

Exploring Modulating Effects within Evidence-based Medicine Realization Based on Service Innovation Model

Wen-Hong Chiu, Yuan-Chieh Chang and Hui-Ru Chi

Abstract—Evidence-based medicine (EBM) highlights the integration of the best research evidences, clinical expertise and patient values into the practice of patient care. Thus EBM realization is receiving substantial attention. However, there were rare studies exploring the modulating effects within EBM realization. This study is to discover the deeper meanings of users' experiences towards interacting with an EBM system. The participant observation and in-depth interview are mainly used as methods of data collection. The interview transcripts are analyzed based on the techniques of grounded theory. Based on service innovation model we induce 14 modulators from the users' viewpoints. Furthermore, we develop eight propositions that can provide management guidelines in EBM realization for hospital managers.

Index Terms—evidence-based medicine, EBM, grounded theory, service innovation, hospital industry

I. INTRODUCTION

With the progress of medical knowledge and technology around the world, a great deal of new literature and evidences about medical treatments are being published [1]. This may result in part of earlier or traditional treatments being modified or updated to obtain the optimum effect. At the same time, these recent publications provide the methods or evidences to support clinicians' decisions [2, 3, 4]. Therefore, issues about evidence-based medicine (EBM) become more common and critical in order to improve medical quality and promote competitive advantage in the hospital industry.

EBM is a tool used to integrate the best research evidences, clinical expertise and patient values into the practice of patient care [5, 6, 7]. The practice of EBM is a rigorously systematic and scientific way of learning and applications. To understand and apply the issues, such as statistics, probability, clinical research, guided inquiry, systematic reviews, levels of evidence etc., it is required for clinicians to evaluate evidences and apply evidences to medical practice [8, 9]. EBM's potential to support medical research, improve medical quality and cut costs has

galvanized clinicians, policy-makers, insurers and others in health care to speed its implementation in hospitals [1]. Thus the implementation of EBM is receiving substantial attention.

However, there were rare studies exploring the modulating effects within EBM realization. If we fail to discover what these modulators are, the performance of EBM realization will be undermined. This study is to discover the deeper meaning of users' experiences towards interacting with an EBM system. Furthermore, we induce the modulators of EBM realization from the users' viewpoints based on the service innovation model proposed by den Hertog and Bilderbeek [10] since EBM realization is regarded as one kind of service innovation in hospitals. Accordingly, the study belongs to the exploratory research that captures the nature, representative meanings and organizational infusion of EBM realization from the subjective experiences of the organizational members. Therefore, a qualitative research plays a proper role to find the solutions. The participant observation and in-depth interview methods are used to gather the physicians' meaningful experiences with EBM realization. Besides, the data was collected from other multiple sources involving secondary data. The interview transcripts are analyzed based on the techniques of grounded theory, which provide guidelines for classifying qualitative data.

II. SERVICE INNOVATION MODEL

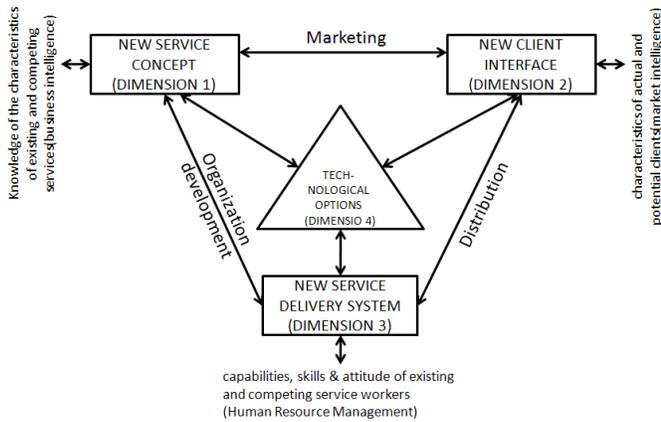
Innovation in the services sectors comprises new services as well as significant changes in services or their production or delivery [11]. Service innovation concerns both the introduction of new services and the reconfiguration or improvement of existing service [12]. Service innovations are not new to the world, but they may still be new to your company, customers, or network partners [13]. Service innovation is the driving force of service science embodying and marshalling a multidisciplinary approach and deals not so much with the end product but rather with the support, development and delivery of service [14]. Although the concept of EBM has been around for three decades, hospital leaders have paid serious attention to EBM only within the last three years [15]. In Taiwan, EBM is also new to many hospitals. According to the above definitions, EBM is one kind of service innovations within hospital industry. In order to help exploring the modulating effects on EBM

