

Technology Solutions to Support Implementation of the Serbian SME Development Strategy

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Abstract - The growth and sustainability of SMEs are crucial to Serbia's economic and employment growth. In recognition of this, the Serbian Ministry of Economy & Regional Development (MoERD) has developed and put in place an excellent policy framework to support them. Inevitably, due to the magnitude of the task, there have been some difficulties with its implementation. Serbian SMEs need solid practical support quickly but the MoERD's support framework will take time to realise its full potential.

This paper explores how the Serbian company Inteleksija, which is being formed by the author based on social enterprise principles, can rapidly adapt existing ready-made technological solutions to assist in the

implementation of the MoERD policy within a very short timeframe. The paper will show how Inteleksija's partnership with three leading international service providers can deliver e-learning technologies to deliver entrepreneurship and best practice business training, managed service datacenters to provide technology support for SMEs and an hosted bureau service delivering Business Process Management training, consultancy and software tools adapted to meet the specific needs of Serbian SMEs.

Finally the paper shows how, with support from the Serbian Administration and academic community, these technology solutions can significantly accelerate implementation of the vital MoERD strategy.

I. INTRODUCTION

Over the last ten years, many excellent academic papers, government and industry white papers and EU reports have been written about the importance of supporting enterprises, especially SMEs, in order to create sustainable economic growth and more employment. Many of these papers address the need for governments and their associated agencies to provide a solid framework to support the development of SMEs.

A policy framework has been in place in Serbia for some time, and the most recent publication of it is the Strategy for Development of Competitive and Innovative Small and Medium-sized Enterprises 2008-2013, which was written by the Ministry of Economy and Regional Development (MoERD) and published in 2009. The excellent strategy document sets out a number of objectives to address this need.

This paper does not purport to be an academic paper. Its intended purpose is to supplement the excellent framework set out by showing how IT based services and best practice methodologies can provide practical solutions to some of the objectives of the Strategy.

The author, who lives and works in Serbia, draws on many years of hands-on experience creating and running a number of successful small and medium-size enterprises in a variety of industry sectors in the UK, Europe, the Middle East and India. He therefore has a practical view of how three key IT based services and best practices could quickly provide both the existing SME community, and potential entrepreneurs from the student population, with vital tools and competencies to build and manage sustainable and successful businesses for the lowest possible cost and in the shortest possible time.

II. BACKGROUND TO SMEs IN SERBIA

Although large enterprises are important to the Serbian economy, SMEs are the real giants, and it is clear that the Serbian administration has made substantial efforts over the years to encourage entrepreneurship and to support SMEs so that they can grow and thus create employment.

The 2009 EU SBA fact sheet reports that Serbian SMEs represent 99.4% of all registered businesses, 57.3% of employment, and 51.5% of value added.

TABLE I. SMEs IN SERBIA – BASIC FIGURES

	Enterprises			Employment			Value added		
	Serbia	EU-27		Serbia	EU-27		Serbia	EU-27	
	Number	Share	Share	Number	Share	Share	Billion €	Share	Share
Micro	69,235	84.9%	91.6%	135,899	13.9%	29.7%	2	11.4%	21.0%
Small	9,421	11.6%	6.9%	184,747	18.9%	20.7%	3	18.9%	18.9%
Medium-sized	2,350	2.9%	1.1%	240,413	24.5%	17.0%	3	21.1%	18.0%
SMEs	81,006	99.4%	99.6%	561,059	57.3%	67.4%	7	51.5%	57.9%
Large	523	0.6%	0.2%	418,794	42.7%	32.6%	7	48.5%	42.1%
Total	81,529	100.0%	100.0%	979,853	100.0%	100.0%	14	100.0%	100.0%

Data refer to the non-financial business economy (NACE C-I, K) and represent estimates for 2008.
Source: Eurostat, elaborated by EIM for EU27 figures; Institute of Economic Sciences, Serbia for country figures.

