

STRATEGIC APPROACH IN MODEL OF SCHOOLING "K-12"

Ph.D Student Dinko Jukić
School of merchant "Davor Milas" in Osijek
Faculty of Economics
Ph.D Student Božica Dunković
Agency for Development Osijek-Baranya County
Faculty of Economics
Osijek, Republic of Croatia

Abstract: Electronic learning is such aspect of modern learning where lectures, examination or instruction performs exclusively through Internet, while the percentage of learning and using ICT is over 80%. Key elements of e-learning pattern are technological mainframe, curriculum, interaction, strategic management and marketing. Model K-12 gives his contribution in organization of education and time flexibility, provides quality communication and gains higher profit. The paper addresses model of schooling K-12 which needs to be compared with current stage in Republic of Croatia. It is confusing that the term of e-learning industry still does not find itself in Croatian economical terminology, although its value in 2008 was ranked on 38 billions of euros.

JEL classification: I20, I21

Key words: e-learning, model K-12, education management, KM, ICT

Introduction

The new age of virtual learning requires a new way of thinking and managing. Electronic business and today's Information Technology (IT) affect the business on the same level as do the state authorities or education systems, with the constant rise in Information and Communication Technologies (ICT). The usages of Information Technologies and global networking have resulted in democratization of business (Booth & Hulten,2004:153-174). PC usage is not only the privilege of the biggest and richest companies and states anymore, much smaller countries can now equally join the competition. The Republic of Croatia is trying to stimulate the society computerization in different ways with new programs and staff computerization strategies on state level. In fact, the use of computerization is extremely important in order to have social, natural or any other type of sciences function effectively. With the presence of Internet the use of ICT represents the future of communication and opens new connection paths and fast transfer of text, image or animation in very short period of time. On the other side, there are some problematic issues arising: security issues, materials quality, education quality and privacy issues. When speaking of certain classic production qualities it is often referred to the type of business which tries to improve certain competitive organizational capabilities by continually improving the product quality. What's intriguing is the quality control within public services, schools to be more exact, which are not profitable organizations at least not in the marketing sense.

According to Meler (Meler,2003:65) the goal of such institutions, which he

classifies as businesslike and unbusinesslike, is to increase social prosperity. We shall study the use of ICT from the dimension of an education system, therefore we shall experience it through the curriculum already successfully tested in England, Canada, Australia and the USA. E-learning is the fastest growing element in modern economy, the USA alone spends over half a billion dollars on the virtual education development. According to Shea and Boser (Shea & Boser,2001) the US has two million attendees annually. The inevitable question is: why aren't there any e-school models in Croatia? Namely, economic subjects have got the human capital needed, the national curriculum will be finished by 2010., the market segmentation is familiar and the service has been defined through the project of state matriculation. The answer to our question is therefore very simple, lack of knowledge.

Virtual learning

Virtual learning or (*online learning*) e-learning is a modern type learning method where all the teaching and learning occurs through the Internet, and the percentage of studying and using the ICT surpasses 80%. One should be careful to link e-learning with Virtual Learning Environments (VLE) because these two are not the same terms. The abundance of information makes the key difference between VLE and classical learning (Munro et al,1999:35-54). However, Dillenbourg (Dillenbourg,2000:3-12) emphasizes the term of a virtual campus which is superior to VLE because it is a type of e-learning with a special accent on certain educational level acquisition. Therefore, an e-school is precisely a form of e-learning, and as such it is subordinated to a virtual campus. E-learning represents a modern step in classical education, with the annual educational and employee training investments are measured in millions of Euros. Some authors (Clark & Mayer,2008:10) have named a somewhat different model of an e-learning definition, stressing Internet, CDs and DVDs as the main factors. Their example disagrees with the Seaman's postulates (Seaman & Allen,2007:2-7) who mentions usage percentage of ICT, whereas Clark and Mayer consider e-learning through three questions a) what we learn, b) how we learn and c) why we learn.