This work was supported by the National Science Council in Taiwan under Grant NSC 97-2410-H-468-023-MY2.

W. H. Chiu is with the Department of Business Administration, Asia University, Taiwan (phone: 886-4-23323456 ext. 5541; fax: 886-4-23321157; e-mail: andychiu@asia.edu.tw).

Y. C. Chang is with the Institute of Technology Management, National Tsing-Hua University, Taiwan (e-mail: yucchang@mx.nthu.edu.tw).

H. R. Chi is with the Graduate Institute of Human Resource Management, National Chang-Hua University of Education and also with the Department of Finance, National Taichung Institute of Technology, Taiwan (e-mail: kitty101@ocit.edu.tw).



Source: Reference [10]

Fig. 1. A four dimensional model of service innovation

realization, we base on the four dimensional model proposed by den Hertog and Bilderbeek [10]. The model concerns new service concept, new client interface, new service delivery system and technological options and is shown as Fig. 1. Any service innovation involves a specific combination of the four dimensions [10]. They further argued that the linkages between these four dimensions may be of even more significance and these cross-linkages are often forged in practice by those responsible for marketing, organization development and distribution (also shown in Fig. 1). Finally, they pointed out that a particular service innovation may be characterized by one dominant feature related to one of the four dimensions; quite likely, this particular feature will prompt a set of changes in other dimensions, in order to bring about a successful innovation.

III. RESEARCH METHOD

A. Research Question

In the study, the modulating effects on EBM realization will be explored and analyzed based on the four-dimensional service innovation model. Accordingly, there is the following research question.

What are the modulators within the EBM realization based on the four dimensional model of service innovation?

According to the definition and description of the situations that the organizational members encounter, we explore the representative modulators and subsequently construct the modulating effect model mapping to the four dimensional model of service innovation to interpret the modulating effects on EBM realization.

B. Research Design

The study is a qualitative and interpretive methodology. A qualitative research shows the advantages to understand implicit meanings, comprehend special situations, define unexpected phenomena and influences, and further develop a new theory [16]. The research objective of the study is specified as an exploratory question. Accordingly, the study belongs to the exploratory research. The data analysis of a qualitative

research places emphasis on a coding strategy. Thus it is contributory to compare data in different classification and data sets and hence develop a new theory [16]. Since the techniques of grounded theory [17] provide an excellent method of coding data, the study has the best choice to analyze the collected data.

C. Research Process

1. Data collection

For the method of grounded theory, both primary and secondary data had better be collected. Therefore, the participant observation and in-depth interview methods will be provided for gathering the members' meaningful experiences with the EBM realization. The collection of primary data adopts semi-structured in-depth interviews. While the secondary data of the hospitals includes histories, records, documents, website data, etc. It is important to note that the in-depth interviews are not a one-way sequence with a coding process but an iterative process to refine the developing concepts.

2. Data analysis

A qualitative data analysis is employed to develop a framework of concepts or a preliminary theory through a coding process. As described in the previous section, the coding process of grounded theory is composed of three stages: open coding, axial coding and selective coding [18].

3. Evaluation

The quality of a qualitative research is evaluated by trustworthiness instead of reliability and validity traditionally adopted by a quantitative research of logic empiricism. The criteria of trustworthiness include credibility, transferability, dependability and confirmability [19]. In order to promote the trustworthiness of a qualitative research, we follow the criteria of triangulation method. Triangulation method is the application and combination of multiple viewpoints and methodologies in the study of the same phenomenon. Reference [20] proposed the triangulation protocols that are distinguished as data triangulation, investigator triangulation, theory triangulation and methodological triangulation.

