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21ST CENTURY INNOVATIVE BUSINESS: GLOBALLY AGILE YET SOCIALLY, CORPORATELY AND ETHICALLY RESPONSIBLE

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Abstract

Greed, fraud, and deception among corporate leaders in American businesses led the country deep into a recession and the public in a state of stagnation, mistrust, and uncertainty. Corporate accountability have declined in businesses as many corporations in an effort to stay competitive with the increasingly changing business models. Globalization has changed the face and heart of today's businesses. The requirement for speed and agility to stay competitive does not negate ethical practices. In this paper, the authors outlines a governance plan for today's innovative businesses and discusses the balance between corporate competition and changing business models with the responsibility of businesses to exhibit socially responsible behaviors and ethical practices.

Key Words: ethics, social, corporate, key agility, business

Topic Groups: management consulting, organizational behavior, critical management

21ST CENTURY INNOVATIVE BUSINESS: GLOBALLY AGILE YET SOCIALLY, CORPORATELY, AND ETHICALLY RESPONSIBLE

In a world filled with economic uncertainty, in which corrupt business practices seem to be catching on like the common cold, business governance appears to be a highly essential, important part of business operation and functioning. Without a good business governance plan, businesses can operate as they please without accountability. Greed, fraud, and deception among corporate leaders in American businesses led the country deep into a recession, and the public in a state of stagnation, mistrust, and uncertainty. Chopra (2009)

believes the mindset and culture of corporations is one of abuse, greed, peddling, bureaucracy, leading to the current economic climate.

Corporate accountability has declined in businesses. From the obvious imperialism of Wall Street giants to the highly leveraged corporate positions and industry wide lack of risk management (Huq, 2008), accountability and responsibility appears to have taken a back seat to the political agendas and corporate takeovers. The changing business models force many corporations' into extreme efforts to stay competitive and increase the bottom line by any means. Globalization has changed the face and heart of today's businesses. The requirement for speed and agility to stay competitive does not negate ethical practices. In this paper, the authors outline a governance plan for today's innovative businesses and discuss the balance between corporate competition and changing business models with the responsibility of businesses to exhibit socially responsible behaviors and ethical practices.

Background of the Problem

Globalization has changed the structure, culture, and face of today's businesses. Businesses practice with speed, flexibility, and innovation to stay competitive. Today, businesses that understand global agility and are willing to take risks, are those who thrive and survive, even in turbulent markets. Businesses that rely on speed, accuracy, and consistency even in a new or unfamiliar market and environment have seen higher than expected dividends (Network World Asia, 2009). Global agility means shifting business thinking from one that is traditional to a global mindset, which embraces opportunities globally (Canton, 2009) and applies innovation and technology, recognizing cultural differences and diverse practices, yet balancing the responsibility and governance in the global marketplace. Chitakornkijsil (2009) believes a critical need exists for business leaders to think globally, which leads to cross-cultural collaboration on products, services, and ideas.

Businesses may be reticent to venture into the global marketplace because corruption and bribery issues are still alive and quite prevalent in foreign countries. When business transactions occur across global borders, very different cultural norms and regulation regarding bribery exist (Baughn, C., Bodie, N., Buchannan, M., Bixby, M., 2010). Business who do not understand the risk factors and how to avoid the pitfalls of entering covert corporate deals which fail to follow guidelines of good business governance, can become entangled in the negative risk factors of globalization. Some considerations are market differentiation, competitive pricing, licensing aspects, brand identification, accomplishing technological superiority of certain products and how to maintain high quality consumer service (Chitakornkijsil, 2008). Much potential exists to overlook or ignore those considerations. This leads to the plight of 21st century businesses concerned with global agility and corporate competition in the global marketplace.

Decline of Corporate Accountability and Responsibility

The political implications of business governance can be viewed from the perspective of Corporate Social Responsibility (CSR) by looking at the businesses' responsibilities socially. Businesses have grown into global enterprises that further complicate social responsibility, largely influencing the political system. The CSR story is regularly told from a micro perspective that details the internal costs and benefits to a firm such measures may bring. However, the sheer increase in the size and activity of multinational corporations (MNCs) over the past decade guarantees that their CSR efforts, or lack thereof, will significantly impact on the external, social, and political in which they operate. Put bluntly, a company's decision of and how to pursue CSR efforts matters greatly to the workers, communities, and nations, in which they invest (Detomasi, 2008).

Given the current economic crises and state of the American economy, questions about business integrity continue to exist. America's financial system largely affects other global systems because other financial systems in the global economy exist interdependently of the American system. The demise of the financial system crumbled at the heart of a presidential election year. What this means for the political parties depends largely on who looks favorable in the eyes of the public. The public should have a choice in deciding how one should handle unfavorable practices in corporations particularly when it directly influences the financial well-being of America. Yet as recently as the year 2008, where bail-out deals were extended to many large corporations, decisions were made behind closed doors by political giants who claimed to be working on behalf of the public yet appeared to lack full consideration for the public's interest. The public believed the bailout decisions was history repeating itself only to make the wealthy wealthier, adjusting old debt to start new ones (US News and World Report, 2008).

The public believed that corporate giants deemed responsible for the crumbling of the American economic system should own the responsibility of cleaning up the mess. From a political perspective, business governance may not always serve the interest of the public. Private politics differs from public politics by not relying upon law or the legislative process to resolve disputes. Instead, private politics entails attempts to change corporate behavior via the mechanisms of public protest and consumer choice, rather than through legislation (Detomasi, 2008).

Balance between Corporate Competition and Changing Business Models

In the midst of global and local competition, organizational leaders face challenges focusing on external competition versus changing business models to fit the current needs of the organization. Strebel and Ohlsson (2006) suggest that organizations are more successful with managing competition by focusing on multiple aspects of change, including customers, internal processes, and effective business models. These authors conducted a study on changes made within organizations and the results demonstrate that a "complementarities" approach seems to be an effective approach to change (p. 79). Leaders can focus on the competition as well as new business models, identify shifts that impact business, and allow internal innovation. The shared leadership model may align with this approach to managing change within the organization. Shared leadership allows individuals with different skills to take the lead to ensure that all aspects of managing change are effective (Atter, 2008).

Along with the challenges of focusing on the appropriate strategies to manage competition, internal leadership struggles may impact this process. Regardless of the structured governance, internal struggles for power, and influence among leaders can occur. The struggle for power and influence and the internal politics that occur can have a negative impact on the performance of the organization and as well as the interaction between the board members and the executive leadership team. Pfeffer (as quoted by Skaerbaek and Melander, 2004) indicate "Politics involves organizational activities to acquire, develop, and use power and other resources to achieve a preferred outcome in a situation where uncertainty about choices exists" (p. 7). Although involving various team members in the development and maintenance of a business governance plan is important, this inclusion process can create some dissension and concern among the members of the team.

Power struggles that exist in organizations exist because of the ongoing pressures that leaders face to meet the demands of stakeholders, customers, and superiors (Franken, Edwards, & Lambert, 2009). These internal struggles can impact execution of new strategies

to address ongoing complexities and competition. As a result of internal challenges, organizational leaders may consider specific steps that can assist with implementing organization change effectively. Some steps include: 1) assessing the organizations prior success with implementing and executing strategic change; 2) establishing consensus among the leadership team regarding the need to improve execution strategies; 3) determining and agreeing upon specific elements of focus for strategic change; and 4) establishing, prioritizing, and outlining the strategic execution model (Frenken, Edwards, & Lambert, 2009). Following specific steps to establish a solid execution plan may assist with creating a balance between focusing on external competition and implementing effective business models.

Ethical Practices and Socially Responsible Behaviors In Corporations

Corporations and organizations achieve integrity from putting the interest of those they serve; the customers and stakeholders first, meeting the business mission and goals, and exhibiting transparency with business dealings not allowing a trace of impropriety to slip into business practice. Although clear ethical guidelines are useful to those within the organization, one cannot rely entirely on a set of rules and regulations to make the organization one that practices with integrity. What it takes is a culture that embraces integrity beginning with the leadership and allowing those behaviors to permeate the organizational environment.

True leadership requires a balance among three elemental pre-requisites; "Energy, Expertise, and Integrity" (Singh, 2008). When synchronized, they unleash the latent potential in any organization. Out of these three interacting gears of leadership, integrity ensures that an organization is run in the right direction, with a view toward collective good rather than selfish motives. Therefore, integrity is the most non-negotiable of the three elements (Singh, 2008). Hernez-Broom, G., McLaughlin, C., and Trovas, S. (2008), introduce the idea of self-promotion as a strategy for promoting integrity as a leader. There exists some truth to the fact that good news does not make the news. This is also true concerning good leaders doing good things. Unfortunately, the good isn't always highlighted because one expects good. Rewards can emerge from self-promotion for both individuals and leaders in their organizations when used intentionally and strategically.

Self-promotion creates visibility and communicates value and is an essential part of the job of a leader. Self promotion is also the key to leadership effectiveness and long-term success (Hernez-Broom et al., 2008). McKoy (2007) offers several principles that leaders should follow to avoid integrity issues in organization. They are as follows. (1) Develop a moral compass (2) Be intentional about learning (3) Build trust with peers (4) Understand and embrace the covenants of the organization (5) Keep open communication (6) Be comfortable with ambiguity, paradox, uncertainty, and risk (7) Surround self with deep trusting relationships (8) Measure performance fairly (9) Choose clients fairly (10) Listen (11) Learn to lead the gray areas (12) Prepare for events that test. These principles are not always present in businesses and among those who lead in organizations. When these basic principles are absent, leaders are free to engage in irresponsible and sometimes illegal behavior impacting the organization, business, and public.

For one to achieve success in the face of increasing challenges, businesses need to create a no nonsense governance system that leads toward achieving the three Rs of business; i.e., everyone doing the Right things, and doing them Right, at the Right time. (Smart Solutions, 2008) A business governance plan must include at the very minimum but is not limited to the following components. They are as follows. (1) Strong board of directors (2) Policies and Procedures which incorporates laws and regulations governing business practices (3) A fiscal

and financial management system (4) A strong leadership with a knowledgeable and skilled management team (5) Business and management systems and tools to ensure that the business runs smoothly and effectively (6) Information technology (IT) systems.

Strong board of directors

Under traditional theory, the board acts as an active management monitor for shareholder benefit. The board not only decides when to engage and when to terminate a management team, but also acts to provide supportive management oversight between these two points. The concepts of independence and equity are central to this active monitoring. To fulfill their oversight responsibilities effectively, directors must be holders of a personally meaningful equity stake in the enterprise and remain independent of management (Gandhiist and Sonnenfeld, 2004). The importance of a strong board of directors means that another body exists, an independent entity making sure that the business does what it set out to do with a sense of responsibility to its stakeholders and the public.

Policies and procedures

Ensuring that work practice is compliant to regulations and industrial standards is an increasingly important issue in business systems (Lu, R., Sadiq, S., & Governatori, G., 2008). Internal policies and procedures which guide business practice should incorporate the rules and regulations that govern public and private business practice. The business' policies and procedures are also an essential component of business governance which ensures that everyone within the organization or corporation understands the practice expectations and aspire to implement and comply with the procedures that are written down.

Compliance essentially means ensuring that business processes, operations, and practice are in accordance with a prescribed or agreed set of norms. Compliance requirements may stem from legislature and regulatory bodies (e.g. Sarbanes-Oxley, Basel II, and HIPAA), standards and codes of practice (Lu et al., 2008). An imperative part of the business' policies and procedures is its ethical practices that must be folded into the policies and procedures of that company. Another important factor is consulting with a legal entity to ensure that the policies and procedures established and the language of these procedures are sound and based on best practice business standards and regulations.

Fiscal management system

The finances of a company tell a major part of the business' story because corporations exist to make money. Included in the company's fiscal management system should be a system of checks and balances including clear financial statements (balance sheets, cash flow statements, and balance sheets) that make sense and do not elude the reviewer by covering up pertinent data. Technology has made financial management in businesses less painful as many corporations do away with traditional accounting for more sophisticated systems that help them manage the financial side of the business. Consequently, these systems can be very costly but are a necessary part of business governance.

Internal controls are very much in the spotlight at organizations today because of implementation of the Sarbanes-Oxley Act of 2002. Much scrutiny exists on internal controls that monitor financial transactions. Stakeholders blame the Sarbanes-Oxley Act for adding complexity and cost to corporate governance. The costs of implementation and compliance have steadily risen since 2002 and many companies continue to struggle with Security and Exchange Commission (SEC) guidelines for administering Sarbanes-Oxley directives (Sprague, 2008).

Strong leadership

Leaders, who demonstrate due diligence and show courage in decision-making, are inclusive, communicate well with stakeholders, foster a sense of integrity, create an environment in which there exists openness and trust, and leads by example throughout the organization are considered strong leaders. A strong leadership team is an essential component of a business governance plan. The lack of trust in businesses diminishes further by a larger atmosphere of distrust within a society. Society has been exposed to numerous transgressions by politicians, clergy, athletes, and the media. The problem, while simple, is serious, a lack of trust in business. The solution, while perhaps simple as well, is substantial; rebuilding stakeholder trust in business. The method, however, is not at all simple but is multifaceted and protracted, integrating principle-centered leadership and organizational transparency into corporate governance (Bandsuch. Pate, & Thies, 2008).

Business and management systems

Businesses have numerous choices today regarding business models and management systems useful to manage their business effectively. It seems that stakeholders become cynical as businesses leaders work to find the right model, which fit for the culture and practice of the business. Good governance calls for useful and effective models, which aid the business in effectively operating whether scanning the environment for changes, managing risk, forecasting, maintaining quality, and using teams more effectively to carry out the goals of the company. For some companies, there isn't one method that fits the practice. Therefore, an eclectic approach or a compilation of various models might spell good governance for that company. The point is a management system is in place whereby managers are held accountable, their personal interests do not prevail, and the organization can ensure quality and continual improvements.

Purpose

The purpose of the qualitative research in this article was to explore the views of business leaders to determine if and how businesses could balance 21st century innovation and global agility with responsible business practices. The participants surveyed were 500 business leaders who encompassed business leadership groups from the global networking group, LinkedIn, an on demand office service group in Washington, DC consisting of small business owners with diverse business practices, and a small, local, disadvantaged group of business leaders certified as "small business enterprises" with the Washington, DC government.

Demographical Data

Of the 500 business leaders surveyed, the respondents were 16 business leaders. Despite the low response rate, the data in this article has value and can be useful to businesses in understanding the balance between global agility and social and corporate responsibility for success in operating 21st century businesses. The majority of respondents, 73.3% were executive level business leaders, possessing an average of 10 years or more experience in their roles as business leaders. Females, 53% made up the majority of the respondents, while males were 46.7% of the respondents. The respondents, 33.3% ranged in age from 41-50. The charts below, charts one to four, provide a graphical representation of the respondents' demographics.

Design and Methodology

An online Likert-scale survey design was used to collect data. A survey link was created and submitted via email and through LinkedIn to potential participants, who were 500 business leaders from diverse locations. The respondents were asked to provide their opinions on five statements regarding the balance between global agility, business competitiveness, and corporate responsibility. The scale included in the survey allowed respondents to provide their opinions based on the statements provided. The categorical options for response were strongly agree, agree, neutral, disagree, and strongly disagree. The following represents the five research statements used to collect data.

1. Businesses can be globally agile, competitive, and innovative, while balancing their social, corporate, and ethical responsibilities.

2. Innovative businesses have a responsibility to educate the public/consumers and be transparent about technologically advanced products and services.

3. It is acceptable for businesses who desire the competitive advantage in order to set trends, to innovate, take risks, bend rules, and challenge the status quo with secondary consideration for social, corporate, and ethical responsibility.

4. The rapid growth of technology and global innovation increases the risk of unethical business practices and corporate and social irresponsibility.

5. Businesses who are innovative and globally agile, are less likely to be socially, corporately, and ethically responsible.

Research Findings and Discussion

Twenty-first century innovative business models require the consideration of three important change factors. Nagel (2006) names these factors as "product change" involving solution and experiences, "process change" encompassing technology, "information tools, and outsourcing and market change" which involves globalization, customization, and speed and agility. Encased in these requirements for 21st century innovative businesses is the continual responsibility for businesses to exhibit socially and corporately responsible behaviors. The research in this article was conducted to explore the perceptions of business leaders to determine if there can be a balance between ethics, social, and corporate responsibility while being globally agile. A survey was sent via e-mail to approximately 500 randomly selected business leaders. The business leaders were selected from various business groups including an on-demand office service group, small business owners who are certified as a small business enterprise, and a business networking group, LinkedIn. The participants were given a two-week period to respond to the anonymous survey. Of the 500 participants surveyed, only 16 business leaders responded.

The respondents represented 32% (16 out of 500) of the total participants surveyed. The low response rate can be attributed to the sensitive nature of the subject matter. In light of the current decline in business trust and integrity related to the downfall of major corporations following irresponsible and unethical practices, business leaders have somehow become jaded by any belief in corporate responsibility and business governance. In spite of the fact that globalization has stimulated economic growth in global nations, the intricacies of corporate social responsibility continue to loom over companies holding them accountable and responsible for the economic growth and development of the society in which they exist and do business (Tsoi, 2009).

Many companies continue to avoid addressing issues related to the continuous challenges around corporate responsibility. This may be a good reason to explain the possible meaning for the low response rate, in that there may be a lack of trust that could potentially be traced to the respondent. Another possibility is the lack of time to devote to responding to survey questions. Finally, there may simply have been a lack of interest in the subject. Based on the statements asked of the respondents, 56.3% of the respondents strongly agreed that businesses could be globally agile, competitive, and innovative, while balancing social, corporate, and ethical responsibilities. The respondents, 56.3%, also strongly agreed innovative businesses have a responsibility to educate the public/consumer and be transparent about technologically advanced products and services. Some respondents, 37.5%, disagreed that businesses who desire the competitive advantage to set trends, innovate, take risks, bend rules, and challenge the status quo with secondary consideration for social, corporate, and ethical responsibility, whereas, 25% agreed with the statement. More than half, 31.3% of the respondents strongly agreed and agreed that the rapid growth of technology and global innovation increases the risk of unethical business practices and corporate and social irresponsibility. Finally, 50% of the total respondents disagreed that businesses who are innovative and globally agile, are less likely to be socially, corporately, and ethically responsible. Table 1 below, provides a graphical display of the respondents' responses to the five statements used as research statements.

Qualitative Responses

The respondents provided qualitative responses to three qualitative statements that encompassed global agility, responsible business practice, innovation, and taking risks. The statements and responses are as follows.

Statement 1: Please share ideas on how businesses can balance innovation and global agility with responsible business. This statement received 13 qualitative responses.

1. "Focus on transparency and integrity instead of all the fine print qualifications."

2. "Simply stated, don't let losses control your destiny. Work harder and better - don't take short cuts."

3. "By making it their point of departure. Share the beliefs within your business network and let social control being the driver in those business networks."

4. "Follow ethical standards."

5. "Organizations are driven by values. You can combine innovation with responsible behavior."

6. "There are two types of businesses: Personal (e.g. sole proprietorships or closely held corporations) and corporate (e.g. publicly traded companies). The former can seek that balance by injecting the owner's value system into the corporate charter. For the latter, any discussion of balancing anything "responsible" or "ethical" practices is meaningless, because it is unlawful for the managers to do the right thing for the right reason (e.g., to give to charity for the sake of charity, to avoid polluting for the sake of a clean environment). They are obligated to make the most money they can for the shareholders, and "being responsible" can be nothing more than a public PR image to help make more money. If we want corporations to take note of social or ethical responsibilities beyond a self-serving PR purpose, we must pass laws obligating compliance. It's that simple."

7. "Have enforceable corporate policies that prohibit irresponsible business practices."

8. "Any responsible business has an interest in combining the elements listed in the normal conduct of affairs."

9. "Adhere to good business ethics."

10. "A business person should consult the organization and companies that regulate his/her field. And follow rules and regulation regarding as best as he can."

11. "Workshops for consumers and new hires to outline mission and goals."

12. "Good ethics and management."

13. "Do what is right, regarding all laws governing said given business, either nationally and/or internationally."

Statement 2: Please identify challenges business may face with competiveness, risk taking, and setting trends while balancing social, corporate, and ethical responsibility. The statement received 13 qualitative responses.

1. "Operating in different cultures and under different governmental rules/values."

2. " Those of us who are ethical always risk the chance of losing clients/business opportunities, it's the nature of business. The challenge is to continue to hold firm to your ethics remembering that God always wins."

3. " Short term goals versus long term goals. Management principles from shareholder to stakeholder value."

4. " The challenge of misusing business practices and bending rules to achieve goals."

5. " Not everybody wants to be a rat. A challenge is to be a normal person and not to kill everybody out there."

6. "The biggest challenge is the race to the bottom. That is, if the competitor can make more money or gain more market share by polluting more, lying more, paying lower wages,   and so on, the race to the bottom is on. Good, solid, tough, clear, strong laws setting a minimum standard of conduct can place a "finish line" on that race to the bottom, and ensure the public that all businesses will be on the same level playing field when it comes to those minimums. A good example of this in action is lead in children's toys. Without a law prohibiting lead in children's toys, the only balancing a corporation would do is one that includes the difference in cost and quality from using lead, the positive PR that might be gained if "no lead" is considered to be a selling feature, and the cost of liability for poisoning children multiplied by the probability of being sued by, and losing, a child-poisoning lawsuit. But with a law banning lead, the business need not try to compete by finding an economically beneficial level of child poisoning.

7. "Eliminate Greed in the Market Place."

8. "The greatest challenge is an educated and informed public able to distinguish between irresponsible reporting and popular trends as well as a regulatory framework which is clear, explicit, and responsible.

9. "Deciding how best to set and establish rules to accomplish the goals of balancing social, corporate, and ethical responsibility."

10. "A challenge in business is taxes and licensing."

11. "When members of the same team have conflicting missions, values and agendas."

12. "Integrity issues."

13. "Lower overhead and increase productivity."

Statement 3: Please identify successes business may face with competeveness, risk taking, and setting trends while balancing social, corporate, and ethical responsibility. Statement 3 received 13 qualitative responses.

1. "Many consumers are attracted to ethical businesses."

2. "Growth."

3. "Companies adopting the new principles will be the survivors of the 21st century."

4. "Being a more responsive corporate citizen ad being more transparent."

5. "Set the law bar high, make it a publicly demanded trait (e.g. environmentally friendly, low fat, long lasting, set rules to prevent cheating (e.g. calling all sorts of polluting products "green" and the competition will reward those that, rather than spend millions lobbying against these minimums, embrace them ahead of the competition. Consider Google's motto, "Don't be evil," as an example of using "not evil" as a distinguishing feature in competition with other businesses. But don't miss the April Fool's Day 2009 reflection on it."

6. "Business would maintain responsible reputation while prospering which would increase their prosperity and leadership in their field."

7. "Any discernible success would be sustainability and economic stability for the territories in which it operates."

8. "Stronger more appropriate trade agreements."

9. "A good representation as an honest business."

10. "Winning over those that they may impress with their trend setting that incorporates principles and ethics."

11. "Longevity."

12. "Higher revenue and the possibility of a bigger market share."

13. "Work within, the competitive, and social rules, while observing all national and international laws and rules."

Recommendations: Innovative Corporate Governance Plan

The idea of corporate governance has been in existence since the 19th century. Corporate governance was born out of capitalism and free enterprise and the need for investors to have the assurance that the companies in which they invest operate with integrity and business smarts to yield profits (Morck, 2005). Despite the requirements of business governance setting standards by which business should practice, governance plans do not deter unethical practices and stimulate corporate responsibility. Twenty-first century business climate and the challenges of globalization and technology, requires a more innovative mindset where governance and corporate responsibility is concerned. New and innovative thinking in corporate sustainability requires a sense of urgency because of increasingly changing markets (Grayson, D., Zhouying, J., Lermon, M., Rodriguez, M., Slaughter, S., Tay, S., 2007).

Companies with innovative mindset in which the Corporate Social Responsibility (CSR) is concerned can implement certain tenets to achieve sustainability. Some tenets as outlined by Grayson et al. (2007) may include the following. (1) Fold innovation for sustainability into the company's vision (2) Develop strategies with sustainability embedded into the core of the

strategies (3) Place emphasis on actionable steps instead of focusing on the words of sustainability (4) Ensure that the company's board and stakeholder are concerned about matters pertaining to sustainability (5) Emphasize relationships and networks with like-minded businesses (6) Emphasis should not be placed only on the business reporting requirements but on a lifestyle of sustainability.

The tenets outlined in this article align with the research findings. The belief that businesses must have a newer mindset to sustain as a business delaying instant gratification of the "microwave" success through returning to the idea of hard work, honesty, fairness, integrity while embracing 21st century business innovation requiring some risk taking, stepping outside the box to set trends and improve society for all mankind. Through this change in the business mindset, success will come because of the laws of nature, wherein good will always yield good and success.

Limitations

There were some limitations in this research study. The study is limited by the low response rate. The sample was drawn from diverse business leadership groups in Washington, DC and a social networking group. Although, the survey was extended to the recipients for a period of 30 days.the majority of the recipients chose not to submit their opinions. Additionally, there were geographical limitations. The data collection was limited to the United States. As a result, the study did not fully represent the global business world. The lack of a representative sample from the international business world, contributed to the threat of external validity. Along with the low response rate and limited geographical representation,, the results suggest respondents' reluctance to address the topic area. The idea of responsible business practice is not a common topic of discussion among business practitioners although corrupt practices are widespread (Reigngold and Reingold, 2006). Further, the qualitative research design limited the research to an exploratory study, which could have been expanded to a qualitative or mixed-method design. The qualitative approach could provide participants with an opportunity to discuss their lived experiences within organizational settings and the mixed-method approach would allow for the study to include quantitative and qualitative data (Creswell, 2002).

Implications for Business Science

The research in this article provides important information for business practice where the advancement of businesses and ethical practices are concerned. The implication for business practice is that scholars continue to raise concerns about the increase in unethical business in the age of globalization. The research adds to the existing body of knowledge on corporate responsibility in business practice and the idea of global agility. As businesses become more competitive, they are challenged by the realities of the need to compete in a business environment that dictates speed and agility while balancing responsible business practice. The reality is that some businesses operate without a moral and ethical compass, and continue to exist and increase in number. Little legal, financial, and political deterrents exist that seem to solve the ongoing problems of business corruption.