In its essence, virtual learning consists of two interactively and correlatively intertwined components. It's about informational and instructional components. The first one is based on ICT, and the second one on the didactic educational methods. Teaching materials are presented through photos, animations, illustrations, texts and sound files. Basically, all materials are revised in two ways: through instructional teaching (synchronous e-learning) and individual (asynchronous e-learning). The sole purpose of e-learning is to satisfy the consumer, i.e. it's about supply and demand. A successful manager (Cavanaugh,2004:69-83) who unifies the role of the principle, administrator and coordinator needs to do a research on consumers' needs and carry through the market segmentation in order to satisfy the demands in the end.

E-learning does not only make its contribution through sessions but also in the organization of the learning process, in spatiotemporal flexibility, as well as in profitability of the service and the 24-hour knowledge availability. Furthermore, the education is thus available to those at distant locations, disabled persons and foreign students. Simply said, e-learning surpasses traditional learning and the market is no longer locally oriented. The application of e-learning can be considered in four forms: traditional teaching method (face to face) or FTF, teaching supported by ICT, hybrid teaching (hybrid-blended) and virtual teaching (Zemsky & Massy,2004). The number

of virtual learning attendants has been increasing rapidly, and it was at the number of 3.48 million attendants of one of the forms of e-learning two years ago. For the purpose of educational management we shall observe e-learning categories through 5 modules:

M1 - undeveloped: it's about those types of schools which don't have access to ICT, or don't invest into the computerization and don't have a well-formed strategic plan of virtual education. As a social group they have a very negative approach to e-learning.

M2 - awkward: these have an ICT offer of some kind but it is either weak or obsolete and collaborators alone do not believe in the virtual learning nor the web pages strategy.

M3 - current: these are the groups that have a developed ICT plan and are aware of the importance of communication, but they are in the process of learning and technology acquisition. They are expected to offer some type of education in the near future.

M4 - developed: Institutions which have a very good connection with ICT, satisfying level of staff education, developed critical plan with elaborated details about e-learning.

M5 - skillful: these are the types of schools which apart from traditional learning offer one of the modules of virtual learning. These are usually highly developed school with quality strategy plans and educated staff.

E-learning is the catalyst of change, as stated by Bekić and Kučina-Softić (Bekić & Kučina-Softić,2006:4), its acceptance is integrated through the Bologna Process. The implementation of e-learning is a joined effort of the government, high school administration, universities, teachers and attendants. As such, the ICT is an inevitable part of the modern education, because of multiple opportunities brought along into the education system by that technology in the first place. The production of materials needed for long distance learning is expensive and requires intensive work excluding the possibility of improvisation. The key elements in the process of e-learning, according to Dinevski and Pšunder (Dinevski & Pšunder,2007:263-269) are technological platform, content and interactivity. However, the most important segment has been left out – the strategic managing and marketing.

K-12

The term K - 12 is used in education and educational ICT in the USA, Canada, Australia and England and some other developed English-speaking countries. K-12 is actually short for public-private school, i.e. national curriculum from elementary to high school. *K* stands for “kindergarten“ (nursery), and the number 12 stands for “12 grade“ (12 years of education). Virtual school or “cyber school“ is an institution, i.e. a public institution without traditional “bricks and walls“, and as such, according to the standard definition from the High School Education Law, it serves to satisfy the demand and specific needs of users. The exemplary work of a virtual school is actually very similar to the work performed in a traditional school, the only difference being the distance between the teacher and the student, considering that this style of education includes e-directory, e-matrix, e-classroom and e-learning. Virtual classrooms are limited to as many as 200 students, whereas in the traditional school the average is a bit less than 26 students. The collaboration with others is performed through virtual platforms of an e-board.

It's important to name that there is a difference between home schooling, distance learning and virtual learning. Home schooling is performed with the help of an instructor or a mentor, and distance learning includes learning with a smaller percentage of ICT usage meaning the hybrid model containing 30 to 79% of the syllabus. However, Distance Learning program or DLP is not a new thing, if we know that there

was such a model of learning long time before the USA started creating e-schools. The main difference was the absence of ICT, although the existence of TV offered the hybrid type of “one-way lecturing“. Virtual studying speeds up the communication, expands the market and creates a significant profit to the service providers (Howard,2004). All of this still does not justify the nonexistence of K-12 in the educational management.