IV. AN EMPIRICAL STUDY

A. Subjects

There were total 10 physicians accepting our invitations. Five physicians are from hospital A, which is a district teaching hospital and has close cooperation with our research center. Four physicians are from some medical center called hospital B. And one physician is from a branch of another medical center called hospital C. The basic personal information of the interviewees is shown in Table I. The invited physicians have gotten in touch with EBM at least five years. Besides, they are either EBM team leaders or seeded teachers for promoting EBM in their hospitals.

B. Data Collection

We have assisted hospital A to implement an EBM system before this study. The duration of the consulting process lasted

TABLE I
BASIC PERSONAL INFORMATION OF THE INTERVIEWEES

Hospital	Code name	Gender	Age range	Department
A	A01	Male	30~40	Pediatrics
A	A02	Female	Below 30	Internal medicine of kidney
A	A03	Female	40 ~ 50	Nutrition
A	A04	Male	40~50	Cardiac surgery
A	A05	Male	30~40	General surgery
B	B01	Male	40~50	Internal medicine of chest
B	B02	Male	Below 30	Family practice
B	B03	Male	Above 50	Endocrinology and Metabolism
B	B04	Male	Above 50	Psychiatry
C	C01	Male	40~50	Breast surgery

one year long. We experienced several consulting meetings, planned some training programs, established the organizational systems related to EBM realization etc. Especially, how to help the hospital to foster learning climate is one of the most important objectives. Therefore, the consulting work in that year makes us have enough domain knowledge about EBM realization. Data collection is mainly focused on in-depth interviews. In the study, the in-depth interview procedure is divided into four stages. It took about 40~50 minutes for each interview. The physicians' opinions and viewpoints stated in the interview processes were taped and word-by-word recorded. The questionnaire is modified from one stage to another stage. Besides, the data was collected from other multiple sources involving observations, different hospitals and secondary data. The secondary data mainly came from historical files, documents, meeting records, website data and so on. In initial stage, we interviewed with one physician, one pharmacist and two nursing staffs in hospital A. Except for the interview with the physician, the other three interviews give less information about the issues of EBM realization. Therefore, we decided to focus on the subsequent interviews only with physicians. In the second stage, the EBM team leader and three seeded teachers in hospital A accepted our invitations for interviews. To enhance the trustworthiness of the study by data triangulation, we further invited three physicians employed in another hospital, called hospital B, in the third stage. Hospital B is a medical center and especially it is a benchmark hospital in EBM realization. We found that the statement of the last interviewee in the stage has been almost covered by the previous seven physicians. In other words, the aspects of EBM realization are theoretically saturated. In the final stage, after practicing peer debriefing and interviewee checking, the preliminarily collected and analyzed data was confirmed by the EBM team leaders of hospital B and C to meet the requirement of investigator triangulation. Therefore, the in-depth interview process is accomplished in this stage.

C. Data Analysis

The interview transcripts are analyzed based on the techniques of grounded theory. The data analysis is through an iterative coding process. The analysis process goes along with the data collection stages. Initially, in open coding process, the interview transcripts are converted to a series of simplified codes. We noticed that certain codes are related to a particular

subject. These common codes are accumulated and hence categorized under a meaningful label. Therefore, the coding process organizes the diverse meanings of modulators within EBM realization.

D. Research Findings and propositions

After analyzing the collected data, the modulating effects existing in EBM realization are explored and the corresponding propositions are also developed. We describe the effects and propositions according to the four dimensional model as follows.

1. Concept-related modulators

Medical morality

Some high-level evidences in EBM realization cannot be obtained. This is not limited by technology, facilities, personal skill or other reasons. The one of the possible causes comes from medical morality. The physician in the internal medicine of chest department said, "Some medical experiments cannot be made by double blind. If they belong to animal experiments, we can do them by double blind. However, if the subjects of the experiments are human beings, we cannot... This is related to human rights and medical morality." The viewpoint is similarly emphasized by other three physicians. Therefore, the performance of EBM realization is inevitably undermined by taking medical morality into considerations.