Future Research in Corporate Responsibility

Based on the low response rate included in this study, future research could include an evaluation of the unwillingness or desire to discuss or provide an opinion on social, corporate, and ethical responsibilities. As the use of technology increases in organizational settings, future research could also include the effectiveness of technological systems used

to manage internal processes. For example, future research in business science might examine the effectiveness of innovative technology such as E-governance systems designed to redefine government and holds executives, legislatures, and citizens, accountable (Singla, 2008). E-governance is about making governance inexpensive, responsive, and truly transparent (Singla, 2008). Future research should examine the relationship between E-governance technology and the reduction of corruption in business practice. Additionally, future research should explore if E-governance technologies are transferrable into corporate business practice and whether financial incentives for E-governance use in business can increase accountability and reduce corrupt practices. Future studies could encompass a qualitative or mixed-method design to strengthen and further validate the results of the study.

Conclusion

Globalization and technological advancements changed the way businesses function and compete in a free market. With rapid, pervasive, innovation, and technological advancement, globalization and technology have coevolved (Rycroft, 2002). Businesses who are globally agile, flexible, competitive, and risk-takers do so with the challenge of balancing their responsibility to the public, and their responsibility to practice ethically, within the standards and guidelines of governance. Honest business practices that focus on responsibility must have greater rewards with financial incentives for businesses.

Complexities exist where global business practices are not aligned and laws that govern practices in one jurisdiction, does not mean the same in another. The need for instant financial gain and greed may lead to covert operations which lack transparency. Twenty-first century business models require businesses to take risks, think globally, and set trends to stay competitive. Consequently, there exists a need for a renewed mindset where businesses think innovatively while embracing internal controls with a commitment to do the right thing for the right reasons even if it means delaying instant profit for long-term gain.

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OVERVIEW AND COMPARISON OF DATASETS ON ENTREPRENEURSHIP

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Abstract

Measuring entrepreneurship is a starting point for empirical studies investigating determinants of entrepreneurship or/and the impact of entrepreneurship on the economy. The article provides an overview of currently available harmonized cross-country time-series datasets on entrepreneurship and examines correlations between data for alternative indicators. Each indicator is related to the closest theoretical concept of entrepreneurship that exposes a specific dimension of entrepreneurship. The results confirm that entrepreneurship is a multi-dimensional phenomenon and indicate that conceptually and methodologically studies should focus on a specific dimension of entrepreneurship rather than trying to be too general in investigation and interpretation. Moreover, when investigating a certain dimension of entrepreneurship, the outcome of the analysis may be importantly influenced by the choice of the indicator related to this conceptual dimension and its data source.

Key words: entrepreneurship, international datasets, theoretical concepts, correlations, country ranking

INTRODUCTION

It is widely recognized that entrepreneurship is beneficial for modern economies since it creates jobs, enhances productivity and drives economic growth. Formation of strategies for

stimulating entrepreneurship ranks high on supranational1, national and local government agendas. However, empirical evidence on the impact of entrepreneurship on economic performance is limited. Studies addressing the link between entrepreneurship and economic performance mostly focus on a single country (employing time-series data on entrepreneurship across industries and/or across regions)2. There are rather few cross-country studies investigating the importance of entrepreneurship for the economy and its determinants. They mostly employ data on self-employment or business ownership (e.g. Thurik et al., 2008; Carree et al., 2007 and 2002; van Stel and Carree, 2004; Blanchflower, 2000) or data from Global Entrepreneurship Monitor (Thurik, 2008; van Stel et al., 2005). Another group of international studies employs indicators of business dynamics. Scarpetta et al. (2002) and Bartelsman et al. (2004), for example, use firm entry rates from the OECD firm-level project, van Stel and Diephuis (2004) use business volatility data from EIM's international benchmark study on entrepreneurship, and Klapper et al. (2008) employ incorporated business entry data from the World Bank Group Entrepreneurship Survey. The studies in general confirm positive impacts of entrepreneurship on economic performance, but the findings are not very robust and conclusive about the size of the impact and about the mechanisms through which entrepreneurship affects real economic variables. Advances in this field of research are impeded by a lack of internationally comparable data series related to entrepreneurship.

The article presents an overview of alternative macroeconomic indicators of entrepreneurship employed in economic literature and possible sources of internationally comparable data. The aim is to draw attention to the empirical results of the variable and data source selection. The starting point of our research are Iversen et al. (2008), who review macroeconomic measures of entrepreneurship and relate them to theoretical concepts, Godin et al. (2008), who present a digest of indicators to compare entrepreneurship in the United States and Canada, and Vale (2006), who analyzes the consistency of business dynamics data coming from different sources. The article supplements the list of measures of entrepreneurship provided by aforementioned studies. The article also highlights the multi-dimensional and multidisciplinary nature of entrepreneurship, which should be taken into account in any research focusing on the impact of entrepreneurship on economic performance. Moreover, it shows that the outcome of empirical research might be sensitive to the choice of the indicator of entrepreneurship (related to the dimension we investigate) and its data source.

The article is structured as follows. In section 2, we present benchmark theoretical concepts of entrepreneurship and describe issues related to the selection of indicators. In section 3, we provide a brief overview of entrepreneurship indicators that are commonly employed in economic literature and the corresponding international databases. Section 4 compares indicators along the benchmark concepts of entrepreneurship and checks the concordance of country rankings based on different indicators related to the same concept. Section 5 concludes.

THE CONCEPTS OF ENTREPRENEURSHIP AND THEIR MEASUREMENT

The first step in measuring entrepreneurship is a choice or elaboration of a definition of the entrepreneur and trying to find its best empirical counterpart. However, no broad consensus about the concept of entrepreneurship has been reached in economic literature so far. There

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[1] See, for example, European Commission's (2003) Green Paper on Entrepreneurship, which recognizes the importance of entrepreneurship for economic performance and suggests actions for promoting entrepreneurship.
[2] To our best knowledge, van Praag and Versloot (2007) provide the most exhaustive review of the literature investigating the impact of entrepreneurship on economic performance.

are several more or less complementary concepts and definitions describing some aspect(s) of entrepreneurship. Joseph A. Schumpeter (1911[2002]), Frank H. Knight (1921), and Izrael Kirzner (1973) have developed perhaps the most comprehensive and from certain aspects alternative theories of entrepreneurship. Due to integrity of their approach, theoretical and empirical literature sometimes takes these theories as benchmarks (e.g. Godin et al. 2008). Even though Schumpeter (1911 [2002]) and Knight (1921) attribute the entrepreneur similar day-to-day tasks they seem to diverge with respect to the strategic role of the entrepreneur in society. Concisely and fairly simplified, Knightian entrepreneur is primary an uncertainty-bearer who undertakes uncertain projects and partly insures the rest of the society against potential consequences of uncertainty. Schumpeterian entrepreneur is every person that carries out new combinations (i.e. innovates) and operates by a rule in a new firm; he loses entrepreneurial character as he settles down and commits to running an established business. According to Kirzner (1973), the main function of the entrepreneur is to discover information that is valuable in satisfaction of wants, i.e. to detect business opportunities. Summing up, prominent dimensions of the Knightian entrepreneur are uncertainty bearing and managing while the crucial dimension of the Schumpeterian entrepreneur is innovativeness, which in waves (through the process of creative destruction) distorts market equilibrium that is then re-established at a higher level of economic development. Distinctive dimension of Kirznerian entrepreneurship is sensitivity or alertness to new business opportunity.

While it seems difficult to capture all entrepreneurial activity and all its aspects into a single definition, it is even harder to construct a corresponding empirical measure or its proxy for empirical analysis. Even if we managed to succeed in both, we confront practical limitations related to data collection in different countries and across time. Considering these limitations, we first draw attention to a review of the existing indicators (with corresponding international databases) describing at least some aspect of entrepreneurship and then draw parallels to the benchmark theoretical concepts. For this purpose, we restrict our attention to the Knightian, Schumpeterian and Kirznerian concepts of entrepreneurship.

In the article, we consider four broad groups of empirical indicators of entrepreneurship for which recent cross-country data are available:

Self-employment rate from Organisation for Economic Cooperation and Development (OECD) and Statistical Office of the European Communities (Eurostat) and businesses ownership rate from COMPENDIA database compiled by EIM;

Entrepreneurial activity indices from Global Entrepreneurship Monitor (GEM);

Business creation rates compiled by EIM, World Bank, OECD, and Eurostat;

Indicators of innovative aspect of entrepreneurship: expenditures for research and development in GDP from OECD, triadic patent families from OECD, summary innovation index from European Innovation Scoreboard (EIS).

Our aim is to briefly introduce each of the indicators, relate it to the theoretical concept, posit its most apparent strengths and weaknesses and examine the current coverage of the corresponding database(s). We then examine correlations between data for alternative indicators (or data for the same indicator coming from different sources) and analyze the concordance of country rankings with respect to: i) different measures of Schumpeterian entrepreneurship, ii) different measures of Knightian entrepreneurship, and iii) measures of Kirznerian entrepreneurship.

REVIEW OF ENTREPRENERSHIP INDICATORS

Self-employment and business ownership rate

The measure most often employed in international studies to analyze the amount of entrepreneurship is the self-employment rate, largely because it is measured in most countries. In line with the ILO Guidelines for measuring employment, self-employment jobs are jobs where the remuneration directly depends upon the business profits. The self-employed makes the operational decisions affecting the enterprise (including one-person operations), or delegates such decisions while retaining responsibility for the welfare of the enterprise. Self-employed are all workers who are not treated as employees and are, according to the ILO classification, categorized in four groups: employers, own-account workers, members of producers' cooperatives, and contributing family workers. This classification indicates that unpaid family workers should be treated as self-employed because they work for family gain. OECD (2000) and van Stel (2005), for example, exclude them from the category of self-employed, which may importantly affect the results of self-employment analysis across countries as argued by Blanchflower (2000).

The OECD Labour Force Survey (henceforth OECD LFS) follows the ILO guidelines, while Eurostat Labour Force Survey (henceforth Eurostat LFS) distinguishes the following professional statuses of workers: employees, employers, self-employed, and family workers (Eurostat, 2009). Both, employers and self-employed are persons who work in their own business, but the former at the same time employ other people. Eurostat's definition of self-employment thus excludes not only family-workers but also employers. This is considered as self-employment in the narrow sense.

OECD Factbook 2009 defines self-employment rate as the share of self-employment in total civilian employment (i.e. total employment fewer members of the armed forces). It provides data for 30 OECD member states for the period 1990-2007 with shorter series for few countries. Since, according to the standard ILO definition, any person aged 15 or over who works for more than one hour per week is counted as being employed, self-employment rates are very high in countries with many small farms or family businesses (e.g. in Greece, Italy, and Poland). We confront the OECD self-employment rates with self-employment rates calculated using Eurostat LFS data (in line with the Eurostat LFS classification), in particular:

1. Self-employed in the narrow sense as percentage of total employment;

2. Self-employed plus employers as percentage of total employment;

3. Self-employed plus employers plus family members as percentage of total employment, which is by definition close to the OECD self-employment rate.

Our calculations show that two broader self-employment rates based on the Eurostat LFS data (outlined in points 2 and 3) roughly coincide with the OECD figures or (especially for the indicator under point 2) fall below the OECD figure. A comparison of Eurostat figures for all the three indicators (under points 1, 2 and 3) reveals that the ranking of countries based on the most narrow measure (outlined under point 1) stays very close to the rankings based in the broader measures. Spearman rank order correlation coefficient (ρ) between most narrow self-employment rate (point 1) and the OECD self-employment rate equals 0.95 (t = 12.10). We conclude that in most OECD countries the ranking is largely determined by the numbers of self-employed who do not employ other people.

The OECD self-employment rate can be considered as a proxy for Knightian entrepreneurship, since the crucial difference between self-employment and paid

employment lies in the type of remuneration received, where the remuneration of self-employed as defined by ILO is uncertain (Iversen et al., 2008: 22).

Van Stel (2005) addresses inconsistencies in the OECD's data on self-employment. The main problem he detects is varying statistical treatment of owners and managers of incorporated3 businesses (incorporated self-employed), as this category of workers is classified as wage-and-salary workers in some countries, and as self-employed workers in other countries. EIM Business and Policy Research (EIM) made corrections to the OECD's self-employment estimates: it included owners-managers of incorporated small businesses and excluded unpaid family workers, self-employed in the agriculture, hunting, forestry and fishing sectors, and individuals who are self-employed as a secondary occupation. A harmonized dataset is called COMPENDIA (COMParative ENtrepreneurship Data for International Analysis) and the indicator is named the business ownership rate. It is calculated as a share of business owners in total labour force. COMPENDIA is based on the following definition of business ownership (Vale, 2005: 7): "the total number of incorporated and unincorporated self-employed outside the agriculture, hunting, forestry and fishing industries who carry out self-employment as their primary employment activity". In other words, business owners are unincorporated self-employed (sole proprietors and partners) as well as incorporated self-employed with less than 50 employees (owners-managers of incorporated businesses) in the non-agricultural sector where contributing family members are excluded. COMPENDIA database covers 23 countries over the period 1970-2007 (EIM, 2010a).

Small business ownership rate seem to be a good proxy for Knightian entrepreneurship. We do not completely follow the Iversen et al. (2008: 26) who posit that including owners and managers may overestimate Knightian entrepreneurship arguing that not all managers bear uncertainty. The EIM's assumption that the number of enterprises with less than 50 employees should approximately equal the number of business owners seems reasonable to us (for a discussion see van Stel (2005)). While small business ownership rate might not say much about innovativeness of entrepreneurial persons as understood by Schumpeter4, it is partly related to Kirznerian entrepreneurship. Namely, self-employed and small incorporated businesses need to perceive (and then exploit) new market opportunities to be able to survive. Even better indicator of Kirznerian entrepreneurship would perhaps be the number of high-growth businesses per capita or per active person. Namely, businesses that perceive business opportunities may explore their niche and expand; other businesses stagnate, shrink or decay. To our knowledge, harmonized cross-country database on the number of high-growth businesses per capita or per active person is not yet available5.

Global Entrepreneurship Monitor indices

Another set of indicators of entrepreneurship is provided by Global Entrepreneurship Monitor (GEM). GEM was launched in 1999, when it covered 10 countries, and has been extended to 54 countries in 2009. Under the GEM survey, national teams through questionnaires collect individual-level data on different aspects of entrepreneurship. Different entrepreneurship indexes are built based on collected data, which measure different aspects of entrepreneurship (Bosma and Levie, 2010: 61; EIM, 2010b):

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[3] Throughout the paper, we use the term incorporated to denote registered legal persons. Unincorporated businesses are officially recognized natural persons.

[4] In *The Theory of Economic Development* (1911 [2002, 66]), Schumpeter interprets innovations broadly as: i) the introduction of a new good, ii) the introduction of a new method of production, iii) the opening of a new market, iv) a new source of supply of inputs, and v) a new organization of (monopolistic) industry.

[5] Eurostat-OECD Entrepreneurship Indicators Programme provides recent data for the share of high-growth enterprises (employment and sales definition) in all enterprises. Since countries with the same share of high-growth enterprises may show different number of high-growth firms per capita or per active person, we do not find it a good proxy for Kirznerian entrepreneurship.

1. *Total (early-stage) entrepreneurial activity (TEA) index*, which measures the relative number of people currently setting up a business or owning and managing a business existing (paying salaries) up to 42 months. It can be broken down into:

   - *Nascent entrepreneurial activity index* measuring the relative number of people currently setting up a business (salaries are paid from 0 to 3 months);

   - *Young firm entrepreneurial activity index* measuring the relative number of people owning and managing a business that exists (i.e. pays salaries) from 3 to 42 months;

2. *Established businesses activity index*, which measures the relative number of people owning and managing a business that exists more than 42 months;

3. *Necessity entrepreneurial activity index*, which measures the relative number of people involved in total early-stage entrepreneurial activity (TEA) out of necessity;

4. *Opportunity entrepreneurial activity index*, which measures the relative number of people involved in total early-stage entrepreneurial activity (TEA) out of opportunity.

These indices are calculated as the respective number of people relative to the population aged from 18 to 64 years.

Among the enumerated GEM indices, Knightian entrepreneurship is best described by the young firm entrepreneurial activity index and the established businesses activity index; they together measure the relative number of people owning and managing a business, which all bear some uncertainty (though young firms are usually more exposed to uncertainty). On the other hand, nascent entrepreneurial activity index is probably the most appropriate proxy for Schumpeterian entrepreneurship, while opportunity entrepreneurial activity index reflects Kirznerian entrepreneurship.

Business dynamics indicators

Business demography (or business dynamics) data describe changes in the number (and structure) of businesses, more particularly business creation and business destruction. Commonly used (relative) business demography indicators are business entry/birth rate, business exit/death rate, turnover/turbulence/churn rate (the sum of the previous two), net entry/birth rate (entry/birth rate less exit/death rate), and volatility rate (turbulence rate less net entry/birth rate)6. Business entry reflects the appearance of a new business within the economy, whatever the demographic event. It may be a birth of a new business, or a merger, renaming, spin-off and similar. Business exit reflects the abolishment of the existing business; let it be due to its death (from financial or other reason) or a takeover, a merger, renaming etc. Thus, the business birth and business death are narrower terms than the business entry and exit, respectively. In this section, we present the existing international databases of business dynamics indicators.

EIM Business and Policy Research (henceforth EIM) constructed a dataset called International Benchmark of Entrepreneurs, which contains data on business (more particularly, enterprise7) dynamics. The database provides figures for nine EU countries, the United States, and Japan for the period 1995-2007. It includes all non-agricultural incorporated and unincorporated enterprises and provides no size-class and no sector distributions. Data come from national business registers, national statistical offices,

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6 Definitions of the turnover/turbulence/churn rate, net entry/birth rate, and volatility rate are approximate; the exact definitions depend on the specific case and may differ between studies.
7 We use the term *business* as a general term denoting either *enterprise* or *establishment*. For a distinction between the latter two terms, refer to Eurostat-OECD, 2008.

Eurostat, Amadeus (Bureau van Dijk), and Compustat and are made comparable across countries and over time. EIM (2010c) calculates entry (exit) rate as the number of enterprise entries (exits) in a certain period divided by the total number of enterprises at the beginning of a certain period.

Data on business entry rates are provided also by the World Bank Group Entrepreneurship Survey (henceforth the WBGES). Entry rates are calculated as newly registered enterprises as a percentage of total lagged (previous year) registered businesses (Klapper et al., 2008: 16). The WBGES defines its unit of measurement "any economic unit of the formal sector incorporated as a legal entity and registered in a public registry, which is capable, in its own right, of incurring liabilities and of engaging in economic activities and transactions with other entities" (Klapper et al., 2008: 4). Database includes all incorporated businesses regardless of their size in terms of employment or sales. The WBGES data on firm entry are currently available for 82 countries and cover the period 2000-2007 (data series is, however, shorter for several countries). Data come from the Amadeus database, Dun and Bradstreet (for the United States), and other sources. As exposed by Vale (2006: 11), the restriction of WBGES to corporate businesses raises additional comparability issues related to variations in the propensity of businesses to incorporate. This will differ between countries depending on the cost and complexity of registration procedures, tax incentives, reporting burdens and possibly even cultural factors.

Following the European Council meeting in March 2000 in Lisbon, which recognized the importance of entrepreneurship for a more competitive and dynamic Europe, Eurostat launched its business demography project with an aim to start systematically collecting harmonized data on business dynamics from national business registries of the EU member states (Eurostat, 2004). Eurostat followed methodology at the national level in detail and tested its results using pilot studies (Vale, 2006: 11). The statistical unit used in the Eurostat Business Demography project is the enterprise as defined by the Council Regulation (EEC) 696/93. The project focuses on enterprise births and deaths rather than entries and exits, since they reflect the creation of a genuinely new businesses and the actual decay of businesses. Another advantage of Eurostat data sets is the availability of a relatively detailed sectoral breakdown of the data on births and deaths of enterprises. Enterprise birth (death) rates are calculated as the ratio of the number of enterprise births (deaths) to the total number of active enterprises in the year in question. The Eurostat database on enterprise births and deaths currently covers 22 countries over the period 1997-2006 but is incomplete with very short-time series for several countries and some missing values in the series. However, its methodology is probably more exact that the methodology of alternative databases.

Another data source for business (more particularly, enterprise) birth and death rates is the OECD Business Demography database. The OECD birth rates are in general close to the Eurostat data on birth rates of enterprises. Whereas the OECD Business Demography database covers some most developed non-European countries (which are not covered by Eurostat), it provides somewhat shorter data series than the Eurostat Business Demography database. Since the data for different countries are not fully harmonized, international comparisons may not provide completely reliable picture. In 2006, the OECD launched the Entrepreneurship Indicators Project (EIP) with an aim to build internationally comparable statistics on entrepreneurship and its determinants. In the following year, Eurostat joined the project and since 2007, we talk about a joint OECD-Eurostat EIP. Currently, results of the first two rounds of data collections under the EIP are available, which contain employer birth and death rates for 22 countries for few years only (the length of the series depends on the country).

Indicators related to innovative entrepreneurship

The Schumpeterian concept of entrepreneurship exposes innovativeness as the key aspect of entrepreneurship. Measurement of innovation has played an important role in the investigation of the link between entrepreneurship and innovation and their effect on economic performance. Data on innovation activities are incomplete and presented by proxy measures that reflect only certain aspect of the respective phenomenon.

Effort of a country (its government and private sector) to make advances in science and technology is commonly measured in terms of the share of gross domestic product (GDP) devoted to research and development (R&D) activities. The term R&D activity in this context covers basic research, applied research, and experimental development. The disadvantage of the expenditure on R&D is that it measures only the resources devoted to R&D activities and not the amount of innovative activity actually realized; another disadvantage is that a considerable extent of R&D is informal. OECD Factbook 2009 provides data for 30 OECD countries and 9 other countries for the period 1981-2007 (with data series being shorter for some countries).

The output of a country's R&D activities is partly captured by patent-based indicators that count the number of inventions registered by businesses and individuals from a certain country. The patent-based indicators of the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO) give considerably different results, since not all inventions are patented at all the three offices. To provide an internationally comparable patent-based indicator, the OECD has developed the triadic patent families. OECD defines a patent family as a set of inventions patented at all three of these major patent offices. It attributes patents to the country of residence of the inventor and to the date when the patent was first registered. It includes only patents applied in the same set of countries and thus eliminates home advantage and influence of geographical location. OECD Factbook 2009 calculates a number of triadic patent families for 30 OECD member states and 10 other countries for the period 1990-2006. For the purpose of international comparisons, OECD recommends expressing the number of triadic patent families per million inhabitants. The disadvantage of the patented inventions is that they may show the stock of new technical knowledge but not the economic value it generates, since invention does not always result in innovation. Since the process for registering an invention might be lengthy and expensive, many inventions are not patented -especially not at all three international offices and particularly not those of small firms.

Since 2001, Eurostat's European Innovation Scoreboard (EIS) collects and annually publishes a wide range of innovation indicators that are calculated using the statistics from Eurostat and other internationally recognised sources. EIS has been evolving over time and more indicators have been added to the study and included into the summary innovation index (SII). The last edition of the EIS (2009) includes 31 innovation indicators (traditionally) divided into three groups: enablers, firm activities, and output. Due to changes in methodology and the number of indicators included, SII scores for different years in the period 2001-2009 are not directly comparable. In the empirical part, we employ harmonized SII scores for 37 countries (31 European and 6 non-European) for the period 2003-2007 taken from the EIS (2007). The SII, which for the observed period covers 25 innovation indicators, takes the value from a lowest possible performance of 0 to maximum possible performance of 1.

EMPIRICAL ANALYSIS AND THE RESULTS

For the purpose of empirical analysis, we organize the indicators presented in the preceding section (a concise tabular overview is provided in Appendix 1) along the three theoretical concepts: Knightian, Schumpeterian, and Kirznerian. We use country-level annual data for the period 2000-2007 but the actual coverage across countries and time depends on availability of data for each of the indicators.

Table 1 presents the correlation coefficients between indicators related to the Knightian concept of entrepreneurship. All three indicators are significantly positively correlated with each other. Using the Friedman's nonparametric test, we test the null hypothesis that there is no difference in countries' relative performance regarding the alternative indicators. Based on these results (chi-square of 72.031 with significance of 0.000, where the sample size is 113) we reject the null-hypothesis and conclude that the three indicators lead to different countries' relative performance (rankings). The choice of the indicator in empirical research might therefore importantly affect the results of analysis.

Table 1: Correlation coefficients between indicators of Knightian entrepreneurship

Indicators of Knightian entrepreneurship		Self-employment rate (OECD)	Business ownership rate (EIM)	Young and established business entrepreneurial activity (GEM)
Self-employment rate (OECD)	rho	1.000	.770**	.208*
	N	184	184	113
Business ownership rate (EIM)	rho	.770**	1.000	.244**
	N	184	200	115
Young and established business entrepreneurial activity (GEM)	rho	.208*	.244**	1.000
	N	113	115	130

* Correlation coefficient is significant at the 5% (2-tailed).
** Correlation coefficient is significant at the 1% (2-tailed).

Measures that can be considered as proxies for Schumpeterian entrepreneurship show surprisingly various patterns across countries (Table 2). It is important to mention that even though there is highly significantly positive relationship between the four indicators of business creation, the country rankings are significantly sensitive to the choice of the business creation indicator or the source of data (the Friedman's test yields chi-square of 20.000 with significance of 0.000, where the sample size is 30). Similar holds for EIS summary innovation index, triadic patent families per million inhabitants, and R&D expenditures in GDP. Disconcordance of country rankings with respect to these three indicators is confirmed by the Friedman's test yielding chi-square of 174.200 with significance of 0.000, where the sample size is 90.

In addition, the principal component analysis (PCA), which has been conducted[8], extracts two significant components of Schumpeterian entrepreneurship that together explain about 75 percent of total variation in Schumpeterian entrepreneurship (see Appendix 2). The first component is mainly represented by the EIS innovation summary index, triadic patent families per million inhabitants and R&D expenditures. The second component is represented

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[8] The results and the full sets of data for entrepreneurship indicators are available from the authors upon request.

by the GEM nascent entrepreneurial index, WBGES entry rate and EIM's entry rate9. Since entering businesses are in general smaller than the incumbents are, and since big firms and/or incumbents are in relatively favourable position regarding investments into R&D and patents, the dimensions might have to something with the size of businesses.