DLP requires a specific organization of operations, Sjorgen and Fay name the examples of specific distinctions and stress the importance of the design and aims. In principle the K-12 model does not differ significantly from the traditional school. According to the simpler form (Strauss,2002) the most important thing is the change that occurred during the F2F contact. There is an education model which produces a double audio-video connection now. In short, e-schools in the modern society have the marketing function in the modern society, which is based on the laws of supply and demand. When talking about a nonprofit marketing, Meler actually asserts international classification and places education in 2nd place after culture (Meler,2006:64), which leads us to a conclusion that the marketing management is extremely significant for the development of this type of schools, especially when talking about market breakthrough. Clark mentions six e-school models according to the program operator (Clark,2000): university, state, local, private, privileged and collaborative.

The term of e-school marks the K-12 model only if e-learning includes its program, otherwise it signifies an e-school of elementary level which is in no way identical to seminars or courses (Clark & Berge,2005). E-schools of K-12 model exist in all parts of Canada (Haughey & Muirhead,2004:50-67) and the US. E-schools in the USA are the most developed ones, and according to the research done by Vanourek (Vanourek,2006) the foundation of such schools is around 30% annually. According to the High School Education Law of the Republic of Croatia, a school can be founded by: state, local authority and a natural person or a legal entity. However, foundation of e-schools based on the model of K-12 is allowed through: agencies, organizational consortium, universities, public schools and privileged schools.

Foundation of e-schools on the model of K-12 is the most profitable when done through the matrix of privileged schools (virtual charter schools). This type of K-12 model occurs most frequently in the Western market and is also the most appropriate one for the Croatian market. Such schools are autonomous e-schools, under the franchise of the existing traditional schools and being subject to the same law regulations. This means that the founder can be one of the three mentioned above which concurs with the Croatian legislation. All the goals, organization, strategy and the founder are defined with the statute, However, if the traditional school is insolvent it is obvious that the K-12 model as such loses the right to operate.

E-learning represents one of the most relevant, fast growing segments in the modern society. (Blomeyer,2002). E-learning prospect in connection with the virtual teachers is relatively weakly researched (DiPietro et al,2008:10-35), we shall use the three-level method for educated teachers selection as a modified solution. The principle of e-mentorship introduction, which is very much alike the classic school mentorship, can serve as the principle for the selection of so called “e-moderators“. Thus, the three level criterion is based on the 5-year experience minimum, state teacher certification, license and an additional ICT education obtained by attending one of the e-learning types with the appropriate certificate. The statute of a certain e-school shall determine the terms for the additional education.

For example, the production of a material for DLP requires 20 hours of work for only one hour of usage of the material (equivalent to 1 period in the traditional school). Out of those 20 hours, 10h pertains to the work of an expert, 2h to the work of a coordinator, 2h for the technical team, 2h for the graphic designer and 4h are needed for the pedagogical and office support. It is obvious that the development of the K-12 model of e-learning is much more expensive but the distinctiveness of the service industry and the expected value of the consumer should be taken into consideration. Developing the emotional qualities and meeting their needs it is easier to create a sense of loyalty which can then be expanded through certain types of specialized e-learning seminars. Primary components direct the institutions to finally determine universal postulates as is the case with state matriculation which includes the logistics, integration and quality revision. Only with such organized strategy can Croatia compete in the field of K-12 e-learning model.

Implementation and Managing Principle

Today's development of the K-12 model in the American society is extremely big. It is obvious that when implementing the K-12 model both operational management and the way of VLE creation should be taken into consideration. According to Kynaslahti's research (Kynaslahti,2001:32-77), 3D graphic surrounding is often very motivating as opposed to classic tools and equipment used in traditional schools. E-learning tends to rise because of the numerous learning alternatives. It offers DLP, hybrid and K-12 model as types of learning. However, in Croatia e-learning is not as developed and its rise is not as possible. Mostly because of the undefined legal acts, local self-governments and financial expenses. Changes in the Elementary and High School Education Law as well as implementation of nonprofit marketing can secure the overcoming of potential obstacles.