National system

Sometimes the suggested solutions provided by EBM databases cannot be adopted by physicians even if they are appropriate and excellent ones. This is because they are not approved by the health and insurance system in Taiwan under considerations of medical cost. "This is a hard problem since the viewpoints among national policy, clinical practice and academic researches." pointed by the physician in the family practice department. Similar viewpoints are contended by another physician, "If you stand on an academic position, we should follow the evidences to take medical treatment. However, if we stand on a position of medical administration, the medical cost should be considered under the national payment system." Therefore, the dilemma between academic evidences and national system is a hard problem.

Geographic context

Certain evidences for the same clinical problem are distinguished due to geographic context. The physician in the endocrinology and metabolism department said, "The people in Taiwan and those in China are all Chinese. But the generation of antibiotic used by these two regions is not the same since the public health conditions are different." So the EBM realization should be carefully developed under the considerations of modulating effects of geographic context.

In sum, we establish the following proposition.

Proposition 1: The diffusion of EBM concept is modulated by the emphasis degree of medical morality, the design of national system and geographic context.

2. Client-related modulator

Physician personality

The variation of physicians is actually resulted from the distinctions of physician personality. Several conversations are taken for examples: "Some physicians just follow the evidences, but some physicians can discover the deeper implications of those evidences. This gap is resulted from their professional background, fundamental training, competence, clinical experience etc." "As for new technology, the junior physicians have more tendencies to accept it, but senior physicians feel fearful and not accommodated." "My major is related to psychiatry field. I hardly found the associated evidences and hence I seldom retrieve EBM databases." Therefore, the components in the dimension are classified as professional background and competence, clinical experience, technological skill, tenure, major field. In addition, through the participant observation, the physician personality modulating the EBM usage includes thought and attitude of physicians, such as enterprising spirit, sense of responsibility, medical ethics, degree of accepting change and adaptive attitude.

In sum, we establish the following proposition.

Proposition 2: The access to EBM interface is modulated by the physician personality involving professional background and competence, clinical experience, technological skill, tenure, major field, thought and attitude.

3. Delivery-related modulators

Physician-patient relationship

The constituents in the viewpoint are classified as communication skill, patient centralization and positions between physicians and patients. There are some conversations taken for verification. "For the same evidence, the different communication skill results in the different degree of acceptance by patients." "Even if EBM provides plentiful evidences ... some physicians do not spend time to explain medical evidences for their patients since they have to serve more patients. Furthermore, most of them do not emphasize medical researches. They just focus on medical service." "The physician-patient relationship is improved if you can stand on patient positions."

Clinical limitation

The physician in the department of endocrinology and metabolism said, "If you want to obtain the high-level evidences, e.g. RCT, then you may have more budgets and spend more time. It is usually impossible for us to do this." And the physician in the department of general surgery said, "I think some of the clinical problems are very complicated. These problems cannot be simply distinguished as some definite questions. Thus the solutions may not be retrieved in EBM databases." Therefore, the practical limitations (facilities, samples, budgets, duration) and complexity of clinical problems make service delivery be constrained.

Patient diversity

EBM realization is really helpful for physicians' clinical practice. However, there exist many problems in patients themselves so as to influence the effect of clinical treatment. These problems arise from the following reasons: diversity of patients, e.g. their conditions (serious or light), medical background, autonomic behavior, learning will, and

psychological factors. We list some quotations as follows. "Every patient is case by case, so EBM cannot provide sufficient evidences for many clinical problems." "Sometimes we retrieve some appropriate evidences to cure our patients, but the patients may not follow the instructions. They feel inconvenient to go to the hospital. They think the price of medicine is too expensive. Or some other reasons ..." "With regard to clinical practice, the concept of EBM reminds physicians to rigorously verify their clinical application of evidences. However, we commonly agreed that it is hard for us to trace and verify whether their clinical treatment is correct. This is because patients' behavior cannot be well controlled."