An indicator that is closest to the Kirzner's concept of entrepreneurship is GEM's opportunity entrepreneurial activity index. Since this is the only indicator clearly related to the Kirzner's concept, the analysis of correlations is not being taken into account. Anyway, Table 3 presents the correlation coefficients of this index with other indicators of entrepreneurship. Somewhat surprisingly, the index is not significantly correlated with the OECD self-employment rate and EIM's business ownership rate, while it is expectedly significantly positively correlated with all other GEM's indices described in section 4. It is also positively correlated with all four measures of business creation where only the correlations with the World Bank's entry rate and EIM's entry rate are statistically significant. The reasoning behind could be that alertness to business opportunities leads to their exploitation mainly by new firms. Since new solutions/ideas drive the obsolete solutions of incumbents out of the market, the stock of entrepreneurship as measured by the self-employment rate does not significantly change. Perceiving and exploiting business opportunities do not necessary involve patenting of technical inventions, which allows that the GEM's opportunity entrepreneurial activity index is significantly negatively correlated with triadic patent families per million inhabitants.

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9 We kept the latter two indicators of business creation because they contain longer data sets.

Table 2: Correlation coefficients between indicators of Schumpeterian entrepreneurship

Indicators of Schumpeterian entrepreneurship		Nascent entrepreneurial activity index (GEM)	Birth rate (Eurostat)	Birth rate (OECD)	Entry rate (WBGES)	Entry rate (EIM)	Summary innovation index (EIS)	Triadic patent families per million inhabitants (OECD)	R&D expenditures in GDP (OECD)
Nascent entrepreneurial activity index (GEM=	rho	1.000	.282*	.284	.371**	.410**	-.148	-.276**	-.147
	N	129	55	22	111	61	105	107	101
Birth rate (Eurostat)	rho	.282*	1.000	.896**	.323**	.691**	-.436**	-.405**	-.248*
	N	55	135	31	111	33	88	99	76
Birth rate (OECD)	rho	.284	.896**	1.000	.319*	.715**	.095	-.107	-.190
	N	22	31	68	51	25	12	68	45
Entry rate (WBGES)	rho	.371**	.323**	.319*	1.000	.551**	.132	.167*	-.039
	N	111	111	51	208	67	135	164	131
Entry rate (EIM)	rho	.410**	.691**	.715**	.551**	1.000	.236	-.269*	-.217*
	N	61	33	25	67	87	54	77	83
Summary innovation index (EIS)	rho	-.148	-.436**	.095	.132	.236	1.000	.906**	.834**
	N	105	88	12	135	54	170	115	106
Triadic patent families per mio inhabitants (OECD)	rho	-.276**	-.405**	-.107	.167*	-.269*	.906**	1.000	.852**
	N	107	99	68	164	77	115	203	153
R&D expenditures in GDP (OECD)	rho	-.147	-.248*	-.190	-.039	-.217*	.834**	.852**	1.000
	N	101	76	45	131	83	106	153	170

*. Correlation coefficient is significant at the 5% (2-tailed).
**. Correlation coefficient is significant at the 1% (2-tailed).

Table 3: Correlation coefficients between GEM's opportunity entrepreneurial activity index and other indicators of entrepreneurship

Kirznerian entrepreneurship: opportunity entrepreneurial activity index (GEM)	Self-employment rate (OECD)	Business ownership rate (EIM)	Nascent entrepreneurial activity index (GEM)	Young and established business entrepreneurial activity index (GEM)	Birth rate (Eurostat)	Birth rate (OECD)	Entry rate (World Bank)	Entry rate (EIM)	Summary innovation index (EIS)
rho	-.068	.213*	.865**	.781**	.415**	.327	.372**	.730**	-.044
N	115	118	128	129	55	22	112	64	108

** Correlation coefficient is significant at the 1% (2-tailed).
* Correlation coefficient is significant at the 5% (2-tailed).

CONCLUSIONS

In empirical research, various measures are used as proxy variables for entrepreneurship. The results of empirical studies investigating the impact of entrepreneurship on economic performance should be compared with a great care, since different types of indicators of entrepreneurship seem to highlight its different dimensions and may not provide consistent results and implications about the same phenomenon.

The article investigates the relationship between empirical indicators of entrepreneurship, for which harmonized cross-country databases are available, and conceptual definitions of entrepreneurship. It provides empirical support for the assertion that entrepreneurship is a complex and multi-dimensional phenomenon. In line with the results of the analysis, we suggest that studies should focus on a specific aspect of entrepreneurship rather than trying to be too general in interpretation. One should be very explicit in describing the investigated aspect of entrepreneurship or very precise about the theoretical concept of entrepreneurship that is closely related to investigated phenomenon.

The article organizes indicators along the benchmark theoretical concepts of entrepreneurship:

Knightian, Schumpeterian and Kirznerian. While alternative indicators of Knightian entrepreneurship exhibit significantly positive bivariate correlations, country rankings turn out to be sensitive to the choice of the indicator related to this concept. Indicators of Schumpeterian entrepreneurship show surprisingly various patterns across countries. Despite highly significant positive relationship between the four indicators of business creation, the country rankings are significantly sensitive to the choice of the business creation indicator or to the source of data. Similar holds for EIS summary innovation index, triadic patent families per million inhabitants, and R&D expenditures in GDP. Principal component analysis extracts two main components of Schumpeterian entrepreneurship. The first seem to be related to innovative activities in larger or/and incumbent businesses, while the second relates to new businesses. GEM's opportunity entrepreneurial activity index, which is closest to Kirzner's concept of entrepreneurship, shows no significant correlation with the self-employment rate and business ownership rate. On the other hand, it is positively correlated with all four measures of business creation and significantly negatively correlated with triadic patent families per million inhabitants. This could indicate that alertness to business opportunities leads to their exploitation mainly by new businesses, which drive incumbents with obsolete solutions out of the market (such that the stock of entrepreneurship does not significantly change). Perception and exploitation of business opportunities do not necessary involve patenting of technical inventions, which allows for the negative correlation between GEM's opportunity entrepreneurial activity index and triadic patent families per million inhabitants. Summing up, the results indicate that regardless which dimension of entrepreneurship we investigate, the outcome and implications of analysis might importantly depend on the choice of entrepreneurship indicator and its data source.

The presented study can be extended and further developed in different directions. One of them is to include multidisciplinary dimensions (e.g. sociological) and associated indicators of entrepreneurship that tend to enrich the interpretation of the results and perhaps highlight additional dimensions of entrepreneurship. This is one of the challenges for our future research.

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APPENDIX 1

Indicator	Source	Coverage	Theoretical concept
SELF-EMPLOYMENT INDICATORS			
Standard self-employment rate	OECD Factbook 2009	30 OECD countries, 1990-2007	Knightian
Business ownership rate	COMPENDIA (by EIM)	23 OECD countries, 1970-2007	Knightian
ENTREPRENEURIAL ACTIVITY INDICES			
Nascent			Schumpeterian
Young firm			Knightian
Established business		1999 (10 countries)-	Knightian
Opportunity	Global Entrepreneurship Monitor (GEM)	2009 (53 countries)	Kirznerian
Necessity			
BUSINESS CREATION INDICATORS			
Enterprise birth rate	Eurostat	22 EU countries, 1997-2006 (incomplete)	Schumpeterian
Enterprise birth rate	OECD	1995 (3 countries) - 2001 (20 countries)-2004 (4 countries)	Schumpeterian
Enterprise entry rate	International Benchmark of Entrepreneurs (by EIM)	1995-2007, 9 EU countries, US, Japan	Schumpeterian
Corporate business entry rate	World Bank Group Entrepreneurship Survey	2000 (39 countries) – 2007 (37 countries)	Schumpeterian
INDICATORS OD INNOVATIVENESS			
R&D expenditures in GDP	OECD Factbook 2009	30 OECD and 9 other countries, 1981-2007	Schumpeterian
Triadic patent families per mio inhabitants	OECD Factbook 2009	30 OECD and 10 other countries, 1990-2006	Schumpeterian
Summary innovation index	European Innovation Scoreboard	2001 (15 EU countries, US, Japan)- 2009 (37 countries)	Schumpeterian

APPENDIX 2: The results of principal component analysis

Communalities

	Initial	Extraction
Nascent entrepreneurial activity index	1.000	0.402
Entry rate (World Bank)	1.000	0.640
Entry rate (EIM)	1.000	0.763
European innovation scoreboard - SII scores	1.000	0.936
Triadic patent families per mio inhabitants	1.000	0.845
R&D expenditures in GDP	1.000	0.928

Total variance explained

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2.673	44.552	44.552	2.673	44.552	44.552
2	1.842	30.692	75.244	1.842	30.692	75.244
3	0.766	12.761	88.005			
4	0.498	8.304	96.308			
5	0.166	2.766	99.074			
6	0.056	0.926	100.000			

Component matrix

	Component 1	Component 2
Nascent entrepreneurial activity index	-0.263	0.577
Entry rate (World Bank)	-0.555	0.576
Entry rate (EIM)	-0.355	0.798
European innovation scoreboard - SII scores	0.697	0.671
Triadic patent families per mio inhabitants	0.919	0.016
R&D expenditures in GDP	0.916	0.298

Extraction method: principal component analysis.

DETERMINING KEY FACTORS OF ORGANIZATIONAL CULTURE IN SERBIAN COMPANIES

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Abstract

The paper presents the results of the research on organizational culture in Serbian companies. At the start of the research 72 parametres which represent organizational culture were defined. The research was carried out by analyzing the situation and importance of the parametres of organizational culture which had been defined beforehand. The situation of the defined parametres was determined by surveying company managers (Survey 1). The importance of the defined parametres was determined by surveying the experts (Survey 2). The main conclusion is that organizational culture in Serbian companies is at an average level. Factor analysis was also performed and 7 key factors of organizational culture in Serbian companies were identified. The research results have great theoretical and practical importance for both Serbian companies and foreign companies which are considering investments in Serbia and appearance on Serbian market.

Key words: organizational culture, survey, factor analysis, Serbia.

Topic Groups: Organizational behavior, Change management and organizational development, Managerial and organizational cognition and psychology.

INTRODUCTION

Organizational culture is an increasingly important field of management today. However, in Serbia it has not been studied in depth. There are no data on the situation of organizational culture in Serbian companies, and hence there are no proposals or suggestions for its improvement. What is certain is that the level of organizational culture in Serbia is very low, and that there is an unfavorable base in national culture. It is assumed that substantial changes are required in organizational culture in Serbian companies. The need for this type of research arose as a consequence of this situation.

Development of organizational culture is particularly important in companies in countries in transition. The influence of organizational culture is especially manifest in companies which have completed the process of ownership transformation. With the completion of the process of economic transition and with inflow of foreign capital on the market, organizational culture assumes an ever increasing important role in the process of making the process of doing business international. Companies in Serbia are currently faced with the following challenges: transition, privatization, need for accepting market economy conditions. The level of organizational culture is very important in order to overcome the above-mentioned challenges. Raising the level of organizational culture in Serbian companies would result in improving the quality of both national and international collaboration.

The objective of this research is to establish the differences between the current and the desired situation of organizational culture in Serbian companies and to define the key factors of organizational culture.

Organizational culture is a system of divided values, value orientations, beliefs, and customs within an organization, and thereby it influences the structure of the organization and directs its conduct, but also determines the norms of conduct within the organization itself. (Sharplin, 1958) Every company has its own specific organizational culture. Work groups within an organization have their own code of conduct within the organization itself as well as their own ways of reacting, which, when viewed in a broader context, have impact on the entire system. (Black, 2003) Organizational culture is the factor which directly influences the success or failure of an organization. For this reason attention must be paid to the key dimensions of organizational culture: (Deal and Kennedy, 1982)

- Values – represent the convictions, the heart of organizational culture.

- Heroes – people who represent personification of the values.

- Ceremonies and Rituals – an unofficial system of communication or concealed hierarchy of power in the organization.

Bringing together individual goals with common goals and relying on the responsibility of the employees are the success factors of organizational culture. (Morgan, 1977) According to (Krefting and Frost, 1985) the way in which organizational culture can influence competitive advantage, is by improving and overcoming the limitations of the organization, in a way that it facilitates individual interaction and/or by limiting the flow of information to certain levels. The accepted values also enable managers to foresee the reaction of the employees to certain strategic decisions, which enables them to reduce the undesired consequences. (Ogbonna, 1993) Most theoreticians agree that sustainable competitive advantage stems from creating organizational competitiveness which is superior to and can hardly be reached by the competition. (Reed and DeFillippi, 1990) Unique qualities of a company's organizational culture are a powerful source of generating advantage over competition. The

link between the leadership style and organizational performance is connected by the nature and form of organizational culture. (Ogbonna and Harris, 2000)

In addition to the need for determining the level, one of the greatest problems of organizational culture in Serbian companies is that the new model of conduct is based on the foundations of old values. This fact is the source of confusing messages, values, and norms and cause of vague insight into the new circumstances and changes. Therefore, the very importance of the changes in relation to the past period is questionable because the surroundings which is faced with the challenges of the new era is led and directed by outdated and antiquated norms. The need to replace the old with the new is the cause of transition, and one of the goals of privatization is improvement of efficiency of the company's business. This can be achieved by changing the values of the employees and the managers in an organization. The company must build up a system of values by which it will be recognizable. Successful managers must influence the employees and then organizational culture integrates the values and attitudes of the employed in the company. (Weihrich and Koontz, 1998) Great uncertainty in life of an organization frequently endangers its achievements. A frequent topic of organizational research is reducing uncertainty as a way of establishing control over the company's fate. (Thompson, 1967) New approaches to organizational culture include changes of the organization related to the customer, quality and innovation, introduction of the system of rewarding the employees, and development of knowledge and skills and abilities which is harmonized with the adopted concept of changes.

The research by G. Hofstede (Hofstede, 1980) and the group of his collaborators included 40 countries, among which there was also former Yugoslavia, the cities of Ljubljana, Zagreb, and Belgrade. After having been processed, the data were subsequently checked and tested. This research was refreshed by new data in the year 2001. (Hofstede, 2001) After the disintegration of the Socialist Federal Republic of Yugoslavia, it was possible to sort out the results for Slovenia, Croatia, and Serbia.

Hofstede identified the following characteristics of national and regional culture, which directly influence organizational culture: (Hofstede, 1980)

- *Power distance*. Employees who belong to a culture with a great power distance prefer authoritative style of leadership. A low distance indicates that all people, all employees should have equal rights.

- *Avoiding uncertainty*. Indicates the limit to which a society accepts uncertainty and risk.

- *Individualism or collectivism*. The limits to which people are expected to oppose or behave in a superior manner as members of a group or an organization.

- *Male or female culture*. Indicates the cultures based on traditional male or female values. For example, male culture comprises competitiveness, ambition, accumulation of money and material things.

Sociologists in Serbia have diagnosed that Serbian national culture is compatible with the picture of national culture which derives from Hofstede's research. On the basis of (Hofstede, 1980), the situation of the dimensions of Serbian national culture can be perceived, as well as its impact on organizational culture in Serbian companies: (Janicijevic, 1997)

- *Power distance*. High power distance ranks Serbian culture with the group with the highest power distance in the world. This indicates a high propensity to authoritarianism. Organization leader is seen as 'pater familias'. Influence tactics of Serbian managers is giving orders, and abuse of manager's power is a very frequent

occurrence. The relationship between the leader and his/her followers is emotional and extreme.

- *Avoiding uncertainty*. Serbia belongs with the countries with the highest degree of avoiding uncertainty in the world. High avoiding of uncertainty indicates orientation to the task, and not to people. Serbian companies accept changes very hard and slowly, which can have very bad effects on the company's business

- *Individualism or collectivism*. Prevalence of collectivism indicates that members of Serbia culture think that the collective is responsible for the destiny of its every single member, and that it is obliged to take care of its every single member. Collectivism makes the relationship between the individual and the organization ethical and emotional, instead of rational. Members of an organization think that the leader is bound to take care of his/her subordinates' interests.

- *Male or female culture*. Serbia belongs with the cultures with express female values. Members of Serbian culture put the social before the material. The goal and the measure of values are status, rank, connections, acquaintances, and relationships between people, and not the results of work and acquiring based on work. Female values are reflected in orientation to people and tendency to harmonize the relationships. People attach more importance to status, rank and position, connections, acquaintances, and interpersonal relationships, and not to the results of work and material acquisition based on work. The leader is not determined and aggressive. He/She shows tendency to consensus. Appearance of a leader who shows both male and female values is very frequent.

Such results confirm the thesis that organizational culture in Serbian companies is not at a satisfactory level, and that the reasons for this lie in unfavorable characteristics of national culture. For that reason, research on organizational culture in Serbian companies always has a special importance.

RESEARCH METHODS

The research had two basic objectives:

1. *Determining the state and importance of organizational culture parametres in Serbian companies*. The state of organizational culture parameters shows the real level of organizational culture in Serbian companies. The significance of organizational culture shows the ranks and mutual relationship according to the importance of individual parameters of organizational culture in Serbian companies.

2. *Determining the key factors of organizational culture in Serbian companies*. The key factors of organizational culture are determined by factor analyses of data considering the importance of individual parameters of organizational culture. These factors represent realistically organizational culture in Serbian companies. In this way the number of the observed variables is decreased which enables easier measuring, monitoring and improving of organizational culture in Serbian companies.

Parametres of organizational culture which will be studies are defined right at the start. Parametres of organizational culture were defined after considering a large number of reference works, such as, for example: (Bilsky and Jehn, 2002; Buchanan, 2001; Bond and Smith, 1996; Kotter and Heskett, 1992; Hofstede, 1980, 1984, 1991, 1998, 2001; Hofstede et al. 1990; Morris, 1956; Dempsey and Dukes, 1966; Schwartz and Bilsky, 1987, 1990; Schwartz, 1994; O'Reilly et al., 1991; Cameron and Quinn, 1999; Peters and Waterman, 1982; Schein, 1985). 72 parametres of organizational culture were defined in this way. The

parametres were studied, and are shown in Table 1. The research itself was carried out through the two surveys (Survey 1 and Survey 2).

Survey 1

Survey 1 referred to determining the situation of the defined parametres of organizational culture in Serbian companies. Survey 1 was filled in by managers who are employed in Serbian companies. Their task was to quantitatively assess each parametre by one of the assessments 1-5 according to their personal estimate. This assessment represents the level of current situation of the observed parametre in the company. The assessments have the following meanings: 1 – Very unfavorable, 2 – Unfavorable, 3 – Average, 4 – Favorable, 5 – Very favorable. The similar approach to the organizational culture parametres assessment is applied in research (Veiga, Lubatkin, Calori, Very, 2000).

Basic characteristics of the process and results of polling through Survey 1 are:

- *Number of managers*. The total of 70 managers from 60 companies answered the questions (in some companies, two managers sent in their answers).

- *Respondents (managers)*. The respondents are people in high managerial positions in their respective companies and people who have insight into the company's strategy, relationships within the company, etc. It can be said that the contacted managers were prevailingly the most competent people in the companies included in Survey 1.

- *Type of company*. The research was carried out in Serbian companies, regardless of the business branch or form of property in the company. Smaller companies, with fewer than 20 employees, were not included in the research.

- *Research area in terms of geography*. The research was conducted on the territory of Serbia.

- *Research period*. The research lasted for about five (5) months, in the period between August and December, 2008.

Survey 2

Survey 2 referred to determining the importance of the defined parametres of organizational culture in Serbian companies. (The same parametres were studied as in Survey 1; in Survey 1 their situation was determined, and in Survey 2 their importance). Survey 2 was filled in by experts from Serbia. Their task was to quantitatively assess each parametre by one of the assessments 1-5 according to their personal estimate. This assessment represents the importance and influence of the observed parametre on organizational culture. The assessments have the following meanings: 1 – Very little importance, 2 – Little importance, 3 – Average importance, 4 – Great importance, 5 – Very great importance.

Basic characteristics of the process and results of polling through Survey 2 are:

- *Number of experts*. the total of 30 experts answered the questions.

- *Respondents (experts)*. According to the type of institution in which they are employed, the respondents were experts from scientific and educational institutions (professors, assistant-lecturers) and experts working in economy (general managers, research and development managers, scientific advisors, managers, etc.). According to the level of education, the experts were: PhDs, Masters of Science, university graduates. All the experts are from Serbia.

- *Research period*. The research lasted for about five (5) months, in the period between August and December, 2008 (in parallel with Survey 1).

RESEARCH RESULTS

Situation and importance of parametres of organizational culture in Serbian companies

Determining the situation and importance of parametres of organizational culture in Serbian companies represents the basic, initial result of this research (Table 1). The situation and importance of every single parametre is expressed by quantitative assessment 1-5. Each assessment in Table 1 is obtained as the average value of all the assessments (managers' or experts') for the observed parametre. Average assessment of all parametres of organizational culture in companies in Serbia is 3.62 (average of third column in Table 1).

Table 1: Situation and importance of parametres of organizational culture in Serbian companies

Param. No	Parametres of Organizational Culture	Assessment of the situation of the parametre	Assessment of the importance of the parametre
1.	Decisions are made in the way which makes the business more efficient.	3.64	4.20
2.	Primary role of the manager in the organization is clear.	3.86	4.04
3.	Important strategic and operational decisions are quickly transformed into action.	3.30	4.16
4.	Top management cooperates when making strategic decisions.	3.71	4.36
5.	Decision which has once been made is realized without major corrections.	3.37	3.32
6.	Employees are included in the process of decision-making.	2.99	4.00
7.	Vision corresponds to the situation in the company's surroundings.	3.37	3.88
8.	Vision and company mission are clearly defined.	3.64	4.28
9.	Employees support company vision and mission.	3.44	3.88
10.	Favorability of the structure and sources of power in the company.	3.21	3.60
11.	There is a positive democratic atmosphere in the company.	3.30	3.96
12.	The company successfully copes with the changes of external surroundings.	3.50	4.24
13.	Aiming of the company to do business in an original way.	3.69	4.08
14.	Aiming of the company to have original product originality.	3.70	4.20
15.	Information from the surroundings reach the superiors timely.	3.80	4.04
16.	Information from the surroundings are accurate and quality.	3.67	3.96
17.	Information is circulated efficiently through the organizational structure of the company.	3.41	3.72
18.	Employees receive clear information about the results of their work.	3.63	3.56

19.	Speed of change of bad actions in production and doing business.	3.41	3.84
20.	Representation of women in leading positions in the company.	3.26	3.60
21.	Company's attitude to changes and innovation.	3.70	4.36
22.	Employees' attitude to changes and innovation.	3.99	4.12
23.	Degree of investing in scientific and research activities.	3.04	4.00
24.	Importance attached to introducing new products in the production program.	3.63	4.12
25.	Degree of familiarity with and appreciating customers' needs.	3.97	4.20
26.	Degree of application of IT in the company.	4.10	4.12
27.	Compnay's ambitions to improve business results.	4.21	4.24
28.	Quality of promotion.	3.53	4.04
29.	Quality of PR.	3.56	4.12
30.	Quality of team work in the company.	3.61	4.28
31.	Employees can show their knowledge and skills.	3.67	4.04
32.	Employees have chances of promotion.	3.70	4.24
33.	Readiness of the management to invest in human resources.	3.50	4.08
34.	Employees have freedom in accomplishing their tasks.	3.49	3.64
35.	Employees are given precise and clearly defined tasks.	3.66	3.88
36.	Promotion and rewarding is performed on the basis of the results achieved.	3.47	4.16
37.	Rules which employees should observe are clear.	4.06	3.92
38.	Discipline of employees.	3.83	3.96
39.	The system of rewarding and punishing is completely clear.	3.54	3.80
40.	There is a possibility of freely expressing one's opinion.	3.54	4.28
41.	Stimulating individual's initiative and creativity.	3.37	4.24
42.	Application of technique of expansion and enrichment of business.	3.44	3.64
43.	Motivation of top management.	3.86	4.40
44.	Motivation and up-to-datedness of employees.	3.43	4.16
45.	Employees have the feeling of personal success.	3.37	3.80
46.	Evaluation of the results of an individual is adequate.	3.33	3.80
47.	Distribution of the staff to appropriate workplaces.	3.36	4.20
48.	The level of ergonomic conditions at the workplace (noise, light, cleanliness, temperature.....).	3.46	3.68
49.	Quality of internal interpersonal relationships in the company.	3.50	3.88
50.	Orientation of top management to the quality of relationships within the company.	3.53	3.84
51.	Application of systematic approach in solving conflicts at the workplace.	3.19	3.56
52.	Degree of confidence between top management and employees.	3.40	4.24

53.	Attitude of the company to active participants in the community (customers, citizens, business partners, journalists, media, competition.....).	4.00	4.28
54.	Quality of orderliness of the company's yard space.	3.89	2.72
55.	Recognizability of the company's yard space.	3.60	2.64
56.	Quality of arrangement of the office space in the company.	3.63	3.36
57.	Recognizability of the arrangement of the office space in the company.	3.56	3.24
58.	Recognizability of the company's logo.	4.43	4.16
59.	Representation of the logo within the business space.	3.97	3.60
60.	Characteristic style applied in communication.	3.69	3.44
61.	Application of dress code.	3.37	3.04
62.	Degree of markedness of the employees' status symbols.	3.49	2.60
63.	Respect for and cultivation of the company's tradition.	3.99	3.64
64.	Cultivation of the company's history.	3.84	3.12
65.	Observation and maintaining of jubilees, anniversaries, and celebrations in the company.	4.09	3.36
66.	Emphasizing ethical norms within the company.	3.63	3.84
67.	Observation of ethical norms within the company.	3.64	3.96
68.	Characteristic nature and efficiency of the protocol in the company.	3.66	3.56
69.	Orientation of the company towards future.	4.00	4.28
70.	There is a sense of belonging and pride among employees.	3.61	3.92
71.	Measures for environment protection in the company.	3.71	4.04
72.	Degree of social responsibility of the company.	4.00	4.52

Key factors of organizational culture in Serbian companies

Factor analysis was applied in order to determine the key factors of organizational culture in Serbian companies. Factor analysis was performed on the results of Survey 2 on basis of 72 defined parametres of organizational culture. Selection of factors was made according to Kaiser-Guttman criterion, on the basis of which seven (7) factors of organizational culture in Serbian companies were identified. These factors cover more than 71% of parametre variation of organizational culture (Table 2).