III. EUROPEAN CHARTER AND SME POLICY INDEX

The MoERD SME development strategy incorporates the European Charter for Small Enterprises and the associated framework takes into consideration the Small Business Act (SBA) and its related policy index. In June 2009, the OECD issued a report on the progress of the Charter's implementation in the Western Balkans in the form of the SME policy index, which is an analytical tool that uses collaborative benchmarking to measure progress in the ten dimensions of the charter listed in table 2 below. These provide a useful framework for the purposes of this paper and also relate back to the five pillars of the Serbian MoERD Strategy which incorporates the SBA.

TABLE II. OECD SME POLICY INDEX SCORES FOR SERBIA PER SBA CHARTER DIMENSIONS 2009

Policy Dimensions/Level	0	1	2	3	4	5
1. Education and training for entrepreneurship						
2. Cheaper and faster start-up						
3. Better legislation and regulation						
4. Availability of skills						
5. Improving on-line access						
6. Getting more out of the single market						
7b. Access to finance						
8. Strengthening the technological capacity of SMEs						
9. Successful e-business models & top class business support						
10. Develop stronger and more effective representation for SMEs						
N.B The results in dimensions 1 & 4 are not comparable to 2007 results					2007	2009

The indicators are structured around five levels of policy reform, with level 1 the weakest and level 5 the strongest. The policy development path for each indicator is typically structured as follows:

- Level 1:** There is no law or institution in place to cover the area concerned;
- Level 2:** There is a draft law or institution, and there are some signs of government activity to address the area concerned;
- Level 3:** A solid legal and/or institutional framework is in place for this specific policy area;
- Level 4:** Level 3 + some concrete indications of effective policy implementation of the law or institution;
- Level 5:** Level 3 + some significant record of concrete and effective policy implementation of the law or institution. This level comes closest to good practices identified as a result of the EU Charter process and the OECD Bologna Process.

Table 2 above shows that Serbia has made good progress in implementing the policy with significantly increased scores across many of the 10 dimensions. Each of these is a major undertaking and fully implementing them and extending the full range of benefits to the SME community is at best a medium to long-term exercise, particularly regarding education and training, skills availability and strengthening technological capacity.

In these highly competitive and challenging economic times, many small and medium size Serbian enterprises are struggling to survive, and there are many would-be entrepreneurs in state universities and vocational schools who lack the basic financial awareness, competencies and basic business skills to successfully start a business and put in place the strategy, IT infrastructure and business processes so vital for sustainable growth. Despite the progress made, entrepreneurial education for students and relevant and practical help for the SME businessman is still too far away.

There are practical solutions that can be implemented immediately to fill these gaps, and these are described below and are referenced to dimensions 1, 4 and 8 of the OECD policy index.

A. Policy Dimensions 1 – Education and Training For Entrepreneurship

The Serbian Government has an excellent and comprehensive strategy for the development of competitive and innovative Small and Medium-sized enterprises. The most recent publication of the strategy states that the five pillars of the strategy to support SME development is based on the following three elements:^[1]

- 1) Concrete priorities for SME development;
- 2) The approach adopted in the EU regarding SME support policy and the “Small Business Act” (SBA) for Europe
- 3) Implementation of the principles of the European Charter for Small Enterprises.

The European Charter principles relating to education and training for entrepreneurship state that:^[2]

- “Europe will nurture entrepreneurial spirit and new skills from an earlier age.
- General knowledge about business and entrepreneurship needs to be taught at all school levels.

- Specific business-related modules should be made an essential ingredient of education schemes at secondary level and at colleges and universities.
- We will encourage and promote youngsters' entrepreneurial endeavors, and develop appropriate training schemes for managers in small enterprises."

Implementing each of these principles is a monumental task and whilst the MoERD strategy document reports that Serbia has made significant progress in recent years in developing a functioning framework for SME support, it also states that:^[1]

"Whilst the framework exists, implementing the framework has not been coherent or sufficiently integrated and has not been properly funded through budget support."

An analysis of Serbian education statistics confirms the MoERD view that there is not yet enough specific business related training, particularly in the State universities which accounted for 80% of university students in 2009.