In sum, we establish the following proposition.

Proposition 3: The practicability of the service delivery emphasized by EBM realization is modulated by physician-patient relationship, clinical limitations and patient diversity.

4. Technology-related modulator

Omnipotent myth

Some physicians, especially for junior ones, usually fall into omnipotent myth of EBM realization. They often regard that most of their clinical problems can be solved by EBM. We conclude that the limitations of EBM realization in this technological perspective are related to database content. Several physicians pointed out that there are rare cases of complete match with their patients in EBM databases. In addition, the physician in the psychiatry department said, "Qualitative evidences, e.g. the issues of patients' quality of life, are hardly found in EBM databases." They further contended that EBM databases have insufficient high-level evidences.

In sum, we establish the following two propositions.

Proposition 4: The omnipotent myth of EBM realization is resulted from the limitations of breadth and depth of database content.

Proposition 5: Whether EBM realization can reach its full potential in the technological perspective is modulated by database content.

5. Marketing-related modulator

Marketing bias

The marketing bias is resulted from narrow stance of media and commercial considerations according to the following conversations. The physician in the department of nutrition said, "Now media, such as TV news, newspaper, magazines, usually garbles a statement of medical researches. However, according to our appraisal, the reports are not fully based on the correct evidences... They will seriously mislead the people." And the physician in the department of family practice pointed out, "Some medical companies forge the evidences of their products for commercial benefits."

In sum, we establish the following proposition.

Proposition 6: The linkage between EBM concept and client end is modulated by the marketing bias resulted from narrow stance of media and commercial benefits.

6. Organization-related modulators

Organizational determination

The success of EBM realization heavily relies on organizational determination that includes degree of organizational support, organization positioning, organization system, organization culture, organizational resources, organizational focus and organizational survival. Certain quotations are taken for examples. "Under global expenditure limits of the health and insurance system, the survival of hospitals becomes a critical issue." "Some hospitals only position themselves as delivery service institutes and hence neglect medical researches. They do not focus on EBM realization." "Some district hospitals have not sufficient resources to practice EBM. The physicians have to promote their outpatient amount by reducing service time for each patient." "EBM realization in medical centers seems to be practical since medical centers have high degree of support."

In sum, we establish the following proposition.

Proposition 7: The linkage between EBM concept and delivery end is modulated by the degree of organizational determination.

7. Distribution-related modulators

Information anxiety

EBM realization actually brings considerable contribution for physicians. However, some of the interviewees unwittingly reveal their information anxiety. "Due to information popularization, I worry about whether my knowledge is obsolete." "I worry that much non-evidential data is flooded everywhere so as to result in patient misunderstanding and threatening patient safety." "Sometimes I am afraid that the evidences I retrieved are not appropriate for my patients. ... I even doubt my competence of literature appraisal." Moreover, one physician said, "I have no choice but face the endless learning because of rapid change of medical knowledge." Therefore, EBM realization provides a new concept of learning, but at the same time it also brings information anxiety for physicians.

Abuse

Although EBM databases provide good quality of medical researches, it should be careful for physicians to adopt these evidences. Some of the physicians pointed out certain cases that abused EBM researches. "Some physicians, who cannot find the matched cases, carelessly apply similar cases to their patients. This may result in wrong treatment." "If physicians have insufficient ability of literature appraisal, then they may threaten patient safety." These imply that EBM realization may result in the risk when its users are not well trained. Except for physicians, patients also have possibility to abuse medical information. As a result of lack of professional background, patients are unable to properly appraise literature. One physician said, "They can acquire considerable medical information, but they cannot entirely understand the professional knowledge. On the contrary, they further misunderstand the information." "Due to lack of professional training, patients usually cannot appraise the evidence announced by commercial firms." Accordingly, patients even

produce an improper expectation. Thus patients are readily misled by the purposely abused information.