Table 2: Factors of organizational culture in Serbian companies

(Eigenvalue and percentage of factor variation)

	Eigenvalue	% Total	Cumulative	Cumulative
1	22.58485	31.36785	22.58485	31.36785
2	7.45203	10.35004	30.03688	41.71789
3	5.60289	7.78179	35.63977	49.49969
4	5.17907	7.19316	40.81885	56.69284
5	3.90115	5.41826	44.71999	62.11110
6	3.54156	4.91883	48.26155	67.02993
7	3.06192	4.25267	51.32347	71.28260

The identified factors were rotated by applying varimax method. The results of this rotation are shown in Table 3. The identified factors are interpreted on the basis of the results which are shown in Table 3. On the basis of the shown results, the factors of organizational culture which are most important for Serbian companies were defined in the following way:

F1 – Position and perspectives of the company's employees,

F2 – Recognizability of the symbols of organizational culture in the company,

F3 – Orientation of the company to strategic aspects of doing business,

F4 – Quality of communication and information flow in the company,

F5 – Quality of internal relationships in the company and motivation of the employees,

F6 – Aspirations of the company towards originality and customer satisfaction,

F7 – Quality of the established norms of business conduct of the employees.

Scree criterion was applied in the research. On the basis of this criterion, the number of important factors is determined on the basis of factor determining, which is followed by stabilizing the values of characteristic roots. On the basis of Fig. 1, on the horizontal axis are the factors, and the graph shows the Eigenvalue of each factor. On the basis of this Figure, there are breakpoints which help determine how many factors should be taken into consideration in the analysis. The Figure shows that the first factor is more important than the others. On the basis of this, the first factor explains the major part of variants and covers about 31% of variation in parametres of organizational culture (Table 2). After the first factor, the values decrease continually to the seventh, after which the values are stabilized.

Figure 1: Relation of factors – Characteristic root values
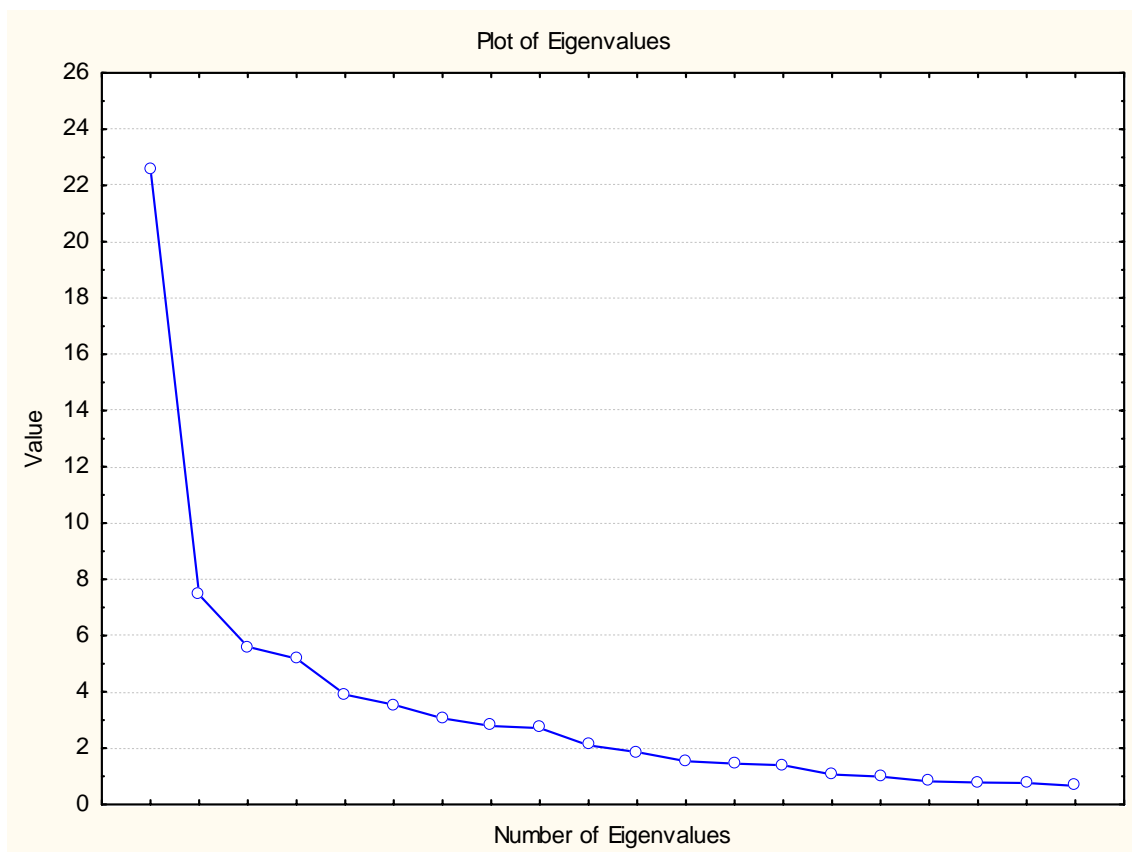
Table 3: Variable (parametre) correlation coefficient with the given factor

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Parametar 1	0.317534	0.282553	0.222071	0.019173	0.558635	0.057676	0.035965
Parametar 2	0.007221	0.224600	0.494095	0.167199	0.311747	0.242833	0.305366
Parametar 3	0.177216	-0.112884	0.336582	0.375583	0.696933	-0.119118	0.003597
Parametar 4	0.262698	-0.303767	0.705512	0.026454	0.220991	0.130708	0.033975
Parametar 5	0.175541	0.136754	0.029284	0.684275	-0.104790	-0.066432	0.005985
Parametar 6	0.505277	-0.032257	0.461652	0.125105	0.283441	-0.163100	-0.178031
Parametar 7	-0.368229	0.215702	0.553717	0.229433	0.322939	0.314869	-0.070081
Parametar 8	-0.122986	0.060787	0.648921	0.209271	0.145849	0.395232	0.379499
Parametar 9	0.002487	0.065199	0.283008	0.758570	-0.156861	0.012630	-0.200971
Parametar 10	-0.137163	0.510079	0.120060	0.358936	0.022929	0.415588	0.247590
Parametar 11	0.441436	0.009607	-0.326996	0.753639	0.175907	0.048796	-0.020669
Parametar 12	-0.023535	0.028468	0.183468	0.553515	0.475655	0.363447	-0.383690
Parametar 13	0.237870	-0.050529	0.283017	-0.087535	-0.053997	0.712908	-0.320823
Parametar 14	0.305733	0.049886	0.363632	0.006276	0.051460	0.697435	-0.220934
Parametar 15	0.005879	0.059595	0.011142	0.801833	0.327881	0.103099	0.146306
Parametar 16	0.003009	0.099626	0.151307	0.815651	0.357717	0.220143	0.080429
Parametar 17	0.076195	0.012924	0.392654	0.547987	0.465374	0.038862	0.249539
Parametar 18	0.502472	0.075984	0.150880	0.521847	0.342747	0.065452	0.329529
Parametar 19	-0.057750	-0.103722	-0.305960	0.550320	0.513828	0.125049	0.249106
Parametar 20	0.670266	0.059137	0.091667	0.444530	0.318291	-0.061105	-0.068707
Parametar 21	0.069221	-0.246121	0.829269	0.013587	0.121187	0.079393	-0.136951
Parametar 22	0.042864	0.023054	0.591579	-0.195177	-0.250945	-0.439222	0.141653
Parametar 23	0.053249	-0.110260	0.741899	0.051766	-0.026041	0.127314	-0.109147
Parametar 24	-0.202061	-0.000146	0.065135	0.364430	-0.258222	0.567439	0.143093
Parametar 25	-0.144435	0.268371	0.215827	0.153610	0.093684	0.794139	0.284000
Parametar 26	0.511045	0.038603	0.204618	0.311082	0.339999	0.163486	-0.017679
Parametar 27	0.268647	-0.051629	-0.076401	0.046493	0.032535	0.622655	0.163915
Parametar 28	0.124052	0.358176	0.364769	-0.081978	0.206562	0.571470	0.251228
Parametar 29	0.735047	-0.011852	0.092057	-0.115312	0.178000	0.099642	0.150550
Parametar 30	0.475360	0.032297	0.510234	0.203496	0.478680	0.007913	0.279108
Parametar 31	0.679148	0.102800	0.317489	0.306828	0.168242	-0.190862	0.169471
Parametar 32	0.755823	0.048994	0.100457	0.223925	0.232224	0.153068	-0.077487
Parametar 33	0.392557	0.133083	0.486281	0.337827	0.420500	0.331258	-0.346245
Parametar 34	0.303670	0.368956	0.368580	0.585927	-0.153541	-0.139616	0.074531
Parametar 35	0.274216	0.008177	0.506850	0.610520	0.078048	-0.197812	0.259888
Parametar 36	0.242315	0.236621	0.210188	0.114344	0.642968	0.100244	0.178265
Parametar 37	0.390987	0.108652	0.255702	0.365899	0.442322	0.068692	0.345071
Parametar 38	0.162099	0.187461	-0.066013	0.006382	0.529374	0.007452	0.596133
Parametar 39	-0.068450	0.388054	-0.078114	0.046111	0.533994	-0.046259	0.610917
Parametar 40	0.710586	0.158312	-0.055297	0.004437	0.435911	0.014764	0.345939
Parametar 41	0.555116	0.123160	0.598112	0.116571	0.215041	0.136205	-0.205607
Parametar 42	0.377954	-0.121623	0.176827	0.383850	0.205720	0.305504	0.048759
Parametar 43	0.051900	0.031058	-0.066971	-0.139898	-0.063571	0.673603	-0.039356
Parametar 44	0.177666	0.157873	0.267430	0.162169	0.582478	0.351288	-0.001050
Parametar 45	0.492943	0.177543	0.484600	0.204260	0.088002	0.247092	0.214056

Parametar 46	0.202181	0.194689	0.012217	0.628844	0.574733	-0.194709	0.008760
Parametar 47	0.425470	-0.099235	0.623704	0.202848	0.240893	0.025443	0.298928
Parametar 48	0.146011	0.008110	0.480842	0.093611	0.457944	0.221613	0.077305
Parametar 49	0.172192	0.233639	0.145123	0.118768	0.819593	-0.008336	-0.065902
Parametar 50	0.416948	0.070624	0.126372	0.428041	0.116283	0.090913	0.570963
Parametar 51	0.239169	0.400730	0.428573	0.098853	0.465560	-0.110817	0.448577
Parametar 52	0.569219	-0.057672	0.412290	0.125655	0.305214	0.022388	-0.083635
Parametar 53	0.262163	0.125619	0.167251	0.095801	0.606328	-0.051860	0.284913
Parametar 54	0.104182	0.793662	0.072438	0.161004	-0.018844	-0.043701	0.218858
Parametar 55	-0.022735	0.803330	-0.062053	0.080483	0.185494	0.000899	0.082944
Parametar 56	0.315145	0.522425	0.020957	-0.067178	-0.163446	0.119208	0.502651
Parametar 57	0.138798	0.753685	-0.239226	-0.037786	0.018435	0.095596	0.337846
Parametar 58	0.462933	0.438502	-0.119505	-0.107743	0.200670	0.188628	-0.060562
Parametar 59	0.572898	0.443323	-0.073756	-0.229218	0.127960	0.108392	0.102714
Parametar 60	0.713196	0.418177	-0.037099	-0.096230	-0.070894	-0.151408	0.345600
Parametar 61	-0.198360	0.775117	0.097187	0.215890	0.223878	0.310911	0.057834
Parametar 62	0.044190	0.808056	-0.040081	0.012872	0.172661	0.073607	-0.124492
Parametar 63	0.253211	0.609021	-0.069192	0.003263	0.684259	0.027801	-0.014413
Parametar 64	0.159528	0.472117	-0.220097	0.356159	0.296384	-0.139832	-0.078173
Parametar 65	0.254155	0.549520	-0.295222	0.145689	0.411725	-0.269518	-0.028771
Parametar 66	0.711938	0.511955	0.174927	0.139138	0.186732	-0.051861	-0.057020
Parametar 67	0.629038	0.487769	0.424359	0.299852	0.144088	0.068136	-0.001795
Parametar 68	0.292229	0.390164	0.045002	0.017665	0.365788	0.049950	0.468997
Parametar 69	0.627287	-0.167632	-0.037070	0.112498	0.059901	0.105434	0.085449
Parametar 70	0.269038	0.020070	0.026715	0.004458	0.829454	-0.079844	0.050251
Parametar 71	0.556177	0.211222	0.479229	0.328472	0.190135	0.151437	0.173186
Parametar 72	0.467525	0.073839	0.137324	0.116975	-0.027290	0.232903	0.444211
Expl.Var	9.984211	7.268391	7.988697	7.675724	8.857920	5.187274	4.361253
Prp.Totl	0.138670	0.100950	0.110954	0.106607	0.123027	0.072045	0.060573

CONCLUSION

On the whole, organizational culture in Serbian companies is at an average level. This result was expected, or it is probably slightly better than the expected. This reaffirms the positive effects of privatization and transitional processes in Serbian economy.

Scientific contribution of this paper is visible in the research results. The results include the following:

1. Current state and the level of organizational culture in Serbian companies.

2. Significance and mutual relationship according to importance of individual parameters of organizational culture in Serbian companies.

3. Seven key factors of organizational culture which realistically represent organizational culture in Serbian companies. Operative use of these factors enables easier measuring, monitoring and improving of organizational culture in Serbian companies.

The results have theoretic significance by themselves and can be used as a base for education and further research. Besides, the presented results have a great practical significance for Serbian companies. It means that they can be used by company managers. Therefore, managers can analyze their own company and determine their position comparing

to the average state. It is also possible to analyze the state of the most important parameters of organizational culture in the company. In addition, individual key factors of organizational culture enable fast, efficient and quality review of the current state and a good selection of the future activities in the field of organizational culture.

The research limits are in the fact that the results are applicable only in Serbian companies. The results may be used in some countries in transition, too. There is also a possibility for further research in some other country or a new research in Serbia but by using some other parameters.

However, there are possibilities for some further researches, first of all, thanks to the results of factor analyses: it is possible to determine dependence between organizational culture and indicators of company's successful business performance. In practice, by using multi-variant regression and correlation the influence of the key factors of organizational culture (defined in this paper) on individual economic indicators (economic indicators can be taken for indicators of business effects) can be determined. . In addition, the influences on each economic indicator separately can be examined, as well as the influences on certain groups of economic indicators together. The dependences, obtained in this way, can help at defining activities in order to raise the level of some factors of organizational culture with the final aim for achieving better business results. This is also the main direction for further researches resulting from this paper.

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THE IMPACT OF COMPANY KNOWLEDGE ON BRAND VALUE

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Abstract

Companies have acknowledged the fact that in the light of more and more competition the success of their operations and competitiveness is to a large extent dependent on the knowledge in the company; this is why the survey deals with the influence of knowledge in the company on the brand value. The survey focuses on the influence of implicit and explicit knowledge; both forms of knowledge are used and integrated into the processes and activities for producing high-value brands which furthers their competitiveness. A successful trademark brings good reputation for the company but the company needs certain kinds of knowledge for achieving this goal. The main aim of the survey is to establish how certain kinds of knowledge in the company influence the brand value; this value is very important for maintaining competitiveness of brand. The result of the survey should be the understanding how the implicit and explicit knowledge in medium-sized and large companies influences the brand value. For the purposes of the survey research goals have been developed. These are the analysis of the role of knowledge in the company, the influence of implicit and explicit knowledge on the brand value as well as making suggestions for companies as how to further the brand value with the use of knowledge. The survey is based on the positivistic paradigm and is limited to the quantitative research of the influence implicit and explicit knowledge has on the brand value.

Key Words: Knowledge, implicit (tacit) knowledge, explicit knowledge, brand, brand value

Topic Groups: Entrepreneurship, Marketing and consumer behavior

INTRODUCTION

Companies have acknowledged the fact that due to increasing competition the success of their performance and competitiveness is to a large extent dependent on the knowledge existing in the company. The need for knowledge is going to grow and only companies with the right knowledge will be able to maintain their level of competitiveness. This is especially true for those companies which are subjected to sharp international competition in the period of globalization. Knowledge is the most important factor of competitiveness, while factors such as capital, financial resources, labour, etc. are less important. These factors do not represent a distinctive advantage of companies any more since they are generally achievable. One of knowledge definitions divides company knowledge into implicit (tacit) knowledge and explicit knowledge and these two forms of knowledge are the subject of this survey. Implicit knowledge is hard to be formally defined. It belongs to each individual and has its roots in personal experiences, values and acts. On the other hand, explicit knowledge is documented knowledge of a company. Both types of knowledge influence the processes and activities in the company. The research focuses on the impact of both types of knowledge on the brand value. The companies use and transfer both types of knowledge into processes and activities to create high brand values and thus increase their competitiveness. A highly successful brand increases the company's reputation with the clients, suppliers, shareholders, banks and other external stakeholders, but the company needs certain type knowledge to achieve this goal. The company brand represents a vital part of the company assets, therefore it is necessary to maintain or increase its value. Strong and established company brands bring differentiation from the competition's products or services.

THEORETICAL STARTING POINTS

Definition of knowledge and its meaning in the company

The authors Davenport and Prusak believe that knowledge is a "mixture of experiences, values, coordinated internal information and expert insights that allows reasonable anticipation, decision making, evaluation and intuitive assessment. It is formed in an individual and collective mind and is being developed through experience, success and failure" (Davenport and Prusak, 1998). According to Nonaka and Takeuchi (1995) knowledge is evaluated true belief perceived as a dynamic human process of evaluation of personal beliefs directed to the knowing of the truth. Eppler and Will (2001) treat knowledge as strategic resource that represents the skills and abilities of individuals, teams and organizations, directed at solving problems. Bizjak's definition of knowledge is that "knowledge is a set of information achieved that allows an individual to understand and solve all known and unknown problems" (Bizjak, 2008). As we can see, knowledge is of great importance in a modern society in all fields of human activity. Drucker (1993) thinks knowledge is extremely significant and claims that basic economic resources such as production resources, property and work do not represent the capital any more. The capital is knowledge and the situation is expected to be the same in the future, too. Brooking (1997) states that there are more and more companies whose material resources are insignificant. Other resources, such as intellectual property created by their employees prevail. We face the growth of companies based on knowledge.

Attention recently paid to research of knowledge and knowledge management is certainly not purely academic; it is the consequence of the awareness that knowledge about knowledge represents a critical factor in company growth or even in its existence (Gomezelj, 2009).

The companies are becoming aware that there is a lot of untapped knowledge inside a company and that knowledge is the key to competitive advantage. All this encouraged the companies to start dealing with knowledge and manage it. Knowledge management is a part of the company management. It involves the company knowledge as a whole and coordinated knowledge of each individual company member. Knowledge management is also realization of knowledge through personnel activities, motivation, communication and knowing. There is a systematic analysis, planning, acquisition, creation, development, storage and application of company knowledge (Gomezelj, 2009). The authors Foster, Morgan and Richards (1998) claim that the concept of brand management tends to redirect the leading brand organizations from the content to the process and from data to tacit knowledge.

Professional literature states different knowledge divisions. Walsh and Ungson (Gomezelj, 2007) speak about two types of knowledge from the perspective of organizations, namely, individual and collective knowledge. Individual knowledge is typical of an organization which consists of individuals. Such knowledge is usually specialized and specific. Collective knowledge, they state, comprises different manners the knowledge is transferred and disseminated among the employees and is typical of the so called collective understanding of the organization. There is another knowledge division in professional literature, commercial and uncommercial knowledge. The former is defined as knowledge needed for successful performance of an organization. The latter is for example scientific research knowledge, which is not intended to be used for successful performance, but for the basic research on certain topics (Bizjak, 2008).

Somehow the most important division of knowledge in organizations is the one into implicit and explicit knowledge. Nonaka and Takeuchi (1995) divide knowledge into implicit and explicit knowledge. They claim that explicit knowledge is generated through formal education and available to others when it becomes tangible. On the other hand, implicit knowledge is knowledge that each individual generates through experience and practices in different life situations and has its roots in different activities.

Implicit and explicit knowledge

Explicit knowledge – this type of knowledge is the least interesting for the organization since it rarely represents a permanent source of competitive advantage. It can be expressed using the symbols and with their help it can be transferred to other divisions of the organization or to other organizations. It can be found in manuals, patents, documents, technical instructions, specifications … It can be generated through observation and study (Pučko, 1998). Nonaka defines tacit knowledge as something elusive and difficult to see. He states that tacit knowledge is something very personal and is almost impossible to be squeezed in a form. A high level of intuition, personal insights and convictions is characteristic of this kind of knowledge (Nonaka and Takeuchi, 1995). Burton – Jons (1999) says that the source of implicit knowledge is always people while the source of explicit knowledge is technology.

Definition of brand

The companies and investors recognize the brands as the greatest company value. This is a decisive concept, a vision of how to develop, strengthen, defend and manage the company. In the future it will be of higher importance to have a market share than to have production. The only way to have a market share is by having brands that are market leaders (Aaker 1991). Brand is the name, term, symbol, form or a combination of these, intended to identify the product or service of one or a group of sellers and to differentiate the products or services from the competitors' products or services (taken from American Marketing

Association) (Kotler, 1998). Brand includes the cultivation of relationship with consumers, employees and other stakeholders (Pfajafar and Končenik, 2007). Randall (1993) claims that brands have four main functions: identity, safety, value added and shorthand summary (all information on brand).

Brands are sophisticated givenness appearing in marketing plans but in fact they exist mainly in consumers' mind. They are the consequence of a permanent process in which the clients interpret and personalize coordinated activities in the organization that are going on with the purpose to ensure a set of values and thus upgrade their lives; the organization that responds to the feedback thus increases the probability of brand success (De Chernatony, 2001). Brand offers, above all, company defence against harsh price competition (Kotler, 1998): Brand is hard to understand but it develops relationship with customers and it cannot be copied by the competition. Therefore it allows distinction within the special offer, separate from other offers in the same product class (Adcock, 2000).

Brand building requires time and money. Such an investment undoubtedly ensures large profits if appropriately managed (De Chernatony, 2001). The brand building process is demanding, expensive and time-consuming. Pfajfar and Konečnik (2007) treat brand building as a complex process from two different points of view. They claim that one group of authors such as Balmer, Urde and Ind understands the brand building process as strategic tool and the source of competitive advantages, while the other group of authors such as Aaker, Joachimsthale, de Chernatony and Kapferer primarily stresses a strong role of brand identity consumers can identify themselves with. But both theoretic groups agree that brands are company's main asset.

Brands are never developed in isolation. Brand building requires not only involvement of executive managers and marketing managers who deal with brand managing, but also a constantly changing list of strategic consultants, design companies, promotion agencies, research companies, public relations companies, industrial designers, environmental designers, etc. In addition, value contribution of the employees, suppliers, partners, shareholders and clients within the brand group is crucial. Brand building requires a village (Neumeier, 2006).

The companies pay more and more attention to the brand strategic management to seize the opportunities offered by the brand. It is necessary to create an appropriate tool to determine efficiency of strategies and to make their adjustment and change possible. The success of strategies is directly reflected in a strong brand. Thus, by measuring its value we also measure the success of strategies themselves (Bratina, 2003). Lindsay (2000) holds that strong brands enable the companies to achieve higher prices, bigger profits and expansion of market share and to employ the best personnel and therefore brand management is of utmost importance.

With well built and efficiently managed brands, the company can develop a good reputation, which increases the clients' and users' trust. Brand values of good brands are beneficial to the companies even when they are in trouble (De Chernatony, 2001). The whole strategy of brand building requires cooperation with numerous people from different areas of expertise and on different levels of management hierarchy (De Chernatony, 2001). The brand strategy should be in harmony with all participants: external customers, media and internal customers (including the employees, board and key suppliers). The brand strategy is the direction which guides the marketing, makes the sales efforts to achieve better sales results easier and defines the clarity, connection and inspiration of the staff (Wheeler, 2006).

Models of brand valuation

Identifying brand values is not simple because brand value can be determined and measured in different ways and in addition, it is difficult to separate it from the value of the rest of the company. Despite these difficulties the company should identify brand value, since it is crucial for efficient brand management. The question of brand value is topical in many situations: company/brand purchase or sale, acquisition and allocation of a licence, contracting (franchising), control of marketing success; brand value is the basis of investment decisions, brand strategy and allocation of company resources, it is the basis for determining damages in brand piracy and last but not least for classification on the list of a trade company suppliers (Vodlan, 2003).

More and more companies are realizing that high brand value assures competitive advantage of a company. The higher brand value, the higher market price of a product or service achieved. When speaking about brand valuation, there should be a distinction between brand value and brand equity.

Marketing theory defines more than 30 different models of brand valuation (Bratina, 2003). The most common division of models of brand valuation in literature (Bentele et al. 2003; BBDO 2001) is into: business-financial models, behavioural models and combined models.

Financial models derive from the company needs for brand transactions and they mostly deal with the differential cash flow created by brands (Meissner 2003). On the other hand, behavioural models search for brand value by observing behaviour of consumers on the market through behavioural patterns. Recently, combined models that combine behavioural variables and financial consequences of brand existence have been developed (Bratina, 2007). Besides analysing brand equity from the financial point of view, its analysis from the consumer point of view is becoming more and more popular, because the consumer is that part of a chain that consequently influences brand equity from the financial point of view. Perception and valuation of brand equity through consumers is the subject of a detailed analysis in marketing literature, which also emphasises further appropriate strategies concerning the studied brand. Despite the fact that with the two above mentioned ways we approach the analysis of brand from different points of view (trustees versus consumers), the experts suggest both ways as interdependent and related approach in modern brand analysis (Konečnik, 2005). All financial models valuate the brand, while behavioural models are based on consumers' behaviour and try to concentrate on brand equity (…).

Combined models that combine the advantages of both financial and behavioural models are more up to date. There are a lot of similar models in commercial use (Bratina, 2003). Bentley et al (2003) have analysed the existing models of brand equity valuation using seven factors: identification, definition, and brand valuation, level of interpretation, convenience, range and total score (…). Financial models are mainly used for brand transaction needs, to determine the licence fees, for mergers and purchases of companies.

