# Developing of Intelligent Schools with a New Model of Strategic Management System

Ahmad Ghayoumi and Mehdi Ghayoumi

*Abstract*—Intelligent schools are those which use IT devices and technologies as media software, hardware and networks to improve learning process. On the other hand Strategic management is a field that deals with the major intended and emergent initiatives taken by general managers on behalf of owners, involving utilization of resources, to enhance the performance of firms in their external environments. Here, we present a model Strategic Management System that has been applied on some schools and have made strict improvement.

*Keywords*—Intelligent school, Strategic management system, Learning station, Teaching station

## I. INTRODUCTION

STRATEGIC management is a level of managerial activity under setting goals and over Tactics. Strategic management provides overall direction to the enterprise and is closely related to the field of Organization Studies. In the field of business administration it is useful to talk about "strategic alignment" between the organization and its environment or "strategic consistency"[1]. There is strategic consistency when the actions of an organization are consistent with the expectations of management, and these in turn are with the market and the context. Strategic management includes not only the management team but can also include the Board of Directors and other stakeholders of the organization [2]. It depends on the organizational structure. It is an ongoing process that evaluates and controls the business and the industries in which the company is involved; assesses its competitors and sets goals and strategies to meet all existing and potential competitors; and then reassesses each strategy annually or quarterly to determine how it has been implemented and whether it has succeeded or needs replacement by a new strategy to meet changed circumstances, new technology, new competitors, a new economic environment, or a new social, financial, or political environment [3]. In follow we present a brief description on information management system, a description of intelligent schools, show our model in each level, experimental results and finally conclude some results and inference that can be so helpful in all strategic management systems.

Ahmad Ghayoumi is chief manager of a governmental educational complex in Tehran-Iran and lecturer of Islamic Azad University and PhD student of Taras Shevchenko National University of Kyiv (phone: 98-912-196-4096; e-mail: hghayoumi@yahoo.com).

Mehdi Ghayoumi is a PhD Student (Phone: 98-912-312-3350, e-mail: ghayoumi_me@srbiau.ac.ir)

## II. INFORMATION MANAGEMENT SYSTEM

Information management (IM) is the harnessing of the information resources and information capabilities of the organization in order to add and create value both for itself and for its clients or customers. Information management is the management of organizational processes and systems that acquire, create, organize, distribute, and use information. We adopt a process view of information management. In this view, IM is a continuous cycle of five closely related activities:
- identification of information needs;
- acquisition and creation of information;
- organization and storage of information;
- information dissemination;
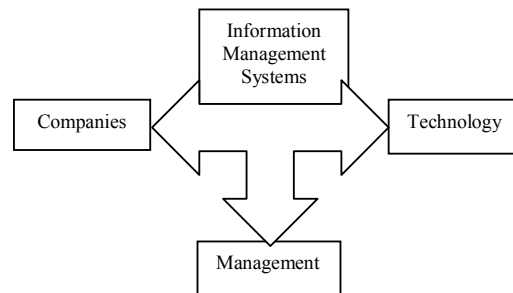- Information use.



Fig. 1 Model of Information management Systems

Figure1 shows three major parts of information management systems (IMS) that are directly effective on strategic management.The idea underlying IM is that just as an organization purposefully and systematically manages its human resources or financial assets, it should do likewise for its information resources and processes. All the classic functions of managing an organizational activity apply to IM as well: defining goals, providing leadership, developing policies, allocating resources, training staff, evaluation and feedback. An information strategy describes the overall direction and general framework in which the organization's information resources and processes should be managed so that the organization would achieve its most important goals. An Information Strategy typically consists of the following: IM goals and objectives that are well aligned with the organization's mission and vision IM principles that articulate desirable outcomes and form the foundation for developing information policies One or more areas of strategic focus: this could be some critical information content; common information to be shared; some information-intensive process; or new information-based products or services [4][5][6][7].