Bias

As the previous comment described, EBM is a tool used to integrate the best research evidence, clinical expertise and patient values into the practice of patient care. These three considerations had better be equally emphasized. After the interviews, we observed that the junior physicians almost put emphasis on the best evidence and regard EBM just as a technological tool. That is, their clinical practice is almost centralized on evidences. The senior physicians, however, think highly of their clinical expertise (field notes #7, #8: p. 32, p. 38). Both the junior and senior physicians have their own bias. Besides, the main stream of medical knowledge by EBM realization is concentrated on appraising evidences. We found that the physicians always talk about the issues, just as what the level of evidence is (field notes #5: p. 24). Implicit value of experienced physicians is gradually ignored because an individual's experience is defined as the lowest level of evidences.

Pressure

EBM realization gives rise to both psychological and physiological pressure. The psychological pressure arises from pressure of colleagues' competition, pressure of patients' thirst for knowledge, qualification for promotion in office and patient awareness by knowledge popularization. Some quotations are taken for examples. "Sometimes I don't know what recent researches are, and then my colleagues laugh at my obsolete knowledge." "More and more patients download lots of medical researches and question me clinical problems in more detail. Thus I feel more pressure from patients." "Taking EBM training courses becomes an essential qualification for promotion in office." "Now patients have more their own opinions, and then I have to make effort to explain my clinical treatment." The above conversations really reveal the psychological pressure of the physicians. With regard to physiological pressure, we list certain quotations from the interview transcripts to show this. "Because I have to rigorously appraise EBM researches, I feel the pressure of literature appraisal." "I usually have heavy clinical practice, the requirement of EBM learning somewhat increases my job load." "I have more things to learn, so I spend much time on them." "EBM is highly dependent on statistics, thus I have to learn another unfamiliar discipline." To sum up, the physiological pressure is caused by time consuming, job load, learning load, perplexity and difficulty, pressure of literature appraisal and an unfamiliar field of learning. Additionally, there is one kind of pressure resulted from patients. "Some patients impolitely queried my clinical decisions and treatment by abusing the materials which are not evaluated."

In sum, we establish the following proposition.

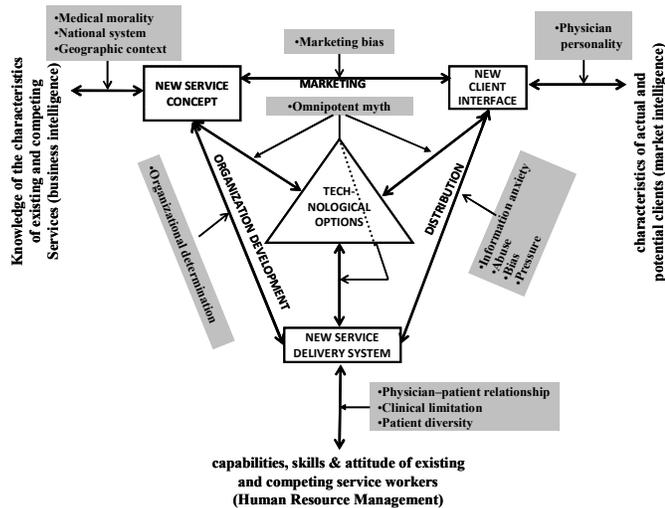


Fig. 2. Modulators within EBM realization based on the four dimensional model of service innovation

Proposition 8: The linkage between client and delivery end is modulated by the degree of EBM users' information anxiety, abuse, bias and pressure.

From the above findings and analysis, how the modulators are associated with the service innovation model is shown in Fig. 2.

V. CONCLUSIONS

In the study, we explore the modulating effects within EBM realization. These modulators uncover the threat and limitation when EBM is overemphasized and constricted. The participant observation and in-depth interview methods are mainly used to gather the physicians' meaningful experiences with EBM realization. Using the techniques of grounded theory 14 modulators are induced and shown in Fig. 2. Furthermore, we develop eight propositions. The research findings in the study can provide management guidelines in EBM realization for hospital managers. In addition, physicians should possibly overcome or reduce the negative effects resulted by the modulators. The practical implications of the findings are contributive to promote the performance of EBM realization and hence improve medical quality.