Education is limited because it relies on state resources, and the K-12 model is more profitable if considered on a long-term basis. According to Watson (Watson et al, 2008:45) half of all school models in the US will be performed over the Internet. Does that mean that the traditional schools are getting new competition? Creating e-learning and traditional learning offers a choice on the market. It is possible to meet the user's needs and invested funds can be used for further development. Apart from that, this would create the possibility of specializations which are monopolized by other schools outside Croatia. Therefore, appropriate formation of e-schools, quality choice of programs and educational management can all help to ensure financial proceedings.

Vanurek (Vanurek,2006) mentions that the e-learning increases by 30% per year, but in that analysis he does not distinguish K-12 model nor hybrid models but instead considers all forms of e-learning. The problem of term distinction is also seen in Bloomeyer's research (Blomeyer,2002) because he identifies e-learning with DLP which simply cannot be done. However, the structure of K-12 model is based on two parameters: human interaction and technology system. These parameters can be viewed as so called "f-structure" i.e. what we learn and "d-structure" i.e. how we learn (Blomeyer,2002:2). Accordingly, we can present the K-12 model through this formulation: $K-12 = f + d$. However, within the modern marketing the main question is based on the research of consumers' reaction to different marketing stimuli (Kotler et al,2006:255). Certainly, the company which manages to find the best way to make the consumers react will have a huge advantage over its rivals. Essentially, when Kotler talks about the connection between the stimulus and the consumer he means the so

called “black box” through the model of four P. Subsequently, the “f-structure” is that phenomenon of the “black box” because it exists only in the consumer's consciousness. As such structure it shouldn't be solely named as a negative component within e-learning because the F2F model is missing. It is true that the motivation leads on the level of importance within e-learning and precisely because of that it is important to consider the following dimensions within the strategy and educational management: national curriculum, teaching methods, ICT and cultural concept.

Evidently e-learning starts from the thesis that the national curriculum system has already been developed and the project of national matriculation finished, and according to the plan and program made by the Ministry of Science, Education and Sports it should be carried out in May of 2010. However, within the strategy of development and implementation of the K-12 model, with existing advantages of ICT there are also some problems within e-learning itself that is within human resources. Namely, this manner demands specialized teachers, which is e-moderators. According to Salamon (Salamon,2000:3) e-moderators are people who are govern through electronic gatherings. The KM combination is based on the integration of VLE. K-12 model e-schools use the tool called LMS (Learning management system). As a matter of fact it is a platform used by an e-school in its service provision. There are some signs of e-matrix and Vetois program in Croatia, started by the Ministry but these are merely tries which are strategically, methodically, logistically and graphically extremely undeveloped. According to the North American Council for Online Learning (NACOL), LMS includes the insight into the situation of the individuals. In other words, it is possible to have insight in all the changes within the syllabus, moderator's instructions, and grades, made scholarship payments, testing results and everything else already present in the traditional schools.

Weaknesses resulting from SWOT analysis are primarily of social-economical character, with the user's motivation being the most relevant thing from the client's point of view. Taking legal regulation into consideration, the economic law of supply and demand as well as ICT, and the problem of motivation are tightly linked to traditional F2F education which on the other hand is derived from the concept of e-moderators (Kynaslahti,2001:175-237). E-learning requires specialized profile of the teacher, educated managers, and highly motivated consumers. According to Meler's postulations (Meler, 2003), the marketing can be highly successful because of its orientation towards meeting the consumers' needs. Consequently, strategical approach is based on the cultivation of the relationship with the client. Since we are dealing with a nonprofit marketing, it is exactly at the moment of service provision contact or informing that the so called “moment-of-truth” should be taken advantage of because the level of satisfaction depends on it. When providing such type of service (Kotler & Keller,2008) a strategic advantage is created dominated by ICT, VLE, LMS as the advantages of e-learning.