## III. INTELLIGENT SCHOOLS

At the beginning of the twenty-first century 'school' still remains the 'place' where the vast majority of our young people are formally educated. This was evidenced by the plight of girls in Afghanistan at the turn of the century and remains the reality for several million young people in Africa for whom there is still no formal schooling. Time therefore in school is precious and for pupils it cannot be repeated. Schools serve the needs of the present and the future. They have a crucial role to play in the lives and learning of their pupils now and as they inherit the daunting and exciting tasks that face them as citizens in the twenty-first century. Schools also have a responsibility for their future students. The key lesson from research about effective schools is that schools can make a difference for the better or even for the worse. This is a very powerful message, probably the most powerful that has come from this area of literature. It both empowers and challenges practitioners, bestowing the possibility of making a difference to the life chances of children alongside giving them responsibility for doing so. It heightens the imperative to ensure that our education system meets the needs of all pupils. In the school effectiveness and school improvement (SESI) literature there has been general acceptance that an effective school can be described as: 'one in which pupils progress further than might be expected from consideration of its intake' and one which 'adds extra value to its students' outcomes in comparison with schools serving similar intakes'. However, the assumptions about the purpose of education underlying these definitions of effectiveness are rarely challenged and explored. Schools serving very similar intakes can give their pupils very different experiences and achieve different outcomes for their pupils, and there is growing evidence that this is the case. But we would argue that there is now an urgent need to reconsider these definitions of effectiveness in the context of reconsidering what it means to be an educated person.

*In particular, there are three significant changes to which we want to draw attention:*

• Unprecedented large-scale educational reform being undertaken in the UK and in many other parts of the world;
• The revolution occurring in information and communication technologies (ICT);
• Fundamental social and economic global changes.

## IV. NEW MODEL OF STRATEGY

One of the most important and critical criteria of each system is its management. We have discussed about intelligent schools and explained that how it can so useful for all countries, but implementation and leading of these schools are next problems that can be happen. Many discussions have been done before these but almost all of them are traditional and we have not a special management system for it. In each system, we have a group of goals that are aimed by manager of system and each goal has set of sub goals. In each level of management, tasks should be done till sub goals can be operated, but getting feedback in each level and through all system can be done by a manager and giving a matrix of weight in each level can be effective for balancing each level's tasks with final goal or goals. MacMillan Matrix developed by

Dr. Ian MacMillan, is specifically designed to assist nonprofit organizations to formulate organizational strategies. We use this matrix to affect it on our effective parameters each level and find weights that are final achievement for getting final goals approaching [8][9][10]. In follow you can find a model of finding final approximation of goals in each level. This model is a simple model that has a number of inputs followed by a single output. Based on the inputs into this, the steps will either run or continue or not. The determining factor for a step running or not is determined by its inputs and each input's specific weights. You can think of a simple model as a logic process with more complex goals, but resulting in the same action. As a result of this, this model can be used to many applications and states. However, due to its complex input, it cannot model all logic process. There are a few aspects of this that we haven't really touched yet. These are the areas of learning, error, and training. The way that model works is that we usually have a set of data that we want to feed into the system and illicit some kind of response. What we can't really change is the input values as our initial goals. However, what we can do is to re-adjust the weights that are used to calculate our output value. This is what we deal with when we get into the area of learning. Learning for a model is what is known as supervised learning with reinforcement. That is, we have some kind of specific output we are looking for. Through iterative training, we can train our model to output the responses that we want and this is our final goal. This form of learning is supervised because we know what the output of the system should be.
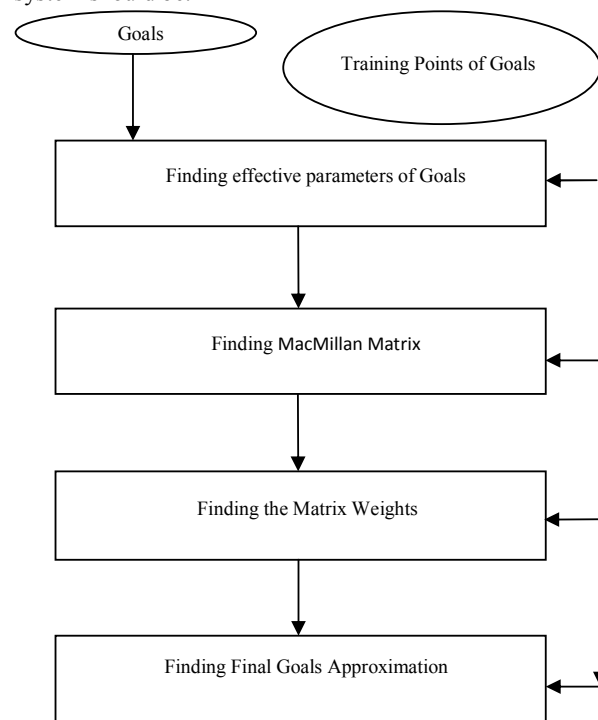


Fig. 2 Model of finding final goals approximation in each level

In figure 2 you can find an improved model of strategy for management. In this model, all goals are verified and supervised with some parameters that are affective through the

entire of process. Finding the weights and MacMillan matrixes are the key points of this model. These weights can be regarded as a reward or punishment that is unsupervised as a supervised manager.

