAGEMENT IN CREATIVITY & INVENTIVENESS OF THE PRODUCTION UNITS

As one of the specifications of this basis we can refer to the participation of many young and unknown experts .Although the scientific level of the papers presented in this field was not satisfactory, new ideas and insights were given to the participants and new areas were explored. The governmental sector had a more noticeable participation in this basis that shows the interest and the movement toward creativity and inventiveness in governmental organizations.

5.8.4 Basis 4-RESEARCH & DEVELOPMENT AND KNOWLEDGE MANAGEMENT AND ITS RELATION WITH NEW MANAGEMENT TOOLS & SYSTEMS

Applying systems and new managerial tools is a subject that has always received a proper

attention in the seminars we have held up to now. In this seminar as well the greatest number of the papers were related to this basis. Universities and the industrial sector had almost the same level of participation in this basis but 3 out of the 4 selected papers belonged to the industrial sector. Most of the papers in this basis were practical and all of the selected papers concentrated on applying knowledge management in organizations. As another interesting point about this basis we can refer to new methods of presenting papers, one of the papers in this basis was presented in two languages with two presenters.

5.8.5 Basis 5- IMPASSES, PROBLEMS AND OBSTACLES FACING RESEARCH & DEVELOPMENT ACTIVITIES IN PRODUCTION UNITS AND PRESENTING SOLUTIONS

The analysis of the problems and the barriers industrial sectors are facing nowadays and putting forward practical solutions in this regard can play a very important role in eradicating the problems the industrial sector is now suffering from. In this basis new and practical analyses regarding the problems in front of the industrial sector and the problems in which it is involved were done and practical solutions were put forward the high level of the sores in this basis are due to the practicality of the solutions that were presented.

5.8.6 Basis 6: SCIENTIFIC AND RESEARCH ACHIEVEMENTS RELATED TO THE SEMINAR'S BASIS

The achievements presented in the seminar centered on chemical and pharmaceutical companies that reflects the fact that more attention is being paid to research in these industries.

CONCLUSION

Iranians are becoming more and more familiar with Knowledge and knowledge management by the passing of time, there is every reason to be optimistic about the growth of knowledge management in Iran.

The strategies and the policies devised by the Iranian government that are reflected in the fourth development plan, the increasing number of the papers published by Iranians in various journals in this field, the growing number of

seminars, conferences and workshops that are being held in this regard can be referred to as good instances supporting the above mentioned fact.

However, we as a Society who has been directly involved in this field, believe that still much work has to be done.

We have planned to bring our seminar as the main seminar centered on knowledge management out of the boundaries and make it international by finding suitable partners specially in the neighboring countries, as another useful step we have intended to hold annual seminars instead of once in two years and improve the quality by arranging training courses.

REFERENCES

Over 300 papers that were submitted to the 5th Seminar of the Industries and Mines Research and Development Centers by the name of Research and Development and Knowledge Management which was held on 23 and 24th of Nov. 05 in Tehran and as a matter of fact were based upon many other papers.