TABLE III. ANALYSIS OF BUSINESS RELATED STUDIES IN SERBIAN UNIVERSITIES & VOCATIONAL SCHOOLS - 2009

Institution Type	No of Institutions	No of Faculties	¹ Business Related Faculties	% of Faculties	Number of Students	% of Total Student Population	Business Related Students	Business Students as % Total Students
State Universities	6	80	5	6%	148,181	63%	19,971	13%
Private Universities	13	45	19	42%	38,927	17%	18,891	49%
State Vocational Schools	46	46	9	20%	41,876	18%	15,570	37%
Private Vocational Schools	16	16	8	50%	5,046	2%	3,013	60%
Grand Total	81	187	41	22%	234,030	100%	57,445	25%

¹ Business related students include those that are on economics, organisational science, business administration and all other management and finance related courses

² The raw data for this table was extracted from the Statistical Yearbook of Serbia 2010 and imported into a database, coded and analysed for the purposes of this report

The Serbian state education system is excellent and provides first class economics, organisational science, business and business management courses. However, in common with most other European universities, these only provide some business related knowledge to a small percentage of total students. Developing a new full time course for all students is likely to be a long and drawn out process that may still only provide specific entrepreneurial knowledge to a small percentage of total students.

Both the MoERD strategy and the EU SME policy framework states that general business knowledge needs to be taught at all school levels. Specific business modules need to be an essential part of secondary and higher education. Entrepreneurial spirit and new skills must be nurtured from an early age.

There is a simple, practical, tried and tested and cost-effective solution available in the form of e-learning, which can supplement existing business-related education by delivering a generic extra-curricula and internationally recognised and certificated course to all secondary and higher education students.

The e-learning platform and course content are common to policy dimensions 1 and 4 and are described in detail in section C below.

B. Policy Dimensions 4 – Availability of Skills

The principles of the SBA Charter for policy dimension 4 covering availability of skills states that:^[2]

"We shall endeavour to ensure that training institutions, complemented by in-house training schemes, deliver an adequate supply of skills adapted to the needs of small business, and provide lifetime training and consultancy."

The MoERD strategy document incorporates this principle within Pillar 4 of its strategy which recognises that in a knowledge-based economy, the performance of business organisations depends on ensuring that all categories of employees possess current and up-to-date knowledge and skills.

Therefore, the new global knowledge and information-based economic system implies a strategic role for the training function, and has significant implications for the identification of training needs and the delivery of training.^[3]

Nowadays, businesses must analyse their training needs in greater depth and train a larger number of employees with different backgrounds in terms of knowledge and experience, and they have to do so more rapidly than in the past, while attempting to reduce training costs to remain competitive in a complex and changing environment. For their part, employees also must be constantly in a learning mode, in order to increase their knowledge and improve their skills. As a result, training habits have to change, for both organizations and their employees. Thus many large enterprises have turned to e-Learning as a "best practice" aimed at providing adequate training to their employees so they can remain up to date and competent in their jobs.^[4]

The same is true of all enterprises including SMEs. "Best practice" e-Learning provides an ideal low-cost and fast-track solution to deliver business knowledge and skills training for SME managers and employees. Such training is vital in order to support growth and sustainability of SMEs and will also greatly improve long term SME survival rates.

C. Accelerating the Implementation of the MoERD Pillar 1 and Pillar 4 Strategies using e-learning courses

Some definitions of e-learning such as 'computer based training' or 'distance learning' are misleading in the context of this paper. A better definition is the use of computer network technology to deliver information and instruction to individuals. E-learning allows organisations to deliver training and education via the web, and provide relevant and targeted content anytime and anywhere, offering learners a customised and interactive experience.

A number of empirical studies concerning e-learning for SMEs show the following extensive benefits:^[3]

- Flexibility – allowing the student and tutor to choose the course time and location
- Customisation – content can be adapted to suit groups' differing needs

- No time limit – each student can learn at his own pace
- Training material distribution – additional written materials are easily added
- Evaluation – real time progress evaluation and personalised tutor support
- Cost – no cost for transportation, meals, lodging, time away from work or additional tutors

Leading e-learning providers have developed hosted platforms with the capacity to deliver high quality content to many thousands of e-learning students concurrently. Their sophisticated Learning Management Systems (LMS) are easily integrated with any existing University SCORM based platforms - (Shareable Content Object Reference Model). Because they have been developed over time they can be offered at a very low cost. The business model for this service is high volume, low cost, and with a large enough volume commitment, these training courses can be offered for a very low unit cost per e-learning student without the need for any capital outlay.