On the contrary, behavioural models are used by brand managers to determine the success of different marketing activities comparing to their competitors' and to determine their position in the client's mind. The analyses find out that behavioural valuation models do not define financially (do not give financial assessment) the value of brand equity (Bratina, 2007).

There are, however, some models that combine the advantages of both groups of models (financial and behavioural), for example, Interbrand Model, A.C.Nielsen Model, Brand Rating Model. These models are called combined models, because they combine elements of financial and behavioural models (Bratina, 2003). If we check the literature dealing with

brand valuation, we can conclude, that there hasn't been any valid and understandable brand valuation up to the present time (Sattler et al, 2002).

National accounting institutes have started discussion about financial brand valuation and financial statement of the brands, namely, about the meaning of intangible assets for long-term business growth (Kapferer, 2004). The characteristic of business-financial models is that they present the brand as investment, whose value is information base for investment decisions and for the estimate of future brand returns (Meissner, 2003).

The research uses Repenn's business-financial model as a valuation model because of its simplicity and clarity. Repenn is one of the authors who calculated the value ob brand using brand sales value, together with basic value, that is, with brand building and management costs, brand development costs and patent costs, adding the operational brand value. This operational value derives from the brand use and is calculated as 10% of the average annual income in the last five years (BBDO, 2001).

Lenart (2006) states the following characteristics of Repenn's system as distinguishing characteristics: it is a monetary system and is cost and substance-oriented and forward-looking because of the brand income; medium degree of security level; contingent value; mostly cash value assessed; the model is based on verifiable information; simplicity and clarity of the model; it cannot be used for the purpose of strategic brand management; it is helpful when buying or selling the brand, in the procedure of industrial property damage assessment, as security in property transfer, during bankruptcy procedure or when preparing financial statements; the weakness of the model is that the brand strength is not part of the model and that it considers only business-financial aspect.

The company cannot build and improve the brand without knowledge. Therefore the companies invest so much in knowledge. Eppler and Will (2001) believe that brand knowledge should take into consideration special characteristics of knowledge, such as natural complexity and intangibility of knowledge and knowledge integrity, which is reflected in different target groups and different forms. Foster, Morgan and Richards (1998) wonder in their article whether managers and marketing practitioners know what they do with their brands. The authors wonder if they fully use their knowledge about brands when making decisions that influence the brand value, or, what is even more important, if they comprehend the value of knowledge as the fundamental part of brand value. They state that despite maturity of marketing science and information available in brand management, there are too many cases of low efficiency and brand value loss. The authors believe this stems from a lack of effort to transfer information to knowledge. Brand knowledge and brand marketing are becoming the main topics of the future marketing function. The definition of the authors Foster, Morgan and Richards (1998) of a connection of knowledge and brand states further that brand knowledge management should concern all participants, not only marketing and represents the core of property which is the result of brand differentiation. All this, in connection with brand may directly or indirectly lead to a unique perspective and knowledge, experience and learning, which may create a strong tacit knowledge about brands and can, after some time, direct actions and functions.
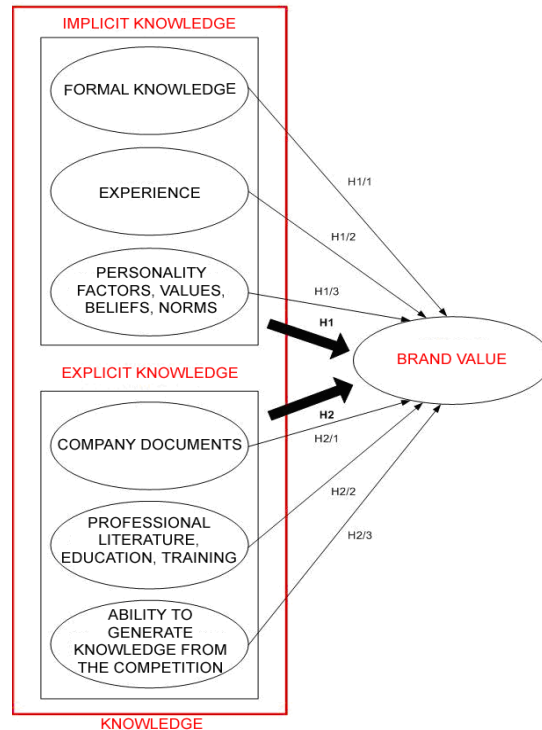

TOWARDS THE RESEARCH HYPOTHESES

Managing brand knowledge concerns all parties involved, not only the marketing and represents the core of the property created by the brand differentiation (Foster et al, 1998). This, in direct or indirect connection with the brand, can lead to the unique perspective and knowledge, experience and learning process, which can create strong implicit brand

knowledge and can consequently, after a certain period of time, direct the actions and functions. Furthermore, Foster et al (1998) states that implicit and explicit knowledge is identified during the process of managing brand knowledge and it is then connected to all activities to increase the brand value. The development of this process goes in three directions, which are known as the process, the contents and the people. Eppler and Will (2001) say that the strategy of brand knowledge should derive from the competence-based strategy of the company, meaning the way different skills, experience and methodologies are connected and interdependently developed for the customers' benefit. They also say that brand knowledge should take into consideration the knowledge details, which means that different target groups and forms of expression should be considered. When writing about the importance of knowledge in the process of brand development, Eriksson (2000) indirectly stresses the importance of knowledge and thinks that brand development should not be limited to the companies with a strong marketing budget. He is certain that the companies which have clear policies about different levels of brand development and about the development of brand identities and personalities can more or less develop the brands themselves. Rothstein in Tetzell (2005) think that the emerging cultural differences in brand development are mostly the matter of knowledge and thus they stress the importance of brand knowledge. The example described by Kollander and Lejon (2007) clearly shows that knowledge transfer is of clue importance for brand development and brand value. The companies Philip Morris and Procter & Gamble have bought and merged some companies, which were not very promising. However, suitable managing and the transfer of implicit and explicit knowledge enabled them to develop strong brands at the very beginning and the companies returned to profitability.

Although a lot is written nowadays about implicit and explicit knowledge, only a little attention is drawn to the research of the meaning of these two types of knowledge for the brand value. The authors (Gronhaug et al, 2002; Keller, 1993; Gibbert et al, 2002; Christopher, 1996 and others) frequently study just the importance of knowledge that the customers have about the brand and not the importance of company knowledge to the brand value. The authors Foster, Morgan and Richards (1998) think it is surprising how little marketing in many companies has done to improve management value added activities, i.e. knowledge of brands and therefore the aim of this research is to find out what type of knowledge the companies use to increase their brand value.

The aim of the survey is also to stress the importance of brands as company assets, whose management and valuation has become necessary for successful performance; the basic requirement for this is knowledge. We would like to find out how different kinds of company knowledge influence the company brand value. The result of the survey should be the understanding of how implicit and explicit knowledge in selected companies influences the brand value. In accordance with the studied theory about knowledge, specifically explicit and implicit knowledge, brand value and the impact of knowledge on brand value, we have combined all these elements and created a model shown below (figure 1).

Figure 1: Model of knowledge and brand value integration - Model of variables and their connections

According to the studied literature and in accordance with the above model, we offer the following hypotheses, which will be checked in our research:

Hypothesis H1: Implicit knowledge has a positive impact on brand value

Hypothesis H2: Explicit knowledge has a positive impact on brand value

METHODOLOGY AND PARTIAL RESULTS

The method used in the research was online survey. Invitation has been sent to medium-sized and large Slovenian companies. We have invited the responsible for brand management in a company to participate in the survey. 344 companies have answered the survey, but all questions have not been answered by all companies. Partial results of the research are presented below.

We have categorized the companies according to the number of employees into five categories; companies with 50 or fewer employees, 51 to 150 employees, 151 to 300 employees, 301 to 1000 and more than 1000 employees. According to partial results of the research, it can be said that generally the companies invest relatively little money in education of the employees in the field of brand management; 73% of respondents replied that they invest only 10% of all education and training resources in brand management education while 20% of respondents allocate 10-20% of all education and training resources in brand management education.

Respondents commented on a set of statements about the employees who deal with brand management (scale of 1 to 5, 1 meaning "I do not agree at all" and 5 "I completely agree"). The results have shown that there are some differences in average rating of agreement with the statements in different companies, but the differences are negligible. Statistically important differences appear only with the statement that "the company has a system of formal education for its employees" (sig. 0,01), but bigger companies generally agree with this statement. On average, the companies mostly agree with the statements that "the employees' education is adequate to their posts (Mean 3,7)", that "they have the possibility of professional development (Mean 3,7)" and that "the employees generate formal knowledge (Mean 3,6)". The minimum agreement, however, was achieved with the statement that "generating formal knowledge in a company is adequately stimulated (Mean 2, 8)". Also, agreement with the statements does not vary statistically according to different branches.

The answers to the set of statements about experience of the employees have shown that experience of its employees is relatively important for the company, since the rate of agreement to these statements is high and there are no statistically important differences among the companies of different size. The lowest overall average rate of agreement concerns the statement that "the most experienced staff is properly rewarded (Mean 3,2). The respondents agree to a certain extent with the statement that "experience of the employees is not recorded and properly documented in a company (Mean 3,3)". On the other hand, companies most agree with the statement that "staff experience represents competitive and distinctive advantage of the company (Mean 3,9) and plays an important role in Personnel Policy of the company (Mean 3,7)". The companies also agree to a large extent with the statement that "innovative ideas in a company result from the staff experience or knowledge (Mean 3,7)".

There are not statistically significant differences among the companies of different size concerning the set of statements about the norms and values of the employees and the company relationships with them, with the exception of the agreement with the statement that "positive values, beliefs and norms of the staff are the generator of innovations in a company". Bigger companies agreed to a larger extent to this statement. The highest average agreement rate concerns the statement that "success and efficiency of the staff largely depends on personality factors (Mean 3,8)" and the statement that "a corporate culture is built of staff beliefs, values and norms (Mean 3,7)". However, respondents agreed to the lowest extent with the statement that "the employees are satisfied in a company and motivated enough for their work and for learning (Mean 3,0) and with the statement that "they are creative and innovative in their work (Mean 3,2)".

On average, the respondents agreed less with the set of statements about documented knowledge in a company than with the previous sets of statements and the agreement rate was relatively low. There are statistically significant differences in the rate of agreement concerning the statement that "documented company knowledge is saved in manuals, specifications, databases, patents and licences", where bigger companies show a higher rate of agreement than smaller ones. The highest average agreement rate concerns the following statements: "the staff uses the documented knowledge to generate additional knowledge (Mean 3,1)", "company documentation and information is well organized and accessible to the employees (Mean 3,3)" and "core company knowledge, necessary to achieve strategic aims is defined in a written form (Mean 3,2)". The lowest average agreement rate concerns the following statements: "documented company knowledge comes from the competition knowledge (Mean 2,5)", "company documentation is more important than individual

experience (Mean 2,5)" and "past mistakes in company operation are documented in a way that the staff can learn from them (Mean 2,7)".

Within the set of statements about education and training of the employees and professional literature, the following statements faced the lowest rate of agreement: "the company regularly carries out external analysis to determine what knowledge and skills it lacks (Mean 2,6)", "the company invests a lot in staff training in the field of brand management (Mean 2,8)" and "the company has a career system that encourages education and training (Mean 2,8)". The companies (respondents) showed the highest agreement rate when responding to the following statements: "the company is aware of the importance of knowledge and education for business excellence (Mean 3,5)", staff satisfaction contributes to a higher rate of staff education and training (Mean 3,6)" and "staff education contributes to better identification of customer needs (Mean 3,8)".

Within the last set of statements about knowledge and knowledge generation, the following statements have shown more statistically significant differences: "the company systematically monitors and generates knowledge also from the competition, suppliers and customers (0,04)", the company takes over their competition and thus generates knowledge (0,00)" and "the company merges with the competition and thus generates knowledge (0,03)". The companies (respondents) showed the highest agreement rate when responding to the following statements: "the company learns from the best competitors in the brand (Mean 3,4)", "knowledge transferred from customers and suppliers represents corporate distinctive advantage and differentiation from the competitors (Mean 3,5)" and "the company continuously follows their competitors', customers' and suppliers' development and knowledge (Mean 3,5)". The companies (respondents) showed the lowest agreement rate when responding to the following statements: "the company takes over their competition and thus generates knowledge (Mean 2,2)", the company buys licences and thus generates knowledge (Mean 2,2)" and "the company merges with the competition and thus generates knowledge (Mean 2,3)".

According to these partial results it can be claimed that the companies are aware of the importance of knowledge and its impact on the brand value, but they still do not act, or, despite the awareness of the importance of knowledge, they do not take the necessary measures to strengthen this knowledge and its use in brand management. The research has shown that investment in staff education in the field of brands is insignificant, that the staff has appropriate education and formal knowledge but formal knowledge generation is not stimulated enough. The companies also highly appreciate experience of their staff, but the highly experienced staff is not rewarded properly. In the field of staff norms and values, the respondents claim that efficiency and success of their staff depend on personality factors. Simultaneously, they state that the employees are not motivated enough to work and generate new knowledge and they are not creative enough. The general finding about knowledge documentation is that this aspect of corporate knowledge is highly undervalued or messy. The general finding about the staff education and training is that the companies are aware of the importance of knowledge, but they do not invest enough in it and they do not analyse the type of knowledge they lack. In the field of knowledge and knowledge generation the companies determine that the so called external knowledge is of great importance (knowledge of the competition, suppliers and customers), yet they do not buy knowledge through takeovers or licence purchasing. As stated earlier, the companies are aware of how important knowledge is, but mere awareness is not enough if no concrete actions follow.

The final and complete analysis of the research which is not finished yet will show which knowledge (implicit or explicit) has a significant impact on the brand value. In the continuation of the research, factor analysis will be carried out and it will find, among many variables that measure implicit and explicit knowledge, the factors, that will be used in further analyses. In case of measuring implicit and explicit knowledge with a larger number of variables, the factor analysis will generate those factors, which combine different types of knowledge according to their common characteristics. The brand value will be used as dependent variable in the research, while the factors will be used as independent variables. The relationship between the variables (dependent and independent) will be analysed by correlation analysis (which measures the strength of linear link) and continued with regression analysis, which analyses the impact of independent variables on the dependent variable.

DISCUSSION AND CONCLUSION

The research is limited to a quantitative research of the impact of implicit and explicit knowledge on the brand value in the biggest Slovenian companies. Previous research was mainly directed to the impact of customer knowledge about the brands. The meaning of corporate knowledge is not stressed enough when creating the brand value. Financial sources and their impact on the brand value are the most frequently mentioned topics when speaking about the brand value. Our decision to choose large and medium-sized companies as the subjects of our research is based on the assumption that such companies possess a larger number of well-known and strong brands. Most small companies do not have any brands, since they have limited resources (work, capital, knowledge), while large companies have enough qualified personnel, which is the basis for brand development and they also have larger financial sources available. Small companies mostly do not possess sufficient financial sources, therefore they have not developed their own brands and as such, they are not suitable for the analysis. The research results will thus be more relevant to and realistic in large companies because they have a larger number of formed brands and knowledge. Measuring implicit knowledge represents a certain limitation in the research as it is extremely difficult. We limited ourselves to the Repenn's financial evaluation model to avoid too extensive research. The chosen financial evaluation model of the brand only allows the determination of the financial value of the brand, which is a certain drawback of the research, because besides financial (accounting) models there are also other models such as behavioural (marketing models) and combined models. The choice of the behavioural or combined models would require a customer survey for each brand, which is practically impossible due to the limited extent of the research. Another drawback of the research is the fact that we will take into consideration the total number of brands a company has, when conducting a survey and evaluating, therefore the evaluation results will apply to one or more brands. The research is limited purely to studying the brands and does not include the corporate brands. There is one more drawback of the research; the respondents will answer the questions about implicit knowledge (education, experience, personality factors, values, beliefs, norms) on behalf of the group of employees that play an active role in creating the brands. The research is given value added by the application of quantitative research, since there has never been such research of knowledge impact on the brand value in Slovenia before. Our article is a contribution to theoretical-scientific development of the field connected to the study of the impact of different types of knowledge and in this concrete case the impact of this knowledge on the brand value. The article also contributes to professional-applicative development of the treated field, because such research is not very common and therefore the research results are extremely important for the corporate

management. On the basis of research deliverables, the management will be able to make the right decisions about promotion of certain types of knowledge, which consequently influences higher brand value. Corporate management will also benefit from the research during the process of brand strategy building. Last but not least, the research will point at the mistakes that management makes in the field of knowledge and its impact. Results so far have shown that the present situation is not satisfactory despite the awareness of the knowledge importance. The results of the research will be applicable to all Slovenian companies and to companies abroad. The research also offers a good starting point for further research of knowledge impact on the brand value by qualitative analysis and for further research by brand evaluation using behavioural and combined models.

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A CONCEPTUAL MODEL FOR SUPPLY CHAIN PERFORMANCE MANAGEMENT AND IMPROVEMENT

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Abstract

Over the past decades, the concepts, models, and tools of supply chain management (SCM) have been getting increasing attention of businessmen and academics. The purpose of this paper is to give a model for supply chain performance management and improvement and to support supply chain members in efforts to achieve a competitive advantage compared to other supply chains. Initiative for the implementation of this model can take focal company, and all the others companies that directly or indirectly doing business with the focal company can struggle to become its key business partners. The proposed model comprises the following phases: selection of key supply chain members; establishing the vision, mission, strategy, and objectives of supply chain; identification of key supply chain processes; development and implementation of the Supply Chain Performance Measurement System (SCPMS); analysis and selection of supply chain process; improvement of process; implementation; and return to the required phase.

Key Words: supply chain, performance measurement, supply chain performance improvement

Topic Groups: production and operations management, business strategy

INTRODUCTION

Within the contemporary business environment, companies are forced to establish new forms of competitive relations. The survival and development of companies is even more dependent on their business partners. Every company is a participant of at least one supply

chain (SC), and every company "fights" to become a participant of a successful supply chain. The competition between the participants of the supply chain that was prevalent everything until recently now turned into a competition between the supply chains for end customers (e.g., Christopher, 1992; Mentzer et al., 2001). A new form of competition – a supply chain versus supply chain - led to the shift in focus, namely, the shift from management and improvement of individual performances of a company to management and improvement of the supply chain performances.

A necessary precondition for successfulness of management and improvement of the supply chain performances is performance measurement. Performance measurement is actually the assessment of the "health" condition of the SC through right measures, metrics, and indicators, while management and performance improvement implies the application of those measures, metrics and indicators in order to support the vision, mission, strategy, and objectives of the supply chain. Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of an action, according to Gunasekaran and Kobu (2007). SC performance measurement thus becomes one of the key factors of success of its participants. The aim of this paper is to give an answer to the main research question: "How to recognize and best use the opportunities for supply chain performance improvement?" In order to develop a conceptual model for supply chain performance management and improvement two types of desk research – literature review and theorizing has been conducted. These types of desk research are explained by Halldorsson and Arlbjorn (2005).

MODEL FOR SUPPLY CHAIN PERFORMANCE MANAGEMENT AND IMPROVEMENT

Model for supply chain performance management and improvement (MSCPMI) was developed for the needs of focal company and its key suppliers, suppliers' suppliers, customers, and customers' customers, so that they could accomplish competitive advantage through joint operations against other SCs on the market. Only the company that has "the largest (financial) power, the best know-how of products and processes, or has the greatest share of values created during order fulfilment", Stadtler and Kilger, (2005), p. 16, i.e. focal company, could launch an initiative for the application of this model. All other companies that do direct or indirect business with focal company are trying to become its key business partners. Also, all key SC members must accept the supply chain orientation (see Mentzer, 2001) and be willing to trust, commitment, interdependence, organizational compatibility, vision, mission, strategy and objectives of SC, and key SC processes. They must recognize "systemic, strategic implications of the tactical activities involved in managing the various flows in a supply chain" (Mentzer, 2001, p.11).

Model for supply chain performance management and improvement (figure 1) comprises the following phases:

1. Selection of key supply chain members;

2. Establishing the vision, mission, strategy, and objectives of supply chain;

3. Identification of key supply chain processes;

4. Development and implementation of the Supply Chain Performance Measurement System;

5. Analysis and selection of supply chain process for improvement;

6. Improvement of process;

7. Implementation; and

8. Return to the required phase of this model.

Selection of key supply chain members

During this phase, the focal company identifies the members of the supply chain including the end customers, and determines and conducts the procedure of the selection of key SC participants. Supply chain participants are as follows: focal company, its suppliers, suppliers' suppliers, direct customers, customers' customers, as well as end customers. The end customers represent individuals and companies that buy end products and/or services of the supply chains. It is important to identify the end customers since they provide money inflow for the SC by buying products and/or services. Focal company could perform a selection of key participants of the SC based on the analysis of links between SC participants. Four basic types of links between supply chain participants have been proposed (Lambert, 2005): managed process links, monitored process links, not-managed process links, and non-member process links. Managed process links are those links believed to be critical by the focal company, and therefore, the focal company wishes to integrate them and manage them. Monitored process links are the links for which focal company believes they should be adequately integrated and managed on behalf of other chain members, and thus wishes to monitore them. Not-managed process links are the links for which focal company believes they should be relinquished to other members of the SC to manage them. Non-member process links are the links for which the focal company believes they could affect its performances and also the performances of the SC. Focal company identifies key members of the SC based on identification of links that are of crucial importance for the success of the supply chain. One of the tools that could prove to be helpful while choosing the key SC members is the chart of the supply chain (see Lambert, 2005).

Figure 1: Model for supply chain performance management and improvement
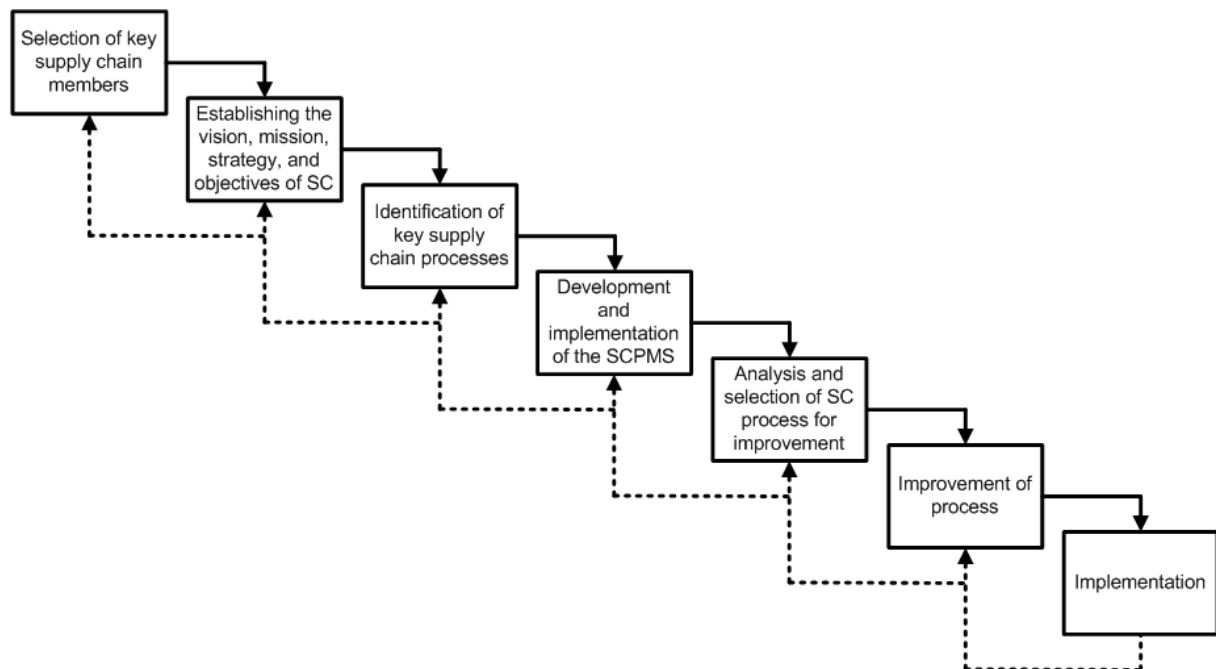
Establishing the vision, mission, strategy, and objectives of supply chain

Key members of the supply chain should create a team that will be engaged in establishing the vision, mission, strategy, and objectives of supply chain. The vision of the supply chain refers to the position the SC wants to accomplish in the future. The mission of the supply

chain implies to the purpose of the existence of the SC, and refers to its long-term operating direction. The mission of the supply chain should also provide some answers on important questions such as: "Which products and/or services does the supply chain realize and why?", "For whom does the supply chain realize products and/or services?", and "How does the supply chain realize products and/or services?". The strategy of the supply chain refers to the attempts of the SC to use its own strengths and chances from the environment, and to eliminate its weaknesses as well as the threats coming from business environment. The strategy of the supply chain could be defined as a true combination of following components: operations strategy, outsourcing strategy, channel strategy, customer service strategy, and asset network (see Cohen and Roussel, 2005). Based on the strategy of the SC, the team deducts goals the SC wishes to accomplish. After that, the key supply chain members should harmonize their business visions, missions, strategies, and objectives with the vision, mission, strategy, and objectives of the supply chain.

We should probably stress that the terms vision and mission of the supply chain have been rarely used until now. Only two examples from the practice have been found so far for determining the vision of the supply chain, given by authors Gattorna and Tang (2003). Inversely, numerous authors dealt with strategic orientation and goals of the supply chain. Here we conclude that the business strategy and the goals of the SC are deducted based on the vision and mission of the SC, regardless of whether they are identified formally or informally.