REFERENCES

- [1] D. Scalise, "The Case for Evidence-based Medicine", *Hospitals & Health Networks*, Vol. 79, No. 9, pp. 56-59, 2005.
- [2] E. Gambrill, "Evidence-based Clinical Behavior, Evidence-based Medicine and the Cochrane Collaboration", *Journal of Behavior Therapy and Experimental Psychiatry*, Vol. 30, pp. 1-14, 1999.
- [3] J.A. Gray, *Evidence-based Health Care: How to Make Health Policy and Management Decisions*. New York: Churchill Livingstone, 1997.

- [4] D.L. Sackett, W.S. Richardson, W.M. Rosenberg, and R.B. Haynes, *Evidence-based Medicine: How to Practice and Teach EBM*. New York: Churchill Livingstone, 1997.
- [5] A.M. Cohen, P.Z. Stavri, and W.R. Hersh, "A Categorization and Analysis of the Criticisms of Evidence-based Medicine", *International Journal of Medical Informatics*, Vol. 73, pp.35-43, 2004.
- [6] C. Delvenne and F. Pasleau, "Organising Access to Evidence-based Medicine Resources on the Web", *Computer Methods and Programs in Biomedicine*, Vol. 71, pp.1-10, 2003.
- [7] R.B. Haynes, "What Kind of Evidence Is It That Evidence-based Medicine Advocates Want Health Care Providers and Consumers to Pay Attention to?", *BMC Health Services Research*, Vol. 2, No. 1, p. 3, 2002.
- [8] S.R. Hurwitz, P. Tornetta, and J.G. Wright, "How to Read the Literature to Change Your Practice: An Evidence-based Medicine Approach", *The Journal of Bone & Joint Surgery*, Vol. 88A, No. 8, pp. 1873-1879, 2006.
- [9] W. Lisa, "Role of Information Technology in Evidence Based Medicine: Advantage and Limitations", *International Journal of Healthcare Administration*, Vol. 4, No. 2, pp. 5, 2007.
- [10] P. den Hertog and R. Bilderbeek, *Conceptualising Service Innovation and Service Innovation Patterns*, Thematic essay within the framework of the Research Programme Strategic Information Provision on Innovation and Service (SIID) for the Ministry of Economic Affairs, Directorate for General Technology Policy (Dialogic), 1999.
- [11] Eurostat, *Report of the Eurostat Pilot Project to investigate the possibilities to Measure Innovation in the service Sectors*, Eurostat, Luxemburg, 1995.
- [12] I. Miles, *Innovation in services*, in Dodgson, M. and Rothwell, R. (Eds), *Handbook of Industrial Innovation*, Edward Elgar, Aldershot, 1994, pp. 242-255.
- [13] A. Gustafsson and M.D. Johnson, *Competing in a Service Economy: How to Create a Competitive Advantage Through Service Development and Innovation*, San Francisco: Jossey-Bass, 2003.
- [14] R.A. Paton and S. McLaughlin, "Service Innovation: Knowledge transfer and the supply chain", *European Management Journal*, Vol. 26, pp. 77-83, 2008.
- [15] D. Scalise, "Evidence-based medicine", *Trustee*, February, pp. 24-28, 2005.
- [16] J.A. Maxwell, *Qualitative Research Design: An Interactive Approach*. London: Sage, 1996.
- [17] B.G. Glaser and A. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine, 1967.
- [18] A. Strauss and J. Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. CA: Sage Publications, 1990.
- [19] Y.S. Lincoln and E.G. Guba, *Naturalistic inquiry*. CA: Beverly Hills, Sage Publications, Inc., 1985.
- [20] N. Denzin, *The Research Act : A Theoretical Introduction to Sociological Methods*. New York: McGraw-Hill, 1978.