There are a plethora of excellent e-learning courses available, but there are two initial course types most relevant to meeting the immediate needs of the entrepreneurial educational policy dimensions stated above. These are business basics and financial awareness courses for non-financial managers and the best practice PRINCE2 project management methodology.

1) *Business Basics and Financial Awareness Courses*

The Business Basics courses are relevant to all students as well as key non-financial employees in SMEs and covers key concepts of business basics. The training is aligned to business objectives and focuses on helping non-financial students, employees and managers understand the financial implications of their business decisions and actions on the organisations they work for.

The courses do not focus on providing accountancy training. They give a foundation in business and finance and provide the basic skills and knowledge of the dynamics of a business that entrepreneurs will need to develop their ideas into sustainable concepts.

These extra-curricular courses are already being used to great effect by students in other European business schools and institutions and by many thousands of SMEs, large enterprises and other organisations around the world.

2) *Best Practice Training – PRINCE2 Project Management Methodology*

The PRINCE2 project management methodology (as opposed to project analysis and scheduling tools) applies to the vast majority of business situations, and as such its importance cannot be over emphasised. Anyone who is involved in delivering a product or a service has either project managed, or been part of a team that manages service delivery or change. Project management skills are relevant to any future or present employee, and as around 60% of the student population will work with SMEs, the vast majority of SMEs would benefit from students learning at least the basic methodology, principles and

language of effective project management, in the form of the PRINCE2 foundation course.

PRINCE2 is one of the leading internationally recognised best practice methodologies. It is a structured project management method developed by the UK Office of Government Commerce (OGC) over many years. The training focuses on the methodology of project management rather than project scheduling, delivery and analysis tools. Its popularity throughout the world is largely due to the fact that it is truly generic: it can be applied to any project regardless of scale, type, organisation or culture. It is available in two forms; the foundation course, which provides the basic knowledge and terminology of project management, and the higher level practitioner course, which gives the full range of skills required to successfully manage large projects.

As with the Financial Awareness courses, PRINCE2 courses can be delivered in an hosted e-learning environment, allowing student and SME users to learn in an enjoyable and inspired way in as little as 10 to 20 hours. Both courses are excellent due to their high quality, ease of use and low delivery cost and they provide the student with an internationally recognised certification. Many European businesses now insist that their employees and sub contractors are PRINCE2 qualified.

These two courses, delivered in volume from a solid e-learning platform, can provide a fast and low-cost solution to assist in meeting the requirements of dimension 1 and 4 of the policy framework.

D. Policy Dimension 8 – Strengthening the technological capacity of SMEs

The principles of the SBA Charter for policy dimension 8 covering the strengthening of SMEs technological capacity states that:^[2]

- “We will strengthen existing programmes aimed at promoting technology dissemination towards small enterprises as well as the capacity of small business to identify, select and adapt technologies.
- We will foster technology co-operation and sharing among different company sizes and particularly between European small enterprises, develop more effective research programmes focused on the commercial application of knowledge and technology, and develop and adapt quality and certification systems to small enterprises. It is important to ensure that a Community patent is available and easily accessible to small enterprises.
- We will foster the involvement of small enterprises in inter-firm co-operation, at local, national, European and international levels as well as the co-operation between small enterprises and higher education and research institutions.
- Actions at national and regional levels aimed at developing inter-firm clusters and networks should therefore be supported, pan-European co-operation between small enterprises using information technologies enhanced, best practice

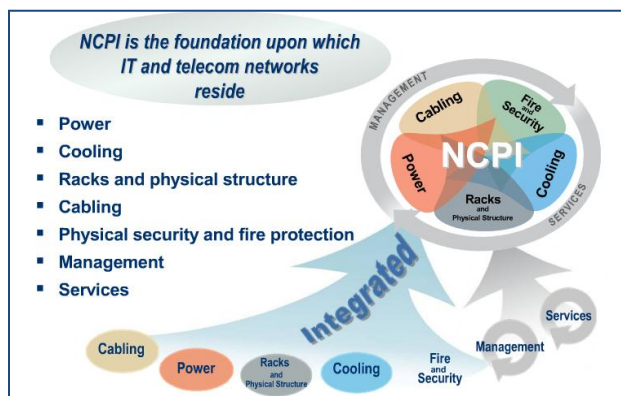
in co-operative agreements spread, and small enterprises co-operation supported to improve their capabilities to enter pan-European markets and to extend their activities in third country markets.”