Table 1. SWOT analysis of K-12 education model

STRENGTHS	WEAKNESS	OPPORTUNITIES	THREATS
ICT, VLE, interactivity, global market, information and service speed, LMS collaboration	User motivation, monitoring and security e-moderators	Adapted program, Program diversion, Market segmentation, individualization, specialization	F2F, expenses, school creation, traditional schools, legal regulations

Source: Created by the authors

Therefore, the strategic approach is based on the enhancement of the legally-formal surrounding, and the development of human resources, e-learning and the specific structure of privileged services. The principle of implementation could be done in three phases: a) development of an administrative and legal regulation which would enable the foundation of a K-12 model e-school as well as the regulation of intellectual rights on school ownership, b) development of human resources, e-moderators and residents, and c) development of educational content based on ICT. The fundamental problems of education are: inadequate legal frame, insufficient financial funds, lack of transparency and unprofessionalism, in other words a domination of nonprofessionals (Meler,2006).

However, even with all the named shortcomings it is possible to successfully integrate the marketing if certain specifics are to be changed within the legal regulations and if a marketing combination which would nurture specific relationship with the consumer (client) is used. This marketing combination should have the emphasis on the image cultivation (Kotler & Keller,2008), loyalty development and curriculum diversification. (Meler, 2003).

Conclusion

E-learning has been the fastest growing component in the education market in the last 10 years. Technology platform, curriculum, interactivity and strategic management and marketing are the key elements in the e-learning process. VLE and e-moderators who supervise the users make the basis of e-learning. However, with the presence of technology platform, syllabus content and LMS, the significance of marketing is often omitted. But, it is the cultivation of the specific relationship with the user, the development of e-school image as well as the image of the clients, and the diversification of the curriculum which develop an e-school. The process of creating a K-12 model of learning is much more profitable as opposed to the traditional learning. The sum of virtual learning increases by 30% annually. E-learning in Croatia is still in its beginning stages and is insufficiently integrated in the market. Namely, by implementing the marketing mix, creating the positive image and developing socio-economic strategies which would support social marketing, it would be possible to obtain not only financial but also cultural profit.

When accepting the foundations of modern learning, i.e. e-learning, we must consider the factors of K-12 model development which include strategic planning through LMS modules. The process of lifelong education is integrated through e-learning, and the Amendments to the Law of Education can bring the implementation. Some psychographic research should also be done in order to determine the four key factors: technology, financial assets, national curriculum and marketing. The marketing together with educational management is the key element in strategic governing of e-schools. The implementation of e-learning should be considered from the quality of service point of view because only then can the needs of the consumers be met. In other words, the quality of K-12 e-learning model is manifested through the consumer's satisfaction and loyalty creation. When considering strategic approach to K-12 e-learning model three key baselines should be mentioned: a) enhance the quality of the educational process, b) ensure a better and broader approach to education and c) create a positive image of Croatian schools. By implementing e-learning into the Croatian educational system we offer a choice to the user and ensure the equal opportunities of education to distance learners.