Identification of key supply chain processes

Key members of the supply chain should create a team that will be engaged in the identification of key supply chain processes, i.e. processes that are of key importance for the existence of the supply chains. One of the forms of support could be recognized in key processes of the SC identified on behalf of Global Supply Chain Forum (GSCF) and Supply Chain Council (SCC) organizations. The Global Supply Chain Forum has identified the following key SC processes: customer relationship management, customer service management, demand management, order fulfillment, manufacturing flow management, supplier relationship managment, product development and commercialization, and returns management (see for example Lambert, 2005). While the Supply Chain Council proposed a division into five key processes: plan, source, make, deliver, and return (see e.g., Bolstorff and Rosenbaum, 2003). In addition, we must not neglect the fact that every supply chain is quite unique, and the abovementioned key processes of the SC could be taken only as a starting point while searching for the answer to the following question: „Which are the key processes within the supply chain?". Since these processes are best identified through flows (Stadtler and Kilger, 2005, p. 39), this stage needs to identify the flows of products, services, information, money, and knowledge. Flow of products and services refers to the movement of goods and services from the initial procurement of raw materials, through their transformation into final products and services, to delivery to end customers, and providing post-sales support, including returns and recycling. Flow of information refers to the exchange of information between SC participants. Flow of money refers to the movement of money between participants in the SC. Flow of knowledge refers to the sharing of knowledge between SC participants. In the end, the team should create a model of the supply chain process that will be connected with SCPMS in the following stage.

Development and implementation of the SCPMS

Key members of the supply chain should create a team that will be engaged in the development and implementation of the Supply Chain Performance Measurement System

(SCPMS). This team should then reach the decision on which of the developed concepts, models, tools (Balanced Scorecard (BSC), Economic Value Added (EVA), Logistics & Supply Chain Scoreboard (LSCS), Supply Chain Operations Reference model (SCOR), Global Supply Chain Forum (GSCF), Value Reference Model (VRM), and Hierarchy of Supply Chain Metrics (HSCM)) or some of their combination should adjust to the supply chain needs and implement them, or maybe to create a completely new solution.

SCPMS could be defined as a set of elements that is being used for quantification of effectiveness and efficiency of actions (Jovanovic, 2009). The effectiveness refers to the measure of accomplishing the defined goals of the supply chain as a whole (to do right things), while the efficiency refers to the measure of economic use of resources in the supply chain as a whole (to do things in the right way). Usually, the elements of SCPMS are: performance measures, metrics, and performance indicators.

Performance measure is the measure of object's property (e.g., products, services, processes, systems). Determining the performance measure include defining the object of observation, property of object, and the procedure of determining the measure of object's property. More precise determination of the performance measure could be given by means of metrics.

Metrics could be used for more precise determination of object's property. The development of metrics includes the designation of the object of observation, object's property, procedure of metrics determination (most often expressed in verbal and analytical form), necessary data sources based on which to determine metrics, the frequency of metrics calculation (e.g., daily, weekly, etc), benchmark metrics, and the executor (or executors) in charge of the process of metrics measurement and metrics comparison. The priority of metrics could be determined additionally, and the example of metrics determination could be given. According to Merriam-Webster Dictionary, metrics is defined as a „basis or standard of comparison" (Cohen and Roussel, 2005, p.186). In this way, it is implied that certain number or value becomes metrics only after it is compared to another appropriate number or value. Performance metrics may be defined as the „tools in the performance measurement process that take measurements, display results, and determine subsequent action", according to the Kenneth (1995), p. 64. Metrics are a powerful tool that allow for the follow-up of advancement, stagnation, or regression over time, and making management decisions accordingly. While determining the metrics of the SC, one has to respect the inter-functional process-oriented nature of the supply chain (Stadtler and Kilger, 2005). Therefore, the development of the SC metrics is not easy, but their measurement is even harder.

The performance indicator is the elementary pointer of the change in object condition (e.g., products, services, processes, systems). Indicators may be defined as pointers that »inform about relevant criteria in a clearly defined way«, based on Stadtler and Kilger (2005). Supply chain key performance indicator is a pointer of the change in object condition of the strategic importance for a supply chain.

Taking into account the suggestions of authors Cohen and Roussel (2005); Takle and Gabrielsen (2006) given in Fauske, et al. (2007); and Hieber (2002) given in Horvath and Moller (2004), herein are given the following recommendations for the development and design SCPMS:

1. System orientation. The SCPMS should be one integrated system. All the elements of SCPMS (e.g., performance measures, metrics, performance indicators) must be interrelated.

2. Network orientation. All key supply chain participants and links that exist between them must be identified prior to the development of SCPMS. The SCPMS should provide support for the business of all key SC participants.

3. Strategic orientation. SCPMS must follow a strategic orientation and goals of the SC.

4. Process orientation. The key supply chain processes must be identified prior to the development and design SCPMS. The SCPMS should indicate the results of key SC processes, not to summarize the results of individual participants in that SC.

5. Managing orientation. The SCPMS should provide support for managerial decision making. The SCPMS should be a simple tool, with the smaller number of elements, which give managers quick insight into the results and allow them SC performance management and improvement. This tool should enable supply chain managers to manage proactively.

6. Orientation to business partners. The SCPMS needs to be a useful tool for all supply chain participants. It should contribute to realize the benefits of establishing collaborative relationships by the key supply chain participants.

7. Balanced orientation. The SCPMS need to balance financial and non-financial performance measures.

8. Dynamic orientation. For every element of SCPMS appropriate dynamics of its monitoring must be established. The elements of SCPMS can be monitored continuously or in intervals (e.g., daily, weekly, monthly, etc).

9. Developmental orientation. It is necessary to ensure continuous consideration and development of SCPMS. Based on the assessment, the useful elements of SCPMS should be added and unnecessary removed.

10. Hierarchical orientation. The SCPMS should have a hierarchical structure. It is desirable to determine its elements on strategic, tactical, and operational level.

Different concepts, models, and tools are developed for the needs of supply chain performance measurement. Making a decision on which of these concepts, models, tools, or their combination should be applied or adjusted to the needs of certain SC, or perhaps one should develop an entirely new solution, is made harder by the fact that each and every supply chain is basically unique, and SCPMS must be separately developed and designed for each of them. Making this very important decision was supported by comparison of concepts, models, and tools developed so far, which allows supply chain performance measurement. The comparison of Balanced Scorecard (BSC) (see e.g., Kaplan and Norton, 1992; Brewer and Speh, 2000; Park et al., 2005), Economic Value Added (EVA) (see e.g., Stern Stewart & Co; Pohlen and Goldsby, 2003; Lambert, 2005; Presutti and Mawhinney, 2007), Logistics & Supply Chain Scoreboard (LSCS) (see e.g., Logistics Resources International, Inc; Frazelle, 2002) Supply Chain Operations Reference model (SCOR) (see e.g., Supply Chain Council; Bolstorff and Rosenbaum, 2003), Global Supply Chain Forum (GSCF) (see e.g., Lambert, 2005), Value Reference Model (VRM) (see Value Chain Group), and Hierarchy of Supply Chain Metrics (HSCM) (see AMR Research, 2004) is made on the basis of previously established recommendations for the development and design SCPMS (table 1).

When it comes to application of these concepts, models and tools for the supply chain performance measurement within the business environment, following conclusions may be drawn. The application of BSC concept on the supply chain performance measurement is still at the level of theoretical considerations (Brewer and Speh, 2000; Park et al., 2005). It is believed that the connection of BSC with EVA and Activity Based Costing (ABC) is possible in

practice. The independent use of EVA for the needs of the supply chain performance measurement is not enough, and therefore, it is necessary to consider putting EVA in the frames of a wider concept. LSCS was developed for the needs of company performance measurement, and it is now adapted for the supply chain performance measurement. A few company has applied LSCS. SCOR is a concept frequently applied for the needs of the supply chain performance measurement (see e.g., Bolstorff and Rosenbaum, 2003). The application of SCOR allows for quick lowering of costs and more efficient use of resources. In the upcoming years, the integration of independently developed referent models of the processes SCOR, Customer Chain Operations Reference model (CCOR), Design Chain Operations Reference model (DCOR), and Marketing Chain Operations Reference model (MCOR) is expected (Francis, 2005), which will allow for strategic orientation, process orientation, and business partners orientation to be completely supported. GSCF is also frequently applied concept within the business environment. In difference to the SCOR, the GSCF concept "is more strategic and focuses on increasing long-term shareholder value through closer cross-functional relationships with key members of supply chain«, according to the Lambert (2005), p. 221. VRM is better conceived than SCOR, but the number of companies that applied this concept so far is lower than the number of companies that applied SCOR. There were no data found in available literature in relation to practical application of HSCM model.

Table 1: The comparison of concepts, models, and tools which allows supply chain performance measurement

Requirement	BSC	EVA	LSCS	SCOR	GSCF	VRM	HSCM
System orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Network orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Strategic orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Process orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Managing orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Or. to business partners	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Balanced orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Dynamic orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Developmental orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕
Hierarchical orientation	⊕	⊕	⊕	⊕	⊕	⊕	⊕

⊕	- fully supported
⊕	- largely supported
⊕	- partially supported
⊕	- slightly supported
⊕	- not identified

Analysis and selection of supply chain process for improvement

Key participants of the SC have to authorize a team that will be engaged in the analysis of the present state within the supply chain, and identifying the location at which to accomplish additional values. In this stage, team members that were previously engaged in identifying key processes within the SC are now hired again. The goal of this team is to determine criteria for the selection of the supply chain for development, and to select a process that is most likely to contribute to the accomplishment of additional values for the total SC.

Improvement of process

A team previously authorized on behalf of key members of the supply chain is now supposed to find the best solutions for developing the previously selected process, and composes a formal plan of conducting these developments. Therefore, it is necessary to consider the introduction and development of the forms of cooperation between key participants of the supply chain. The SCM concepts that allow the improvement of business relations between the participants in the supply chain are: Quick Response (QR) (see e.g., McMichael et al., 2000; Perry and Sohal, 2000; Hayes and Jones, 2006), Vendor Managed Inventory (VMI) (see e.g., Simchi-Levi et al., 2000; Pohlen and Goldsby, 2003; Jespersen and Skjott-Larsen, 2006; Elvander et al., 2007), Supplier Managed Inventory (SMI) (see e.g., Pohlen and Goldsby, 2003), Continuous Replenishment (CRP) (see e.g., Clark and Lee, 2000), Efficient Consumer Response (ECR) (see e.g., Harris et al., 1999; Kotzab, 1999; Hoffman and Mehra, 2000; Seifert, 2003; Reyes and Bhutta, 2005), Collaborative Planning, Forecasting and Replenishment (CPFR) (see e.g., Seifert, 2003; Ireland and Crum, 2005; Jovanovic, 2008), and Flowcasting (see Martin et al., 2006).

Simchi-Levi, et al. (2000) have performed the comparison of QR, CRP, advanced CRP, and VMI concepts based on responsibility for decision making with regard to generating orders, ownership over inventories, and new skills that are necessary for vendors. In 2003, Tyana, J. and Wee, H-M. gave a recommendation for the selection of SCM concept depending on the structure of power in relations between retailers and suppliers.

QR, VMI, SMI, CRP, ECR, CPFR, and Flowcasting concepts were presented on behalf of Jovanovic (2009).The comparison of these concepts (table 2 and table 3) is done according to the application; the form of relationship between supply chain participants; the financial results of business operations of the supply chain participants; the process of decision-making; the process of meeting the needs of the end customers; the results of communication within the supply chain, the possibilities of occurrence of the bullwhip effect and risks.

Table 2: The comparison of SCM concepts (part 1)

Characteristic / Concept	Application	Form of relationship between SC participants	Financial results of business operations of the SC participants	Process of decision-making
QR	Textile and clothing industry	Coordination	Profit for the manufacturer and retailer	Cooperation between manufacturer and retailer
VMI	In many industrial and service sectors	Coordination	Profit for the manufacturer and retailer	Cooperation between manufacturer and retailer

SMI	In many industrial and service sectors	Coordination	Profit for the supplier and manufacturer	Cooperation between supplier and manufacturer
CRP	In many industrial sectors	Cooperation	Profit for the manufacturer and retailer	Cooperation between manufacturer and retailer
ECR	Commerce	Cooperation	Profit for the manufacturer and retailer (wholesaler)	Cooperation between manufacturer and retailer (wholesaler)
CPFR	In many industrial and service sectors	Collaboration	Profit for all participants of SC involved in the CPFR	Cooperation between two or more participants in SC
Flowcasting	Commerce	Collaboration	Profit for all participants of SC involved in the Flowcasting	Cooperation of all the primary participants in the SC

We could note that the application of SCM concepts requires positive intensification of relations between the participants of the supply chain on a long-run. The "competition", as a traditional form of business strategy between the participants of the SC is being surpassed by new forms of cooperation within the SC – coordination, cooperation, and collaboration. The negotiations held with the goal of increasing own profit on the one hand, and increasing the loss of a business partner on the other hand, are being replaced with joint processes of decision-making, so that all business partners could achieve profit. The process of meeting the needs of an end customer doesn't stop being a key process only for the intermediate predecessor to the end customer within the SC, but it also refers to all participants of the supply chain. There's a need for right information, in right time, at the right place between the participants of the SC. Frequent possibilities of occurrence of the bullwhip effect are supposed to be eliminated, and risks are to be shared between the participants of the SC.

Table 3: The comparison of SCM concepts (part 2)

Characteristic / Concept	Process of meeting the needs of the end customers	Results of communication within the SC	Possibilities of occurrence of the bullwhip effect	Risk
QR	Key process for the manufacturer and retailer	Right information, at the right time, at the right place between the manufacturer and retailer	Minimal	Shared risk between manufacturer and retailer
VMI	Key process for the manufacturer and retailer	Right information, at the right time, at the right place between the manufacturer and retailer	Minimal	Shared risk between manufacturer and retailer

SMI	Key process for the manufacturer	Right information, at the right time, at the right place between the manu-facturer and its supplier	Major	Shared risk between manufacturer and its supplier
CRP	Key process for the manufacturer and retailer	Right information, at the right time, at the right place between the manufacturer and retailer	Minimal	Shared risk between manufacturer and retailer
ECR	Key process for the manufacturer and retailer (wholesaler)	Right information, at the right time, at the right place between the manufacturer and retailer (wholesaler)	Minimal	Shared risk between manufacturer and retailer (wholesaler)
CPFR	Key process for all participants of SC involved into CPFR	Right information, at the right time, at the right place between all participants of SC involved into CPFR	Minimal/Eliminated - depending on the participants involved in the CPFR	Shared risk between participants of SC involved into CPFR
Flowcasting	Key process for all primary participants in the SC	Right information, at the right time, at the right place between all primary participants in the SC	Eliminated	Shared risk between primary participants in the SC

Implementation

In this phase, the team authorized by the key members in the supply chain, implements the planned improvement of process and monitors the results achieved by this change. The monitoring over all processes of the supply chain is provided, as well as the response in cases of unplanned deviations.

Return to the required phase of this model

This indicates a return to a previous phase of this model.

DISCUSSION

Informal supply chains exist in many countries, especially in developing countries (Reyes and Bhutta, 2005), where great number of companies is still trying to establish internal integration of processes and then to focus on external integration (Waters, 2007). Companies come to a conclusion that they can't respond to changes within the contemporary business environment as independent entities, and they become aware of the importance of

establishing and developing better business relations with the exchange partners. Every company has participated in at least one supply chain, whether formal or informal, and every company strives to become participant of successful SC. Everything until recently, the competition between participants in the SCs was predominant, but now it evolves into the competition between the supply chains for customers. The survival and success of participants in the supply chain will be guaranteed in the environment everything until the supply chain manages to satisfy the customers by right products and/or services according to the right conditions, to the right place, and at the right time. Therefore, participants of the supply chain are trying to recognize and utilize opportunities of supply chain performance improvement.

Numerous researchers have been engaged in the supply chain performance measurement. Most number of them pointed out to the fact that the supply chain performance measurement is actually in the function of management and development of the supply chains. For example, Horvath and Moeller (2004) stressed that SCPMS is the central part of the supply chain control system. According to them, the basic function of SCPMS is not the supply chain performance measurement, but giving support to management and improvement the supply chain performances. However, in spite of this, the development of the comprehensive model for supply chain performance management and improvement, in which SCPMS would be included in, didn't get enough attention in the relevant literature. The exception is the attempt of Marien (2000) which showed nine-step supply chain management process improvement model developed by University of Wisconsin in conjunction with industry practioners. In spite of the fact that this model hasn't been represented in details, the development of the tools for supply chain performance measurement could be anticipated within its frames. This paper suggests a conceptual model for supply chain performance management and improvement (MSCPMI) for supporting SC members in efforts to achieve competitive advantage over other supply chains. This model may be viewed as a guide that allows the key SC members to improve SC performance and achieve better business results in the market. Initiative for the implementation of this model can take focal company. All the others companies that directly or indirectly doing business with the focal company can struggle to become its key business partners.

Four specific contributions were accomplished during the engagement in the development of MSCPMI. First, the differentiation between the terms "performance measure", "metric", and "performance indicator" in business context is carried out. Second, a set of the ten recommendations for the development and design SCPMS (system orientation, network orientation, strategic orientation, process orientation, managing orientation, orientation to business partners, balanced orientation, dynamic orientation, hierarchical orientation, and developmental orientation) is determined. Third, the comparison concepts, models, and tools which allows supply chain performance measurement (BSC, EVA, LSCS, SCOR, GSCF, VRM, and HSCM) is made according to the established recommendations for the development and design SCPMS. Fourth, the comparison of SCM concepts (QR, VMI, SMI, CRP, ECR, CPFR, and Flowcasting) is done according to the application, the form of relationship between supply chain participants, the financial results of business operations of the supply chain participants, the process of decision-making; the process of meeting the needs of the end customers, the results of communication within the supply chain, the possibilities of occurrence of the bullwhip effect and risks.

There are some limitations that need to be addressed regarding the present study. First, the differentiation between the terms "performance measure", "metric", and "performance indicator" is not extensive enough. Definitely, these terms are not synonyms and they have different meanings. In future studies the meanings of these terms from other fields (e.g.,

mathematical science) should be surveyed, and after that linked and applied with a business context. Second, only one way is suggested for a selection of key supply chain members based on Lambert, 2005. Further development of useful tools for a selection of key SC members is needed. Then, in the third phase of the MSCPMI it is supposed a creation of model of the SC process. In addition, no tools were recommended for use. Thus, suitability of some tools for modelling SC processes (e.g. ARIS) needs further discussion. Fourth, the model MSCPMI is primarily the result of theoretical considerations and is not applied and evaluated in practice. Such practical research work would require, among other things, a lot of time and money.

CONCLUSION

Changes within the modern business environment have made SCM getting to the center of attention of both the business and academic community. These changes refer to the shift from local and national to global focus, from stable to unstable markets, from the competition between the supply chain member companies to the competition between the supply chain for winning end customers of products and/or services, from management and improvement of individual performances of a company to management and improvement of the supply chain performances, etc. The research for new forms of establishing, maintaining, and improving of business relations between the supply chain member companies becomes even more actual.

This paper suggests a conceptual model for supply chain performance management and improvement (MSCPMI) for supporting supply chain members in efforts to achieve competitive advantage over other supply chains. This model may be viewed as a guide that allows the key SC members to improve supply chain performance and achieve better business results in the market. The proposed MSCPMI comprises the following phases: selection of key SC members; establishing the vision, mission, strategy, and objectives of supply chain; identification of key SC processes; development and implementation of the Supply Chain Performance Measurement System (SCPMS); analysis and selection of SC process; improvement of process; implementation; and return to the required phase. Initiative for the implementation of this model can take focal company. Also, in order to create conditions for the application of the MSCPMI it is necessary that all key SC members accept the supply chain orientation (see Mentzer, 2001). Key SC members must be willing to trust, commitment, interdependence, organizational compatibility, vision, mission, strategy, and objectives of SC, and key SC processes. The specific contributions of this paper are related with differentiation of terms "performance measure", "metric", and "performance indicator" in a business context, determination of a set of recommendations for the development and design Supply Chain Performance Measurement System (SCPMS), comparison of concepts, models, and tools developed so far, which allows supply chain performance measurement, as well as comparison of SCM concepts. The future directions of this research should be focused on development of suitable tools for a selection of key SC members, consideration of the possibility of using some tools for modelling SC processes, cost-benefit analysis of the application of the concepts, models, and tools which allows SC performance measurement, as well as practical application of the developed model for supply chain performance management and improvement.

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SMALL-MEDIUM ENTERPRISES IN IRAN: PRIORITIZE FACTORS AFFECTING SUCCESS USING ANP METHOD

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Abstract

The purpose of this article is to prioritize the measures of success influencing small to medium size enterprises (SMEs) in Iran using multiple criteria framework. Analytical Network Process (ANP) has been used to develop the framework, because of the dependency among measures and the antecedents. And another reason to use ANP is that it provides relatively more reliable results compared to the other similar methods. To achieve this goal the judgments of experts have been collected through interviews and questionnaires, without interacting and not knowing each other's judgments. As SMEs are historically considered to be the engine of economic growth, the results would prepare the ground for entrepreneurs, managers and strategists to better understand the related factors and direct their efforts toward implementing them based upon their relative importance.

Keywords: SMEs; ANP; Measures of success

INTRODUCTION

SMEs play a pivotal role in the national economies of countries all around the world. Industry is moving away from large vertically integrated firms. Flexible value chains are replacing them. SMEs are recognized as key, not peripheral component of the value chain, as previously thought (Rivera, J.M.C, 2007). On the other hand results shown that, success of the SMEs have direct influence on the development of both developed and developing countries (Demirbag, M., Tatoglu, E., Tekinkus, M. and Zaim, S, 2006). According to Forsman, SMEs are the catalysts for the future economy. Current literature suggests that SMEs may differ from larger companies by a number of key characteristics, such as, resource and knowledge limitation, lack of money reliance on a small number of customers and need for multi-skilled employees (Forsman, 2008).

SMEs are the main parts of the economical industry, thus the survival and grows of these enterprises are vital and needs more caution. As Gartner stated, there are many discussions about factors that influence success of the companies (Gartner et al, 1999). And therefore Prioritizing factors affecting SMEs' success can guide policy makers and business owners in SME policy formulation, while in our country there is lake of such definite research on these issues, in other words in Iran just few or limited works have been done in this case.

In this research with respect to the literature and using experts' opinion thorough Delphi method, some of the influence factors have been collected and with Analytical Network Process, the measures have been prioritized. Subsequently we tried to use a model that could be useful and practical in Iran. The model has been chosen from a research, worked in Turkey. And we got nearly the same result as they did.

Analytical Hierarchy Process (AHP) is one of the widely used approaches to prioritize factors (Saaty, T.L., Peniwati, K., 2008). However, a limitation of AHP is the assumption on independence among various factors and as we know success factors considered in this research are not independent. For Example, regulation and policies in Country affects intensity of competition in industry which affects facility location, financial support, international market entry...,. And all of these are among the factors affecting firms' success. In Addition, measures of success are interdependent as well. (Such as quality affects sales and sales affects survival of the firm). Because of this interdependency, the factors, seems to be less important individually might turn out to be more important when evaluated collectively. And that's why we selected Analytical Network Process (ANP) as a methodology.

We Identified 5 measures of company success and 34 factors (antecedents) affecting it mostly from literature search modified and expanded by our experts, with the help of the study worked in Turkey by Birsen Karpak and Ilker Topcu, 2010. Antecedents were divided into five clusters: Country and Business Environment, Firm Internal Environment, Firm Expertise, Owner Related Factors (Entrepreneurs) and Institutional Support. The five measures of success were identified as sales (revenue), product cost superiority, Product quality, cash flow (balance) and survivability (long term viability).

In this Research, We will first briefly introduce SMEs in Iran, and then we review the measures of success and the antecedent. In the section of Methodology we survey the ANP method and its relation to SMEs' factors. And on individual and aggregated result, the results display and at the end we would have conclusions.

SME IN IRAN

SMEs in Iran have been operating in an unstable and unfavorable macroeconomic environment form many years, since the new president comes with the slogan of SME and

SMEs' growth –SMEs are the main part of the economic development- the policies to somehow have been changed, But for sure it wasn't enough.

The definitions of an SME vary from country to country. In Iran the definition of Small enterprises is the companies employing fewer than 50 people. And we couldn't find any official definition for Medium size enterprise, but we can call 50-249 employees, Medium-sized firm (using the definition of European Union).

According to Information Center of the Small Enterprises in Iran, 105467 licenses of establishments and 57902 licenses to exploit have been issued until the ends of 2009, and the number of employed person were 1,813,202. And the investments on the SMEs are more than 727$ billion.

MEASURES OF SUCCESS AND THE ANTECEDENTS

Storey in 2000 reminds that for many business owners, grows of their business is not an objective, they are targeting at survival (Storey, D. & K. Keasey & R. Watson & P. Wynarczyk, 1987), However we know that one of the main characteristic of the entrepreneurial firms is to develop their companies. Morrison et al, (2003) summarize that a key distinguishing feature of a pro-growth small business is a balanced alignment of the owner-managers' intention, the business abilities and the opportunity environment. Murphy et al. (1996) reviewed 51 published number articles and concluded that a majority of performance measures were related to one of eight performance dimensions: efficiency, growth, profit, size, liquidity, success/failure, market share and leverage (Murphy, G.B., Trailer, J.W., Hill, R.C.,, 1996). Cooper and Gascon (1992) contend that return on equity which is the most cited efficiency dimension in Murphy et al. (1996), can be difficult to obtain and can be heavily influenced by decisions about the owner–manager's compensation Although, the advantages linked to small firms are their flexibility, organic organization, centralized decision-making and the fact that they are close to the customers (Storey, 2000); (Julien, 1993).

Murphy et al. found out that not many of the studies included measures of more than one dimension and recommend that studies include multiple dimensions of performance whenever possible. And then In 2010 Birsen karpak et al., in their study on measure operational performance gathered 5 factors, and called them factors of success, Instead of profit they included cost of the product and sales since identifying influence of antecedents on these measures are easier. For size they selected sales which were the most frequent measure in this dimension. For liquidity they included cash flow, again the most frequently cited measure for liquidity. And because their factors were comprehensive enough in this research we used them as success factors of the performance (Birsen Karpak , Ilker Topcu, 2010).

In this research, Antecedents were divided into five cluster: Country and Business environment, firm internal Environment, Firm Expertise, Owner Related Factors (Entrepreneurs) and Institutional Support. The five measures of success were identified as sales (revenue), product cost superiority, Product quality, cash flow (balance) and survivability (long term viability).