The majority of business start-ups that fail do so within their first year, and depending on their sector, between 45% and 62% will fail within their first four years. A major contributory factor to this is a lack of stable IT platforms and sustainable business processes, both of which are essential to SMEs from day one to support their start-up and expansion. Often these vital foundations are the last thing to be considered, either because of high set-up costs coupled with a limited cash flow or in the rush to take the companies products or services to market as quickly as possible.

To improve survival rates and support SME growth, practical help can be provided in the form of provision of specialist datacenters offering a subsidised managed service to SMEs and the creation of a bureau service to deliver business process management (BPM) tools and consultancy adapted to meet the needs of SMEs, particularly High Growth SMEs (HGSMEs).

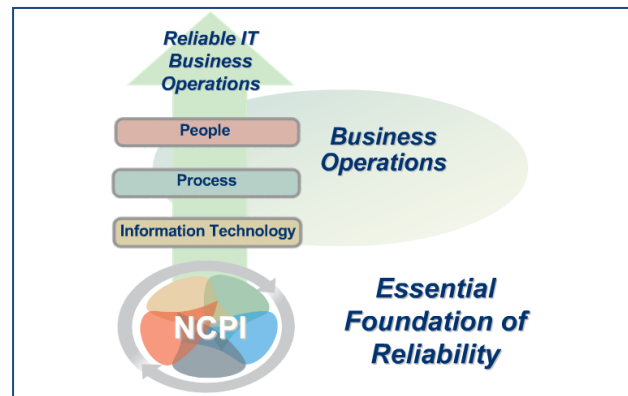
1) SME Datacenters

In today's technology driven world, SMEs depend on stable IT platforms, this is especially true of HGSMEs or SMEs with 10 or more employees. A modern business cannot function without IT, but crucially, this does not mean simply laptops and desktop computers but the network critical physical infrastructure (NCPI), which are the foundation upon which IT and telecom networks reside as depicted in the graphic below:



As the graphic shows, NCPI comprises of power, cooling, racks, security, fire protection, cabling, management and services. If any one of these elements fails (and they often do) the whole business is under threat, and yet it is often the last thing to be considered during the start-up or even the early expansion phases of a business.

NCPI is the essential foundation for reliable IT Business Operations, and once in place, the other three building blocks of Information Technology (IT), processes and people with the right level of skill and training to support the operation of these systems can be added to ensure reliable IT business operations are maintained.



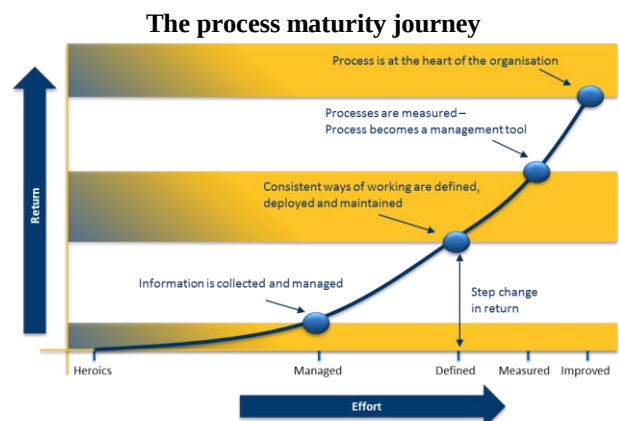
Unfortunately, putting this vital infrastructure in place is usually cost prohibitive during the start-up and expansion phases as there are so many demands being made on very limited cash flow and working capital. The practical solution is not for SMEs to invest in more IT equipment that will require processes and skilled people to maintain, but rather to create specialist managed service datacenters designed specifically for SMEs, where the full NCPI, IT, software as a service (SaaS), processes and people are available on demand and at an affordable price.