REFERENCES

1. Bekić, Z. & Kučina-Softić, S. *Bilten Tempus projekta EQIBELT*, Sveučilište u Zagrebu, Zagreb, 2006.
2. Blomeyer, R. *Online learning for K-12 students: What do we know now?*, North Central Regional Educational Laboratory, Minnesota, 2002.
3. Booth, S. & Hultén, M. Opening dimensions of variation: an empirical study of learning in Web-based discussion, in Goodyear, P. & Banks, S. & Hodgson, V. & McConnell, D. (ed), *Advances in Research on Networked Learning*, London:Kluwer, London, 2004.
4. Brinckerhoff, P. *Mission-Based Marketing: An Organizational Development Workbook*, Hoboken, NJ: Wiley, New Jersey, 2003.
5. Cavanaugh, C. *Development and management of virtual schools*, Issues and trends, Hershey, PA, Information Science Publishing, Idea Group Inc, London, 2004.
6. Clark, T. *Virtual high schools: state of the states*, Macomb, Western Illinois University, Illinois, 2000.
7. Clark, T. & Berge, Z. L. *Virtual school and e-learning: planning for success*, Annual Conference on Distance Learning, University of Wisconsin, 2005.
8. Clark, R. & Mayer, R. *E-learning and the science of instruction*, Pfeiffer, San Francisco, San Francisco, 2008.
9. Dillenbourg, P. *Virtual learning environments*, EUN Conference, University of Geneva, Geneva, 2000.
10. Dinevski, D. & Pšunder, M. Teacher's development in the information society for lifelong learning provision, *Informatologia*, Zagreb, 4 (40), 263-269, Zagreb, 2007.
11. DiPetro, M. & Ferdig, R. & Black, E. & Preston, M. Best practices in teaching K-12 online: Lessons learned from Michigan Virtual School teachers, *Journal of Interactive Online Learning*, 7(1), 10-35, 2008.
12. Kynaslahti, K. *Act Locally, Th/Link Translocally*, Faculty of Education at the University of Helsinki, Helsinki, 2001.
13. Goodyear, P. Psychological foundations for networked learning, knjiga Steeples, C. & Jones, C. (ur.), *Networked Learning: Perspectives and Issues*, 49–75., London: Springer-Verlag, London, 2002.
14. Goodyear, P. & Asensio, M. & Jones, C. & Hodgson, V. & Steeples, C. Relationships between conceptions of learning, approaches to study and students' judgments about the value of their experiences of networked learning, *Journal of the Association for Learning Technology* 11(1), 17–27, 2003.
15. Howard, C. & Schenk, K. & Discenza, R. *Distance learning and university effectiveness: changing education paradigms for online learning*, Idea Group Inc, London, 2004.
16. Haughey, M. Managing virtual school: The Canadian experience, in

Business Statistics – Economic Informatics	
---	--

- | | | |
|-----|---|---|
| | & Muirhead, W. | Cavanaugh, C. Development and management of virtual schools, <i>Issues and trends</i> , Hershey, PA, Information Science Publishing, Idea Group Inc, 2004. |
| 17. | Kotler, Ph. & Wong, V. & Saunders, J. & Armstrong, G. | <i>Osnove marketinga</i> , Mate, Zagreb, 2006. |
| 18. | Kotler, Ph. & Keller, K. | <i>Upravljanje marketingom</i> , Mate, Zagreb, 2008. |
| 19. | Meler, M. | <i>Neprofitni marketing</i> , Ekonomski fakultet u Osijeku, Osijek, 2003. |
| 20. | Meler, M. | <i>Marketing u kulturi</i> , Ekonomski fakultet u Osijeku, Osijek, 2006. |
| 21. | Munro, A. & Hook, K & Benyon D. | <i>Social Navigation of Information Space</i> , 35-54, Springer, London, 1999. |
| 22. | Salmon, G. | Approaches to researching teaching and learning on-line, Steeples, C. & Jones, C. <i>Networked Learning: Perspectives and Issues</i> , 195–212., London: Springer-Verlag, London, 2002. |
| 23. | Seaman, J. & Allen, E. | <i>Online nation: Five Years of Growth in Online Learning</i> , Sloan Consortium, Carnegie Mellon, 2007. |
| 24. | Sjogren, J. & Fay, J. | Cost issues in online learning: Using ‘co-opetition’ to advantage. <i>Change</i> , 34(3), 52-57., 2002. |
| 25. | Summers, J. & Price, L. | <i>Administrative Management Capacity in Out-of-School Time Organizations: An Exploratory Study</i> , The Wallace Foundation, New York, 2008. |
| 26. | Shea, R. & Boser, U. | So where’s the beef? <i>U.S. News & World Report</i> , October 15, 44., 2001. |
| 27. | Strauss, H. | New learning spaces: Smart learners, not smart classrooms, <i>Syllabus</i> , 16(2), 13., 2002. |
| 28. | Salamon, G. | <i>E-moderating: The key to teaching and learning online</i> , Kogan Page, London, 2000. |
| 29. | Zemsky, R. & Massy, W. | <i>Thwarted innovation, what happened to e-learning and why</i> , University of Pennsylvania, 2004. |
| 30. | Watson, J. & Gemin, B & Ryan, J. | <i>Keeping Pace with K – 12 Online Learning</i> , Connections Academy, 2008. |