Simson et al, defines the macro-envirement as containing factors external to the company that present situational variables which may facilitate or inhabit entrepreneurship at start-up and during the SME lifecycle (Simpson, M., Tuck, N. & Bellamy, S., 2004). This is supported by dahlqvist et al, who expounds that these external factors present opportunities, threats and information affecting all entrepreneurs within that environment, regardless of their background, education or business concept. Guzman and Santos (2001) lists external factors

to include socio-demographics, markets (local, international, emerging and technological, infrastructure and other phisical factors of that particular environment (Guzman, J. & Santos, F.J. , 2001). Mazzarol, Volery, Doss and Thein and Viviers et al (2004:4) point out that these macro enviremental factors are not controllable and the success of the SME often depends on management's ability to deal with them (Mazzarol, T., Volery, T., Doss, N. & Thein, V., 1999); (Ligthelm, A.A. & Cant, M.C. , 2002).

In this research these invironmental factors placed on the cluster of Country and business environment:

1. Credit available in the country

The availability of appropriate economic resources is important for busuness development (Tustin, 2003; Goodall, 2000a; Czinkota and Ronkainen, 2003). This enables SMEs to secure the necessary expertise and raw materials to put entrepreneurial ideas into practice, to be competitive, to survive during unfavourable conditions and grow (Robertson, 2003). The lack of capital and limited access to finance is a factor inhibiting entrepreneurship and influencing growth negatively, as it impendes the progress that comes from timeous application of resources (Nasser, M.E., du Preez, J. & Herrmann, K., 2003); (Pretorius, M. & Shaw, G., 2004); (Rwigema, H. & Venter, R., 2004); (Davila,A., Foster,G. & Gupta, M., 2003); (Ligthelm, A.A. & Cant, M.C. , 2002).

2. Regulation and Policies

Reviewing regulation at all levels of government is vital in Iran for public administrations, organizations, enterprises and citizens. By simplifying and, where possible, removing regulations Iran can become a more productive and better environment in which to live and do business. The European Commission is encouraging all Member States to follow its initiative to cut red tape. The Commission has developed and implements a range of policy measures specifically to assist SMEs in Europe. These policies are aimed at creating the conditions in which small firms can be created and can thrive.

3. Stage of industry

Stage of Industry affects SME success. If industry is at the growth stage good performance of the firms is far easier than for a mature industry.

4. GNP per capita

GNP per capita also affects SME success. It is especially very important for consumer products. GNP affects the development of SMEs and SME creates stability and growth per capita income vice versa.

5. Intensity of competition in industry

Enterprise density is defined as the number of firms in a given population at a given time and refers to the percentage of existing and possible entrepreneurs (Panco, R. Korn, H.J., 1999). For example, In South Africa the enterprise density is low at 2%, meaning there is room for expanding active enterprises, and this low density acts as a disincentive to firms to exit (Pretorius, M., van Vuuren, J.J.& Nieman, G.H., 2005).

6. Big company strategies toward SMEs

Sometimes, SMEs may have one or more big companies as their major customers. In some cases, the survival of the SME is tied to the continued existence of such big companies. In addition, big companies are usually able to use their size to influence the prices of the products or services supplied by the SMEs.

7. Availability of qualified personnel in industry

Access to labor markets is key factor of production crucial entrepreneurship (Shane, S. & Vankataraman, S., 2000) (Thornhill, S.& Amit, R, 2003), as it allows for appropriate expertise that enables ventures to explore identified opportunities (Nasser, M.E., du Preez, J. & Herrmann, K., 2003) (Markman, G. & Baron, R., 2003).

Next Cluster that we want to discuss here is the Firm internal environment. The personal environment (internal or firm-based factors) has an impact on entrepreneurship and business success (Guzman, J. & Santos, F.J. , 2001) (Fielden, SL., Davidson, M.J. & Makin, P.J., 2000). The personal environment include all firm-specific factors that are influenced by specific firm action, including the availability of resources, personal skills and abilities for pursuing entrepreneurial function and the effective use of resources inside the firm (Panco, R. Korn, H.J., 1999); (Nieman, 2006)). Deficiencies in the internal environment are the major cause of SMEs' failures, with over 65% of failure causes said to be firm-based (Dockel and Ligthelm, 2005) (Ligthelm, A.A. & Cant, M.C. , 2002).

The systems approach to the study of business organisations stresses the interaction between a firm's internal and external environments. Key aspects of the internal context of business include the organization's structure and functions and the way they are configured in pursuit of specified organizational objectives. If the enterprise is to remain successful, constant attention needs to be paid to balancing the different influences on the organization and to the requirement to adapt to new external circumstances. This responsibility lies essentially with the organization's management, which has the task of blending people, technologies, structures and environments (Ian Worthington and Chris Britton, 2006).

These factors include, Access to overall low cost factors of production, Availability of capital of the firm, Firm's access to credit, Flexibility to adapt new industry and market trends, Ability to define strategic direction for the firms, Facility [factory] location, Information and telecommunication tech. usage, Scale and scope of customer portfolio, Accessibility to (big) supply chain, Ability to enter international markets.

Next cluster is firm expertise that includes Product technology, Process technology, Leading edge facilities, Management, Marketing, Finance & accounting, Customer service, HR management.

The other cluster is owner related factors that encompass Networkability, Philosophy, Family partners approach, 2nd generation perception.

And the last one is institutional support cluster that contain, Financial, Consultancy, Education, International market entry (Birsen Karpak , Ilker Topcu, 2010).

METHODOLOGY

Background of methodology

The ANP is a generalization of the Analytic Hierarchy Process, popularly known as AHP. AHP is a theory of prioritization that derives relative scales of absolute numbers known as

'priorities' from judgments expressed numerically on an absolute fundamental scale (Saaty, Theory and Applications of the Analytic Network Process, 2005). The AHP/ANP framework has three basic features which are useful in multi-criteria decision-making problems: (1) modeling the system's complexity, (2) measuring on a ratio scale and (3) synthesizing. The local priorities in ANP are established in the same manner as they are in AHP using pairwise comparisons and judgments. However, the super matrix approach which became popularly known as the ANP approach is becoming an attractive tool to understand more of the complex decision problem as it overcomes the limitation of the AHP's linear hierarchy structure. (Saaty, Decision Making with Dependence and Feedback: The Analytic Network Process, first ed, 1996).

The super matrix was introduced to serve as a unifying framework for the study of priorities in hierarchy and in systems with feedback (Saaty, The Analytic Hierarchy Process, 1980). Consider a system that can be decomposed into m clusters C1,C2,...,Cm and let the elements in Ck having nk elements be denoted as ek1; ek2; . . . ; eknk . Then, a super matrix representation of this system can be viewed as a partitioned matrix that describes the interaction between the elements and clusters of a system. In this so-called super matrix, the block matrix contains a column of priority weights which represent the impact of all elements in the ith cluster on each of the elements in the jth cluster. Some of its entries may be zero corresponding to those elements which have no path of direct interaction (or influence) to other elements.

The directions of the arc (or arrow) and loop signify dependence such that the arc and loop pointing into a cluster indicate that its elements influence the elements in the cluster from which the arc is emanating. This structural model incorporates the following types of dependence in a multilevel hierarchy: (1) hierarchic functional dependence as described by the downward arc from the upper level to the lower level clusters, (2) feedback dependence as described by the upward arc from the lower level to the upper-level cluster, (3) inner-dependence or self-feedback as indicated by loop at each cluster, (4) interdependence among clusters in a level as indicated by the (horizontal) arc between clusters belonging to the same level and (5) feedback control loop as indicated by the arc pointing to the goal cluster. The feedback control loop can be viewed as a structural dependence indicating that all the elements defined in the decision structure are relevant and influenced by the goal element, making the systems strongly connected.

The input to the super matrix of a hierarchical network would depend on the presence and type of dependence among factors. The entries to the block matrices (Sij) in the initial super matrix are the estimated priorities that provide the relative strength of dominance of an element over another element in the cluster with respect to a common element from which the arc emanates. There are several algorithms to measure such priorities as described in Srdjevic (2005) (Srdjevic, 2005). The AHP eigenvector method is one of the popular methods used to quantify the relative dominance of the elements from pairwise comparison matrices. Saaty (1980) proposed the following eigenvalue formulation to obtain the desired ratio-scale priority vector (or weights) w of n elements:

$$Aw = \lambda_{max}w \qquad\qquad e^{T}w = 1$$

Overall (ratio-scale) priorities can be derived based on the synthesizing concept of the super matrix. In raising the super matrix into a large power, the transmission of influence along all possible paths defined in the decision structure is captured in the process. (Saaty, 2001). The convergence of the initial priorities to a steady state or equilibrium value in the so-called

limit super matrix provides a set of meaningful synthesized priorities from the underlying decision structure. Since the PRMEHN model defines a strongly connected digraph, its super matrix representation is a primitive irreducible matrix. Thus, the limit super matrix L exists when the initial super matrix is standardized by its principal eigenvalue as shown by the following equation:

$$\lim_{p \to \infty} \left(S / \lambda_{max} \right)^p = \lim_{p \to \infty} (\bar{S})^p = L$$

Every column of this limit matrix is a unique positive column eigenvector associated with the principal eigenvalue lmax (see Nikaido (1968) for the mathematical proof). This principal column eigenvector corresponds to the stable priorities from the limit super matrix and can be used to measure the overall relative dominance of one element over another in a hierarchical network structure (Michael Angelo, B. Promentilla, T. Furuichi, K. Ishii, and N. Tanikawa, 2007).

ANP Steps

As we explained before, Analytic Network process, is a decision making tool used in complex problems. It involves all kinds of Relationship, dependency and feedback in the model and draws a systematical figure of the decision making problem. ANP is the more general form of Analytic Hierarchy Process, which generates feasible solutions to hierarchical kind of decision problems.

In this research, using pairwise comparisons, all kinds of subcomponents are being evaluated through ANP. There is a 1-9 scale which is also developed by Thomas Saaty and the pairwise comparisons are measured through this scale (Saaty, Theory and Applications of the Analytic Network Process, 2005).

Our method is consists of five main steps:

1. Performing pairwise comparisons on the elements of the model.

2. Generating weighted super matrix by putting the relative importance weights (eigenvectors), calculated from pairwise comparison matrices, within the super matrix.

3. Performing pairwise comparisons on the clusters.

4. Generating the weighted super matrix by weighting the blocks of the weighted super matrix, by the corresponding priorities of the clusters so that it can be column stochastic.

5. Generating the super matrix by raising the weighted super matrix to the power 2k+1, where k denotes an arbitrary large number, until the weights converge and stays constant (Saaty, Theory and Applications of the Analytic Network Process, 2005).

Figure A: Influence matrix

APPLICATION OF ANP INTO SMES

In model construction stage all elements affecting the SMEs success –Measures of success and factors affecting success-, where determined from the Study worked by karpak et al, 2010 and tested in Iran. We do not have alternatives in our frame work, measures of success are proxy for alternatives.

ANP MODEL
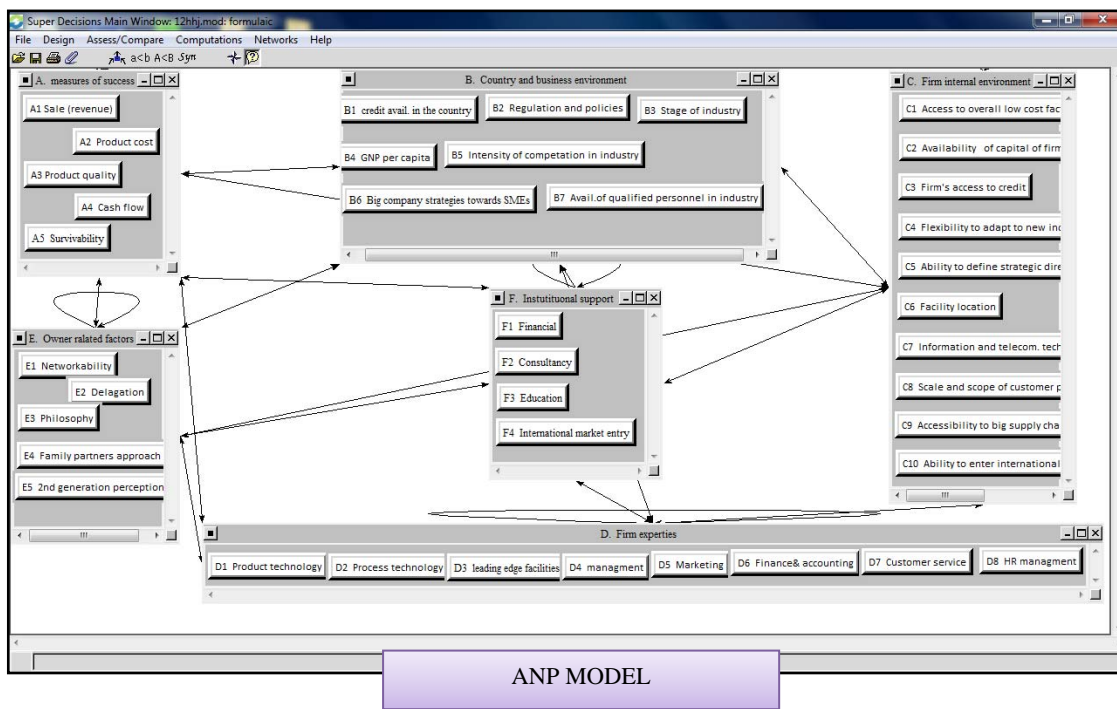
In order to represent the link among elements explicitly, an influence matrix can be constructed (Birsen,Karpak., Ilker Topcu, 2010). Each element of the system is represented at one row and on respective column of the influence matrix. If the row element affects the column element the corresponding entry of the matrix is checked, otherwise the entry is empty, i.e. No relation. If at least two row elements of any cluster affect a column element, question for pairwise comparison of row elements with respect to that column element are asked. If there is only one row element affecting a column element (i.e. column B4 is only affected by row A1), there is no need to – and.

No change to- ask a pairwise comparison question. In the unweighted super matrix, the corresponding entry (Row A1- Column B4) would have a priority value of 1.

The influence matrix is given in figure A. there is inner dependence in every cluster. For example in measures of success cluster since quality affects sales and cost; and cost affects sales there is an inner dependence among measures of success. In ANP as we talked before model inner dependence is depicted with a loop in a cluster. There is outer dependence in every cluster too. For example credit availability in the country affects firm access to credit. This illustrates outer dependence between country and business environment cluster and firm internal environment cluster. There is feedback between firm internal environment and firm expertise cluster since one of the component of the Firm Internal Environment cluster, availability capital of the firm antecedent, affects leading edge facilities element of Firm Expertise cluster, and leading edge facilities factor affects accessibility to big supply chain. In ANP model feedback is depicted with an arrow in both directions between the clusters.

A questionnaire of about 26 pages and 253 questions in 31 parts was developed to assess degree of influence of two factors with respect to a controlling factor.

All the experts were academicians whose main research areas are SMEs and teaching this course in their universities and they all involved in Iran's business situation especially in Small business situation.

The inconsistencies among the experts' answers in most parts were beyond 0.1 even though there were up to 10 factors in firms' internal environment. However Saaty suggest that each clusters could contain less that 9 factors because the human mind can't analyze more than that. for the first time During filling the questionnaire one of the authors was presence to answer the question of the experts. We asked all the experts to give suggestion about the questionnaire and the influential factors, that if it needs any addition or omission. It took more than 1 month to complete.

INDIVIDUAL AND AGGREGATED RESULTS

After gathering the questionnaires from the experts and set down in the software (SuperDecisions) the results emerged. We lay down the answer from each expert's judgment individually and did the prioritizing for each one separately and an Aggregate judgment was derived from the geometric mean of individual judgments. Then we used Microsoft Excel to sort them from largest to smallest (see table A for a portion of the first five factors according to each expert individually and combined values). According to the limit matrix priorities (See Table B: A portion of the limit matrix) , regulation and policies (11.68%) turned out to be the most influential factor affecting SMEs' success (the same as Birsen et al, 2010) followed by facility location (9.63%), the stage of industry (6.26%), availability of the qualified person in industry (5.80%), and intensity of competition (5.48%). As it clearly shows, four of the first five factors are in the country and business environment cluster. It shows the importance of this cluster and demands more attention on the side of government, and the other factor is in the cluster of the firm internal environment. Sales and quality of the product were the

most important measure of success. Among owner related factors the first factor was personal philosophy and approach of doing business (philosophy of the entrepreneur) and the second one was ability to have access to resources and capabilities through personal and professional networking. In institutional support cluster, first factor was consultancy and the second one was education, and in the last cluster the most important factor was management and the next one was Process technology.

Our results in this research are nearly the same as the study had been done in Turkey by Birsen et al, 2010. Regulation and policies is the first important factor. The more important reason that we can refer to might be the bureaucracies in both countries. And according to Heritage the overall freedom to start, operate, and close a business remains limited by Iran's regulatory environment (Kim R. Holmes, 2010) and it declares that the Turkey's regulatory environment has improved somewhat in recent years, but it seems that Turkey still have difficulties with bureaucracies. On the other hand, we can recommend the government to ease the conditions of starting a new business. And start making policies that improve the procedures of starting new business. The other thing that we got from this research was that the most important factor for SMEs' success is the external environment. As Viviers et al, pointed out that these macro enviremental factors are not controllable and the success of the SME often depends on management's ability to deal with them, we want to declare that if Iran wants to have his economy's growth, the government should make stable environment for business and we can specially point out in regulation and policies making for the SMEs that is under the control of the government in Iran.

Table A

First five factors	Expert 1	Expert 2	Expert 3	Expert 4	Aggregated
1.Regulation and policies	11.87%	10.88%	12.75%	11.30%	11.68%
2.Facility location	9.59%	9.22%	10.38%	9.36%	9.63%
3.Stage of industry	6.47%	7.27%	6.25%	5.95%	6.26%
4.Availability of the qualified personnel	5.49%	6.10%	6.23%	5.42%	5.80%
5.Intensity of competition	4.13%	5.64%	6.63%	5.83%	5.48%

CONCLUSION AND FUTURE STUDIES

The entrepreneur's personality, his/her managerial skill, and technical know-how are often cited as the most influential factor to the performance of an SME (Man, T.W.Y.,Lau,T.,Chan,K.F., 2002). However, our study and the study in Turkey show that regulations and policies are the most influential factor in SMEs success. And as we assumed before the interdependencies among the factors when be evaluated concurrently might show that the factors that are less important individually might turn out to be more important (Birsen Karpak , Ilker Topcu, 2010).

Through our knowledge, this is the first study prioritizing success factors for small medium manufacturing enterprises in Iran. All we said in this study were about the importance of factors that influence SMEs' success. Then the concentrations on this study could be very important for entrepreneurs, managers and strategist to better understand these factors and direct their efforts toward implementing them. Because our method was reliable and clear enough it could help the growth of the SMEs and slowly and constantly helps our country to go forward. Prioritizing these elements could be considered as guidance for us to set our programs and preferences through definite assumptions.

Furthermore, this research could be the pass for the future study and helps the researchers to use ANP in their studies. ANP is a powerful methodology but you need to identify experts from whom the judgments are to be extracted. ANP is not very complex as a methodology; eliciting judgments from experts, however, could be quite time consuming. We have been very careful in designing the framework for obtaining expert judgment. Karpak et al, (2010) assumed that degree of influence of two factors with respect to controlling factor may differ from country to country, but we have shown that these elements in Iran and Turkey are nearly the same. We assume that this model with this influence matrix could get the same results for different cultures and different countries.

Table B: A portion of the limit matrix

		A. measures of success					B. Country and business environment			
		A_1	A_2	A_3	A_4	A_5	B_1	B_2	B_3	B_4
A. measures of success	A1 Sale (revenue)	0.087032	0.087032	0.087032	0.087032	0.087032	0.087032	0.087032	0.087032	0.087032
	A2 Product cost	0.008944	0.008944	0.008944	0.008944	0.008944	0.008944	0.008944	0.008944	0.008944
	A3 Product quality	0.017122	0.017122	0.017122	0.017122	0.017122	0.017122	0.017122	0.017122	0.017122
	A4 Cash flow	0.002255	0.002255	0.002255	0.002255	0.002255	0.002255	0.002255	0.002255	0.002255
	A5 Survivability	0.003865	0.003865	0.003865	0.003865	0.003865	0.003865	0.003865	0.003865	0.003865
B. Country and business environment	B1 credit avails. in	0.023421	0.023421	0.023421	0.023421	0.023421	0.023421	0.023421	0.023421	0.023421
	B2 Regulation and	0.119836	0.119836	0.119836	0.119836	0.119836	0.119836	0.119836	0.119836	0.119836
	B3 Stage of industry	0.056733	0.056733	0.056733	0.056733	0.056733	0.056733	0.056733	0.056733	0.056733
	B4 GNP per capita	0.057622	0.057622	0.057622	0.057622	0.057622	0.057622	0.057622	0.057622	0.057622
	B5 Intensity of	0.082889	0.082889	0.082889	0.082889	0.082889	0.082889	0.082889	0.082889	0.082889
	B6 Big company	0.011825	0.011825	0.011825	0.011825	0.011825	0.011825	0.011825	0.011825	0.011825
	B7 Avail. Of qualified	0.048828	0.048828	0.048828	0.048828	0.048828	0.048828	0.048828	0.048828	0.048828
C. Firm internal environment	C1 Access to overall low cost factors of	0.014970	0.014970	0.014970	0.014970	0.014970	0.014970	0.014970	0.014970	0.014970
	C2 Availability of	0.009847	0.009847	0.009847	0.009847	0.009847	0.009847	0.009847	0.009847	0.009847
	C3 Firm's access to credit	0.005823	0.005823	0.005823	0.005823	0.005823	0.005823	0.005823	0.005823	0.005823
	C4 Flexibility to	0.002502	0.002502	0.002502	0.002502	0.002502	0.002502	0.002502	0.002502	0.002502
	C5 Ability to define	0.030719	0.030719	0.030719	0.030719	0.030719	0.030719	0.030719	0.030719	0.030719
	C6 Facility location	0.099393	0.099393	0.099393	0.099393	0.099393	0.099393	0.099393	0.099393	0.099393
	C7 Information and	0.004893	0.004893	0.004893	0.004893	0.004893	0.004893	0.004893	0.004893	0.004893
	C8 Scale and scope of	0.016148	0.016148	0.016148	0.016148	0.016148	0.016148	0.016148	0.016148	0.016148
	C9 Accessibility to	0.008952	0.008952	0.008952	0.008952	0.008952	0.008952	0.008952	0.008952	0.008952
	C10 Ability to enter	0.011986	0.011986	0.011986	0.011986	0.011986	0.011986	0.011986	0.011986	0.011986
D. Firm expertise	D1 Product technology	0.015980	0.015980	0.015980	0.015980	0.015980	0.015980	0.015980	0.015980	0.015980
	D2 Process technology	0.017851	0.017851	0.017851	0.017851	0.017851	0.017851	0.017851	0.017851	0.017851
	D3 leading edge	0.005637	0.005637	0.005637	0.005637	0.005637	0.005637	0.005637	0.005637	0.005637
	D4 management	0.022873	0.022873	0.022873	0.022873	0.022873	0.022873	0.022873	0.022873	0.022873
	D5 Marketing	0.006221	0.006221	0.006221	0.006221	0.006221	0.006221	0.006221	0.006221	0.006221
	D6 Finance& accounting	0.012684	0.012684	0.012684	0.012684	0.012684	0.012684	0.012684	0.012684	0.012684
	D7 Customer service	0.003016	0.003016	0.003016	0.003016	0.003016	0.003016	0.003016	0.003016	0.003016
	D8 HR managment	0.000107	0.000107	0.000107	0.000107	0.000107	0.000107	0.000107	0.000107	0.000107
E. Owner ralated factors	E1 Networkability	0.016870	0.016870	0.016870	0.016870	0.016870	0.016870	0.016870	0.016870	0.016870
	E2 Delagation	0.008040	0.008040	0.008040	0.008040	0.008040	0.008040	0.008040	0.008040	0.008040
	E3 Philosophy	0.034543	0.034543	0.034543	0.034543	0.034543	0.034543	0.034543	0.034543	0.034543
	E4 Family partners	0.014396	0.014396	0.014396	0.014396	0.014396	0.014396	0.014396	0.014396	0.014396
	E5 2nd generation	0.014592	0.014592	0.014592	0.014592	0.014592	0.014592	0.014592	0.014592	0.014592
F. Instituituonal support	F1 Financial	0.034781	0.034781	0.034781	0.034781	0.034781	0.034781	0.034781	0.034781	0.034781
	F2 Consultancy	0.034479	0.034479	0.034479	0.034479	0.034479	0.034479	0.034479	0.034479	0.034479
	F3 Education	0.019262	0.019262	0.019262	0.019262	0.019262	0.019262	0.019262	0.019262	0.019262
	F4 International market entry	0.013063	0.013063	0.013063	0.013063	0.013063	0.013063	0.013063	0.013063	0.013063

Appendix A

See Table C.