The pricing models for these datacenters and (internet) cloud based SaaS should reflect the extreme demands on cash flow and working capital for start-up and expanding SMEs and the author believes that part of the EU and government enterprise funding allocated to supporting SMEs should be directed towards subsidising this service.

2) Sustainable Business Process Management

Whatever an organisation's size, standardised processes must be at its heart if it is to prosper. They are an essential management tool to optimise efficiency, improve customer relations, lower operating costs and substantially increase working capital and cash flow – the life blood of any organisation..

Despite this, standardized processes are virtually non-existent in the early phases of most SMEs lives, and they are run haphazardly, with tasks being carried out as and when they need to be completed with little regard for process. Regretfully the majority of SMEs never get past the initial stage of “Heroics” depicted in the Process Maturity Journey graphic below and this is a major contributory factor to the very high SME failure rates during the first four years:-



In order to create these processes, information must be collected and proactively managed, and consistent ways of working need to be defined, deployed and maintained. Finally, when these basic elements are in place then processes can be measured and improved, turning them into one of an SMEs most valuable management tools.

This is where Business Process Management (BPM) is essential. BPM is a structured method of monitoring, analysing and improving end-to-end business processes and relevant resources using current software and technology. This methodology is used to great effect by large organisations, but many SME operators are not aware of the benefits of BPM and so remain attached to older functional ways of thinking and managing, to the detriment of their long term survival.

The solution is to encourage early adoption of BPM by SMEs. This can only be achieved through making them aware of its necessity and benefits, and by working closely with the best BPM solution providers, adapting their applications to focus on and meet the specific needs of SMEs from start-up to maturity.

There are three steps to this end;

- Developing and delivering a content rich short course on the principles and benefits of BPM to higher education students and SMEs, via the e-learning platform described above.
- Developing and offering an SME adapted version of a leading BPM application.
- Providing SMEs with a subsidised hosted managed bureau service that can offer on-demand advice, consultancy and technical support.

IV. CONCLUSION

Great progress has been made, both in the Serbian academic community and government administration, to put in place a comprehensive support framework for the development of SMEs.

SMEs have the capacity to lead the way in growing the emerging Serbian economy and in the drive for market share of what is an increasingly competitive and hostile global market. As shown in section 1 of this paper they are the real giants of the Serbian economy but it is clear that they need solid, practical support and they need it now.

In this paper the author has presented solutions for assisting the MoERD and academic community in implementing the excellent Strategy for Development of Competitive and Innovative Small and Medium-sized Enterprises by delivering quickly, efficiently and cost-effectively the competencies, skills, technologies and tools that are urgently needed by SMEs.

To that end he has approached and is contracting with three leading international service providers to deliver the solutions set out in this paper. Each partner company has

responded with enthusiasm and optimism and are willing to put both their funding and substantial development resources behind the project against committed volumes.

These large, experienced and well established international service providers will bring their knowledge and expertise to the process of developing and delivering each of the disciplines discussed in this paper namely:

- Ready made e-learning platforms delivering entrepreneurial education for students and SME skills training courses in business basics, financial awareness and PRINCE2 project management methodology
- Business Process Management training, consultancy, applications and software tools adapted to meet the specific needs of Serbian SMEs and delivered via cloud technologies
- The design and build of SME specific datacenter managed services to provide the Network Critical Physical Infrastructure, Information Technology, cloud-based SaaS software applications, processes and people that are so vital to SMEs for reliable IT business operations.

The author is creating a Serbian company called Inteleksija. Inteleksija is based on social enterprise principles and is partnering with these leading international service providers. It is dedicated to delivering the urgently required supplementary education and training for entrepreneurship to students and to strengthening the competencies, skills, technological capacity and competitiveness of SMEs in Serbia.

There is much still to be done, but the essential ingredients are already in place. With the support of the Serbian academic community and the Serbian Ministry of Economic and Regional Development this vision can quickly be brought to life.

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