## V. EXPERIMENTAL RESULTS

Results have been comparing on normal schools, intelligent school without strategic management and intelligent school with strategic management. The most important parameters in this system were time and place that manager should regard both of them in decision making process. It shows better results in total. Of course, these results have been interfered from many data that have been achieved from some intelligent schools in a special area in Tehran. These data are related to the types of equipments, training of teachers and many other parameters that directly or indirectly are affective on place and time about learning and teaching stations.

TABLE I
EXPERIMENTAL RESULTS ON SOME SCHOOLS ABOUT TIME AND PLACE IN AVERAGE (L=LEARNING, T=TEACHING, S=STATION)

|  | L.S.Time | T.S.Time | L.S.Place | T.S.Place |
|---|---|---|---|---|
| **Normal School** | 90 | 35 | 100 | 100 |
| **Intelligent school without strategic management** | 75 | 30 | 92 | 92 |
| **Intelligent school without strategic management** | 43 | 21 | 47 | 10 |

## VI. CONCLUSION

Here, we present a model Strategic Management System that has been applied on some schools and have made strict improvement. Experimental results show a clear efficiency on time about both stations of learning and teaching. This model has been applied on intelligent schools but can be regarded on other systems to getting better result and make new changes on them with a high supervisory strategic management system.

## ACKNOWLEDGMENT

## REFERENCES

[1] Nag, R.; Hambrick, D. C.; Chen, M.-J,What is strategic management, really? Inductive derivation of a consensus definition of the field. Strategic Management Journal. Volume 28, Issue 9, pages 935–955, September 2007.
[2] Beer, M, Voelpel, S.C, Leibold, M & Tekie, M,B. Strategic Management as Organizational Learning: Developing Fit and Alignment through a Disciplined Process Long Range Planning, 38(5):445-465,2005.
[3] Lamb, Robert, Boyden Competitive strategic management, Englewood Cliffs, NJ: Prentice-Hall, 1984.
[4] Strategic Operations Management, Second edition, Steve Brown, Richard Lamming,,John Bessant and Peter Jones Second edition,Elsevier Butterworth-Heinemann,2005.
[5] Kenneth C.Laudon and others , "information technology and society" Wadworth ,|Inc ., 37 – 48,1994.
[6] Strategic Management By Marios Katsioloudes, ISBN 10: 0-7506-7966-2 ISBN 13: 978-0-7506-7966-4, Published: FEB-2006.
[7] Gorge w.Ronalds , "information for management" , Third Edition new york west publishing co. , 1999.
[8] Barringer, B.R. & Bluedorn, A.C... The relationship between corporate entrepreneurship and strategic management. Strategic Management Journal, 20:421-444, 1999.
[9] Strategic Maintenance Planning by Anthony Kelly ISBN 10: 0-7506-6992-6 ISBN 13: 978-0-7506-6992-4 Published: MAY-2006
[10] Burgelman, R.A, & Grove, A.S. Let chaos reign, then rein in chaos - repeatedly: managing strategic dynamics for corporate longevity. Strategic Management Journal, 28(10):965-980, 2007.
[11] Barbara MacGilchrist, Kate Myersand Jane Reed," The intelligent Schools: SAGE Publications, ISBN 0 7619 4774-4, 2004.

**Ahmad Ghayoumi** is a chief manager of a governmental educational complex in Tehran-Iran; He is working as a lecture in Islamic Azad University and has special experiences in management system in governmental companies and institutes. Nowadays, he is a PhD student of *Taras Shevchenko National University of Kyiv.* He has teached for several years in many educational levels and has a special expertise in teaching and learning.

**Mehdi Ghayoumi** is a lecturer of university. His fields are Artificial intelligent,Image processing and pattern recognition. Nowadays, he is a PhD Student (Phone: 98-912-312-3350, e-mail: ghayoumi_me@srbiau.ac.ir).