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Table C: Results according to each expert individually and combined values

No.	Expert 1		Expert 2		Expert3		Expert 4		Geomean	
	Criteria	Limiting	Criteria	Limiting	Criteria	Limiting	Criteria	Limiting	Criteria	Limiting
1	B2	0.118619	B2	0.108792	B2	0.127471	B2	0.112971	B2	0.116757
2	C6	0.095869	C6	0.092177	C6	0.103775	C6	0.09361	C6	0.096256
3	A1	0.082455	A1	0.072707	A1	0.067376	A1	0.06466	A1	0.071488
4	B3	0.064621	B3	0.06374	B5	0.066349	B3	0.059454	B3	0.062558
5	B4	0.06305	B7	0.061032	B3	0.062542	B5	0.05826	B7	0.057974
6	B7	0.054818	B5	0.056368	B7	0.062275	B7	0.054216	B5	0.054772
7	E3	0.046107	B4	0.052415	E3	0.050535	B4	0.043948	B4	0.049048
8	B5	0.041303	E3	0.047415	C8	0.040369	E3	0.041121	E3	0.046167
9	F2	0.039537	F2	0.039566	F2	0.040205	F2	0.041079	F2	0.040092
10	C8	0.038147	C8	0.039107	B4	0.039848	C5	0.037878	C8	0.038574
11	C5	0.033922	C5	0.033899	C5	0.033307	C8	0.036764	C5	0.034705
12	F1	0.027806	F1	0.030429	F1	0.027561	F1	0.028842	F1	0.028638
13	E1	0.02485	B1	0.026023	D4	0.025438	E4	0.027147	D4	0.024968
14	D4	0.023311	D4	0.025015	E1	0.024954	E1	0.02673	E1	0.02379
15	F3	0.021292	E5	0.024326	F3	0.022174	D4	0.026198	F3	0.020671
16	B1	0.018955	A3	0.019573	D2	0.020214	B6	0.020881	B1	0.01998
17	E4	0.018799	E1	0.019326	B1	0.016707	F3	0.02046	E4	0.017609
18	E5	0.017894	F3	0.018901	A3	0.016423	A3	0.019608	A3	0.017585
19	A3	0.01517	D1	0.018301	E4	0.015422	B1	0.019339	E5	0.017221
20	D2	0.013401	C1	0.016189	C10	0.015381	D2	0.018958	D2	0.015917
21	C10	0.012759	C10	0.015932	D1	0.012509	E5	0.016446	C10	0.013745
22	C2	0.012388	D2	0.0125	E5	0.012285	C1	0.014638	C1	0.012895
23	D1	0.01225	E4	0.012217	C1	0.010448	C9	0.013317	D1	0.012408
24	C1	0.011167	F4	0.009911	D8	0.010111	C10	0.011417	C2	0.009908
25	D8	0.009242	C9	0.00971	C9	0.009054	D5	0.011071	C9	0.009391
26	F4	0.008964	C2	0.00966	C2	0.008615	C2	0.009346	D8	0.009262
27	A2	0.008924	D8	0.009524	C3	0.008423	F4	0.009162	F4	0.008909
28	E2	0.008658	B6	0.008551	C4	0.008249	D1	0.008452	B6	0.008479
29	C4	0.007348	E2	0.007323	E2	0.007865	D8	0.008267	E2	0.007798
30	C3	0.007047	D5	0.006322	F4	0.007741	E2	0.007414	D5	0.007192
31	D3	0.006713	C3	0.005818	D5	0.007538	C3	0.006987	C3	0.007009
32	C9	0.006644	A2	0.005509	B6	0.004725	D3	0.006839	A2	0.004658
33	B6	0.006125	D3	0.004159	D6	0.003018	C7	0.006401	C4	0.004508
34	D5	0.005072	C7	0.003756	A2	0.002802	A4	0.004694	D3	0.004174
35	C7	0.004744	C4	0.003303	A4	0.002733	D6	0.00463	C7	0.003873
36	D6	0.003702	A5	0.003153	C7	0.001973	A2	0.003418	D6	0.003534
37	D7	0.003229	D6	0.003014	D3	0.001589	A5	0.002229	A4	0.002777
38	A4	0.002689	D7	0.002613	D7	0.001469	C4	0.002062	D7	0.001915
39	A5	0.002409	A4	0.001724	A5	0.000526	D7	0.001086	A5	0.001727

THE AFFECT OF CONSUMER'S ECO AWARENESS ON THE USE, THE BUYING AND THE PREFERENCE OF ECO LABELED FOOD PRODUCTS

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Abstract

The scope of our study was to define how the consumer's awareness about the eco label on food products in Slovenia defines the use, the frequency of buying and the preference of eco labeled food products in stores. To define the consumer's awareness about the eco label we used the following predictors: care for personal health, quality perception, eco awareness, knowing what the eco label stands for and the trust in the eco label. The study was based on theoretical definitions of the concepts of eco labeling and consumer behavior. The research part of was done through a survey that gave us the data required to determine the extent of the dependence, which is done by the use of correlations and regression analysis. We have found positive correlations and statistically significant results.

Key Words: eco labeling, consumer behavior, bio, eco awareness, marketing

INTRODUCTION

Environmental concern is gaining political and economic importance worldwide. Issues such as global warming, pollution or resource depletion caused mainly by economic activity, which is of interest to only relatively minor groups, rank quite high among the concerns of the public at large, featuring with prominence in mainstream media and the political agenda. Indeed, a considerable number of environmental policies aimed to reduce the damaging effects of socio-economic activities on our natural ecosystems that have emerged in the last two decades (Bleda & Valente, 2009).

Sustainable development is becoming one of the biggest concerns in most of the developed countries. In light of increasing pressures to adopt a more sustainable approach to product design and manufacture, the requirement to develop sustainable products is one of the key challenges facing industry in the 21st century. Sustainable product development initiatives, mainly through eco-design or eco-labels, have been evolving to support companies in developing more sustainable products (Maxwell & van der Vorst, 2003). Eco labels have emerged as one of the main tools of green marketing. But although a great deal of effort has been invested in making them more effective and efficient, the market share of eco labeled products is still quite low, partly because they have been addressed mainly to 'green' consumers (Rex & Baumann, 2007). But nevertheless, consumers' ecological consciousness is growing.

The aim of the study is to present, explore and outline the relationship between consumer's awareness about the eco label on food products and the use, the frequency of buying and the preference of eco labeled food products in stores.

The paper is organized in four parts. The introduction is followed by the theoretical background of explanation of eco-label, consumer behavior and relationship between both. After that comes the description of the methodology used for the contribution followed by the discussion referring to the results of our study and the conclusion. The last part is the list of references we used.

THEORETICAL BACKGROUND

Eco label

Environmental concern is growing also among consumers and their purchase behavior; therefore the environmental characteristics of products have become more and more important. Companies have responded to this by introducing eco-designs and eco-labeling programs to highlight the environmental attributes of the item. Governments and nongovernmental organizations have responded by organizing, implementing, and verifying eco-labeling programs. Recently, interest in eco labels has been extensive. Many studies examined correlations between attitudes (in a general sense) and the environmentally-friendly behavior of choosing eco-labeled, or organic, products. Academically, much effort has been invested in their design and use.

The environmental attributes of products can be either private or public and the proportion of each type varies across products. Private environmental attributes may be lower energy consumption, less pesticide residues or longer durability. Public environmental attributes may be lower emissions of greenhouse gases or chemicals harming the ozone layer (Grolleau et al., 2009).

During the last two decades the environmental performance of products has gained increased political attention and has resulted in restrictions of certain substances, mandated deposit refund systems, advance disposal fees, environmental surcharges, voluntary agreements and, in particular, the introduction of informative instruments (Leire & Thidell, 2005). Most developed countries and several transitional economies have introduced eco-labeling schemes in their policy arsenal (Grolleau et al., 2009). From a policy perspective, one aim of eco-labels is to educate consumers about the environmental impacts of the product's manufacture, use, and disposal, thereby leading to a change in purchasing behavior and ultimately, to a reduction in negative impacts. Further, eco-labeling policies may promote environmental objectives without production site command and control methods and are seen as a way of meeting global environmental objectives while complying with international trade agreements (Teisl et al., 2002).

In addition to governmental schemes, private initiatives have proliferated worldwide to distinguish products on the basis of their environmental qualities (Grolleau et al., 2009). Eco-labeling schemes, since their introduction in policy making in the late 70s have gained more and more relevance becoming one of the more high-profile market-based tools for the achievement of environmental objectives. Eco-labeling schemes are particular cases of product information policy instruments. They are seals of environmental approval – awarded by public or private organizations which provide information to consumers (Bleda & Valente, 2009).

The eco-labels are an instrument used by firms and governments in order to raise awareness of the higher ecological quality of a given product with respect to unlabeled goods. Since the environmental consequences of the production and the consumption of a product are generally unobservable, the eco-label is the only way for consumers to collect such information (Brécard et al., 2009). Eco-labels signal that the product, with regard to environmental consequences, is superior to a non-labeled product (Grankvist & Biel, 2007). Further, eco-labels are intended as a means for consumers to make choices that will reduce environmental impact and enable them to influence how products are made (Rex & Baumann, 2007). Getting eco-label requires analyzing a product according to rules expressed in natural language which may be difficult to interpret but also to apply when the product is complex (Houe & Grabot, 2009).

There are various forms of eco-labels, including both mandatory and voluntary labels (Rex & Baumann, 2007). Houe and Grabot (2009) notice that eco-labels may have a double focus: first on ranges of products and second on a given geographic area (country, group of countries, continent). The use of eco-labels to tackle environmental issues is mainly based on two assumptions. Firstly, it is assumed that a given good may be produced in varied ways and that these ways differ among them in terms of their environmental impact. Secondly, it is necessary to assume that cleaner production methods are more expensive, or require a reduction in attributes of the product that are appreciated by consumers in a more immediate way (Bleda & Valente, 2009).

The license to use the eco label is quite often limited to a relatively short period of time. What is most important, however, is the fact that the criteria for eco labeling rights are revised, i.e. tightened, on average every 3 or 4 years. This feature of eco labeling systems implies that any firm, wishing to provide high enough environmental quality to secure an eco label, is forced to make investments to improve quality (and to reduce the costs of quality production) (Amacher et al., 2004).

Generalizing from eco-labels in the food industry can lead to erroneous conclusions, since consumers sometimes make confusion between eco-labels and bio products, considered as

healthier than common ones. Regarding to eco-labels it is often mention also the eco-design concept, also known as Design For Environment—DFE (ISO 14062), which aims at providing methods allowing the minimization of the environmental impact of a product during its lifecycle (Houe & Grabot, 2009).

Researchers into eco labeling have focused on making environmental labels more effective as communication instruments to advance green products and efficient as a means of giving information to be taken into account in the purchasing situation. Today's eco labels are primarily positive: the label signals that the product is to be preferred to a non-labeled product (Rex & Baumann, 2007, Grankvist & Biel, 2007). Sammer and Wüstenhagen (2005) argue that is eco-labeling an important tool to overcome market failure due to information asymmetries for environmental products. The trustworthiness or reliability of an eco-label means that the standards of an eco-label are clear, that producers comply with these standards during the production process and that there is an ecological impact on the environment (van Amstel et al., 2008).

Although a great deal of effort has been put into making eco-labeling schemes more effective and efficient, actual sales of eco-labeled products have remained at moderate levels (Rex & Baumann, 2007). For eco-labeling initiatives to meet with success not only must consumers hold preferences for environmentally preferred products, they also must be able to comprehend the information being presented and be willing to pay a premium for these products. Thus, the success of labeling programs may be contingent upon the characteristics of the consumer as individuals with varying personal characteristics, such as environmental perceptions and social norms, face eco-labeled products in the market (Noblet et al., 2006).

Consumer behavior

Consumers make numerous product decisions every day. Consumers usually gather information before purchasing products. They may search for a favorable price among different stores or brands, examine product quality, try out new products or brands, or investigate payment conditions (Oliveira-Castro, 2003). This decision-making process depends on the information processing style employed (Zinkhana & Braunsberger, 2004). A consumer often bases his or her decision on the basis of the perceived values of the product (Bleda & Valente, 2009).

Consumer behavior analysis combines theories and findings from marketing science, consumer research, and behavior analysis/behavioral economics (Foxall, 2003). The neoclassical theory of consumer behavior makes strong assumptions about the informational and computational bases of consumer behavior. The core assumption is that consumer behavior is reasonably characterized as the maximization of expected lifetime utility subject to a budget constraint and conditional on the available information (Graham & Isaac, 2002). Further, psychologists and economics also ascribe rationality to the consumer. Both generally assume that the consumer knows what he or she wants, and is capable of obtaining, processing and using the information required to make sensible choices in light of his or her objectives. Choice itself has been viewed as a cognitive activity (Foxall, 2003). The common microeconomic analysis of consumer choices rests on a utility function that translates consumer preferences among different baskets of goods. The utility level of a consumer then depends on the level of each good's characteristic (Brécard et al., 2009). On the other hand, Oliveira-Castro (2003) argues that consumer behavior is not always optimal as described by traditional economic theory.

Baumgartner and Steenkamp (1996) argue that consumers derive mostly sensory stimulation from the examining acquisition of products, whereas examining information

seeking satisfies their cognitive stimulation needs. Their framework for conceptualizing examining consumer buying behavior suggests that seemingly dissimilar behaviors such as risk taking, innovativeness, and variety seeking in product purchase and curiosity-motivated search for information share a common characteristic in that they offer the potential for stimulating experiences and are motivated, at least in part, by a desire to adjust actual stimulation to the most preferred level.

Fischer and Hanley (2007) distinguish between extensive and limited consumer decision Extensive decisions are characterized by relatively strong emotional involvement and a strong demand for additional information. Consumers decide extensively when the choice of an appropriate product appears important to them and when they have no experience of purchasing such an item. In such cases, they invest time and money making a sound decision based on their newly acquired knowledge and their subjective valuation. Limited decisions, on the other hand, require less new information, because the consumer has typically gained some prior experience concerning the purchase of this good and is able to decide on the basis of existing data.

Labeling has an important influence on consumer behavior. It decreases the search cost for the information and may signal the importance of the environmental or other information. Hence, labeling may affect behavior by influencing the number of attributes that a consumer considers during a choice occasion. Furthermore, labeling may affect the implicit weights that consumers assign to each attribute (Teisl et al., 2002). Brands and labels fulfill two main functions for consumers: they inform them about intangible product characteristics (information function, e.g. quality) and provide a value in themselves (value function, e.g. prestige) (Sammer & Wüstenhagen, 2005). Consumers, for example do not have time or competence for directly accessing to what extend a product is respectful of the environment (Houe & Grabot, 2009). Therefore, simple information carriers, such as eco-labels, seem to be desired by most consumers and are sufficient for decision-making (Leire &Thidell, 2005).

Eco label and consumer behavior

Characteristic of the green consumers is the area that attracted a great deal of interest early on. Surveys aimed either at identifying the typical demographic qualities, such as gender or age, or psychographic characteristics such as political orientation and environmental concerns to identify the green consumer. Also, environmental labels the area that gains a lot of attention, particularly among psychologists who are curious about the psychological determinants for the choice or non-choice of eco labeled products (Rex & Baumann, 2007). Several sociological studies on the changes of behaviors towards environmentally friendlier ways have demonstrated that individuals are not just taking in new information or environmentally oriented advice as such, and then behaving accordingly (Bartiaux, 2008).

Many researchers have studied consumers' eco-awareness and their behavior in case of purchasing eco-labeled products. Ecological consciousness is on one hand explained by a certain degree of altruism and on the other hand, results in willingness-to-pay more for a green product than for a standard one, and both economic and informational constraints (Brécard et al., 2009). Consumers pay significant price premiums for organic foods, for "green electricity", for shade-grown and fair-trade coffee, and for various environmental attributes such as sustainable, recycled, non-toxic, biodegradable, and cruelty-free. One reason why consumers buy environmentally-friendly versions of products instead of cheaper, but otherwise equivalent versions is that consuming products that contain environmental attributes is gratifying. Consumers prefer environmental attributes in their products much like they prefer any other desirable product quality attribute in market goods (Hamilton & Zilberman, 2006).

Houe and Grabot (2009) argue that individual's awareness about importance of environmental protection has now reached the point where more expensive but environment-friendly products can be preferred to cheaper "common" products. Consumer preference to purchase from "green" firms is well established and often revealed through increased willingness to pay for products viewed as "clean," i.e., produced with environmentally friendly production or abatement technologies such as recycling and use of less polluting inputs (Amacher et al., 2004). Cornelissen et al. (2008) argue that positive cueing successfully increased the level of the participants' environmental behavior. Participants in the high frequency condition indicated a larger preference for a more expensive, but environmentally friendly, variant of a common product in the simulated shop environment, and more often chose the less attractive but recycled notepad that they were offered.

A number of reports conclude that consumers tend to overemphasize their purchases of eco-labeled products, which implies a limited consumer behavior change. Positive information guides consumers by pointing out the environmentally preferable products among otherwise equal ones, while neutral information gives the consumer an opportunity to judge the products' environmental performance according to their individual priorities. The assumption is that product-related environmental information, in combination with preconditions such as environmental awareness, knowledge and attitudes, will lead consumers to make informed choices when purchasing products (Leire & Thidell, 2005).

Results of Grankvist' and Biel's (2007) study indicates consumers' general tendency towards a more frequent choice of eco-labeled food products. They point out the idea that a positive general attitude towards environmentally-friendly behavior might be necessary, but no sufficient to change behavior. Leire and Thidell (2005) believe that it is valuable to examine the role of guidance from sales personnel in order to stimulate the use of the eco-labels and to influence actual consumer behavior.

In order for eco-labels to achieve policy objectives, consumers must hold preferences for certain environmental amenities and respond to the information presented on eco-labels by altering purchases toward eco-labeled goods. Their widespread use suggests that eco-labeling is perceived as an effective method of altering consumer behavior. However, few studies have attempted to identify the behavioral effectiveness of eco-labeling programs (Teisl et al., 2002). In addition to changes in consumer behavior the presence of eco-labeling may alter manufacturer behavior. That is, if a significant portion of the consumer population demands environmentally friendly products, the presence of an eco-labeling program may provide firms an incentive to differentiate and market their products along an environmental characteristic(s). An increase in supply of these environmentally friendly products may increase consumer purchases simply through greater availability without changes in individual awareness (Teisl et al., 2002).

METHODOLOGY

Hypotheses

Below we will explore the influence of consumer's awareness about the eco label on food products in Slovenia with respect to the use, the frequency of buying and the preference of eco labeled food products in stores. To define the consumer's awareness about the eco label we used the following predictors: care for personal health, quality perception, eco awareness, knowing what the eco label stands for and the trust in the eco label. That brings us to our three hypotheses.

The eco-labels are an instrument used in order to increase awareness of the higher ecological quality of a product compared to unlabeled goods. The eco-label is the only way for consumers to collect such information (Brécard et al., 2009). The use of eco-labels to is mainly based on the assumption that a given good may be produced in varied ways and that these ways differ among them in terms of their environmental impact, and secondly, on assumption that cleaner production methods are more expensive, or require a reduction in attributes of the product that are appreciated by consumers (Bleda & Valente, 2009). Eco-labels are intended as means for consumers to make choices that will reduce environmental impact and enable them to influence how products are made (Rex & Baumann, 2007).

H1: The use of eco labeled food products in stores is positively affected by the perceptions of consumer's awareness about the eco label on food products.

Eco label information guides consumers by pointing out the environmentally preferable products among otherwise equal ones, while neutral information gives the consumer an opportunity to judge the products' environmental performance according to their individual priorities (Leire & Thidell, 2005). Consumer preference to purchase from "green" firms is well established and often revealed through increased willingness to pay for products viewed as "clean," i.e., produced with environmentally friendly production or abatement technologies such as recycling and use of less polluting inputs (Amacher et al., 2004).

H2: The frequency of buying of eco labeled food products in stores is positively affected by the perceptions of consumer's awareness about the eco label on food products.

The individual's awareness about importance of environmental protection has now reached the point where more expensive but environment-friendly products can be preferred to cheaper "common" products (Houe & Grabot, 2009) argue that. Consumers prefer environmental attributes in their products much like they prefer any other desirable product quality attribute in market goods (Hamilton & Zilberman, 2006).

H3: The preference of eco labeled food products in stores is positively affected by the perceptions of consumer's awareness about the eco label on food products.

Instrument and Variables

Participants in this study were selected randomly and participation was voluntary. The questionnaire was pre-prepared and given to interviewers whose' assignment was to randomly select respondents and bring back the filled out questionnaires. The study was conducted in April 2010. A total of 631 complete responses were obtained.

The questionnaire was of a closed type and contained 2 questions (A and B) referring to the data on the respondents and 8 questions (C to J) referring to the respondent's awareness about the eco label on food products in Slovenia, the use, the frequency of buying and the preference of eco labeled food products in stores. Respondent's perceptions were measured on a scale ranging from 1 to 5 where: 1 – always false; 2 – mostly false; 3 – nor true, nor false; 4 – mostly true; 5 – always true.

1. General data
   A. Age (individuals were asked about their age)
   B. Gender (individuals were asked about their gender)
2. Eco labeled food products
   C. The use of eco labeled food products
   D. The frequency of buying of eco labeled food products in stores
   E. The preference of eco labeled food products in stores
3. Consumer's awareness about the eco label
   F. Care for personal health
   G. Quality perception
   H. Eco awareness
   I. Knowing what the eco label stands for
   J. The trust in the eco label

Sample

The sample consisted of 287 men and 344 women (n=631). The age range of the respondents was between 15 and 82 years. The average age of the respondents was 29.54 years.

For questions C to J we calculated the Cronbach's alpha coefficient. The value calculated is 0.808, which indicates great reliability of measurement. With regard to the composition and characteristics of the sample, we believe that it is representative.

Results

We begin by constructing the frequency tables for the variables that we have used in our research.

Table 1: Frequency tables for the variables

	n=631		Mean	Median	Std. Dev.	Min	Max
	Valid	Missing					
Eco labeled food products							
C	631	0	3.82	4	0.820	1	5
D	631	0	3.97	4	0.816	1	5
E	631	0	3.55	4	0.926	1	5
Consumer's awareness about the eco label							
F	631	0	4.11	4	0.862	1	5
G	631	0	3.23	3	1.021	1	5
H	631	0	2.95	3	0.992	1	5
I	631	0	2.69	3	1.073	1	5
J	631	0	3.57	4	1.133	1	5

Table 2: Pearson r Correlation Coefficients (n=631)

	C	D	E	F	G	H	I
D	,562**						
E	,426**	,473**					
F	,220**	,315**	,449**				
G	,252**	,210**	,330**	,361**			
H	,266**	,272**	,417**	,329**	,448**		
I	,301**	,287**	,415**	,276**	,495**	,764**	
J	,294**	,270**	,384**	,343**	,289**	,395**	,418**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

We can see in Table 2 that there are positive correlations between all of the variables and they are also all statistically significant at the 0.01 level (2-tailed). All the variables were measured on an increasing scale.

Table 3: Regression Analysis for the Dependent Variable "The use of eco labeled food products" and independent variables representing "Consumer's awareness about the eco label" (n=631)

$R=0.541$; $R^2=0.292$; $\Delta R^2=0.287$

Predicators	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.244	.215		1.133	.257
Care for personal health	.051	.051	.042	1.005	.315
Quality perception	.053	.053	.044	1.014	.311
Eco awareness	.251	.045	.234	5.530	.000
Knowing what the eco label stands for	.099	.045	.086	2.185	.029
The trust in the eco label	.311	.036	.320	8.607	.000

Dependent Variable: The use of eco labeled food products.

With the predictors that we have used to describe "Consumer's awareness about the eco label" 28.7% variance of the variable "The use of eco labeled food products" is explained. "The trust in the eco label" ($\beta=0.320$) has the most influence.

Table 4: Regression Analysis for the Dependent Variable "The frequency of buying of eco labeled food products in stores" and independent variables representing "Consumer's awareness about the eco label" (n=631)

R=0.571; R²=0.326; Δ R²=0.321

Predicators	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.227	.227		-1.000	.318
Care for personal health	.097	.054	.074	1.801	.072
Quality perception	.073	.055	.056	1.321	.187
Eco awareness	.265	.048	.229	5.532	.000
Knowing what the eco label stands for	-.001	.048	-.001	-.020	.984
The trust in the eco label	.410	.038	.390	10.757	.000

Dependent Variable: The frequency of buying of eco labeled food products in stores.

With the predictors that we have used to describe "Consumer's awareness about the eco label" 32.1% variance of the variable "The frequency of buying of eco labeled food products in stores" is explained. "The trust in the eco label" (β=0.390) has the most influence.

Table 5: Regression Analysis for the Dependent Variable "The preference of eco labeled food products in stores" and independent variables representing "Consumer's awareness about the eco label" (n=631)

R=0.464; R²=0.216; Δ R²=0.209

Predicators	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.518	.259		2.003	.046
Care for personal health	.173	.061	.126	2.838	.005
Quality perception	.034	.063	.025	.543	.587
Eco awareness	.244	.055	.200	4.482	.000
Knowing what the eco label stands for	.228	.054	.173	4.198	.000
The trust in the eco label	.138	.043	.124	3.171	.002

Dependent Variable: The preference of eco labeled food products in stores.

With the predictors that we have used to describe "Consumer's awareness about the eco label" 20.9% variance of the variable "The preference of eco labeled food products in stores" is explained. "Eco awareness" (β=0.200) has the most influence.

Discussion

Our research confirmed the H1 hypothesis that the variables representing consumer's awareness about the eco label have a positive effect on the variable representing the use of eco labeled food products. 28.7% variance of the variable "The use of eco labeled food products" is explained using the predictors to describe constructing "Consumer's awareness about the eco label".

Research also confirmed the H2 hypothesis that the variables representing consumer's awareness about the eco label have a positive effect on the variable representing the frequency of buying of eco labeled food products in stores. 32.1% variance of the variable "The frequency of buying of eco labeled food products in stores" is explained using the predictors constructing "Consumer's awareness about the eco label".

And we have also confirmed the H3 hypothesis that the variables representing consumer's awareness about the eco label have a positive effect on the variable representing the preference of eco labeled food products in stores. 20.9% variance of the variable "The preference of eco labeled food products in stores" is explained using the predictors constructing "Consumer's awareness about the eco label".

Several limitations of this study need to be considered before interpretations of the results can be explored. First; the discussed findings and implications were obtained from a single study; generalizing the results should be done with caution. Second; the whole research was focused mostly on how consumer's awareness about the eco label affects one's use, buying and preference of eco labeled food products.

We have had that in mind already in the beginning when we were defining the goal of the study so that it is relatively simple with a concept that is influenced by many other variables that are not included in this study.

Another very important point to add here is that the respondents answered the questionnaire the way that they evaluate themselves. When answering questions people often answer the way that they suppose that their surroundings would find as appropriate, which is not always truthful. However, in this case using this method of open random survey we have to be aware of this but still allow the potential affect of it on our study results.

For future research we suggest to researcher to use a combination of open random surveys with closed surveys on samples combined with the use of qualitative research where data on other predictors not included in this study could be noticed and observed.

CONCLUSION

People all around the world are becoming more and more eco conscious which means that we as consumers find the environmental characteristics of products to be more and more important. That is especially the fact in food products which is why in respond to this the companies that produce food label them with "eco" or "bio".

Consumer's decision-making process depends on the information processing style employed. In order for eco-labels to achieve policy objectives, consumers must hold preferences for certain environmental amenities and respond to the information presented on eco-labels by altering purchases toward eco-labeled goods.

This study provides basic insights into the connection between consumer's awareness about the eco label on food products on the use, the frequency of buying and the preference of eco labeled food products in stores and it can be summarized as follows: consumer's awareness about the eco label on food products is an important part in understanding why consumers use, how frequently they buy and if they prefer eco labeled food products in stores as we have concluded based on our research.

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