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FOREIGN DIRECT INVESTMENT INFLOWS AND ECONOMIC FREEDOMS: EVIDENCE FROM CENTRAL AND EASTERN EUROPEAN COUNTRIES

Cem Tintin

Institute for European Studies, Vrije Universiteit Brussel (Free University of Brussels)

Pleinlaan 5, 1050, Brussels

Belgium

cem.tintin@vub.ac.be

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Abstract

This study investigates the determinants of FDI inflows in sixteen Central and Eastern European (CEEC) by incorporating the traditional factors (GDP size and trade openness) with economic freedoms over the period 1996-2009. The study uses the composite economic freedoms index of the Heritage Foundation, which has ten subcomponents. The study also identifies whether and how the impact of the ten subcomponents of the economic freedoms index differs. The estimation results verify the positive and economically significant role of GDP size, openness, and economic freedoms on FDI inflows in the CEEC. The results also reveal the existence of notable differences in the impact of the subcomponents of the economic freedoms on FDI inflows. According the findings, trade and fiscal freedoms have remarkably higher impact than the other subcomponents of the economic freedoms. Such a finding would help policy makers in the decision making process of which components of the economic freedoms should be prioritized in designing pro-FDI policies.

Keywords: Foreign Direct Investment, Economic Freedoms, Central Eastern European Countries, Institutions

Topic Groups: Business Strategy, International Business and Economics, Macroeconomics

1 INTRODUCTION

With the rise of globalization, FDI has been increasingly seen as an important stimulus for productivity and economic growth both for developing and developed countries. Although there is no consensus, many scholars found that benefits of FDI outweigh its side effects, which leads to design and follow of pro-FDI policies by national economies in order to enhance FDI inflows (Brenton et al., 1999, p. 96).

With the collapse of the Soviet Union, the Central and Eastern European Countries (CEEC) have become independent states with arguably weak economic and social institutions but with a high potential of economic growth due to unsaturated consumption markets and a high degree of FDI attractiveness due to the geopolitical importance of the CEE region. By following the surge of EU companies into the CEEC, other major investors from China, Japan and the US have started exploring this opportunity by boosting their investments in the CEEC.

The study incorporates the role of traditional factors (GDP size and openness) and the role of the economic freedoms in analyzing the determinants of FDI inflows in the CEEC. The study uses a modified gravity model in which the role of GDP size, openness (as a proxy for international trade density) and economic freedoms are examined. The study uses the economic freedoms index prepared by the Heritage Foundation. The economic freedoms index is a composite one which has ten different subcomponents that measures ten different kinds of freedoms related with economic activities from investment freedom to financial freedom. This study explores the role of all ten different kinds of freedoms in a unique way.
The study goes beyond the existing literature first by merging a gravity type determinant (GDP size) with trade and economic freedoms. In most previous studies, the institutional dimension is either neglected or not mentioned specifically (Brenton et al., 1999). Second, the study makes an empirical contribution to the discussion of whether international trade and FDI are complements or substitutes by using a sample of CEEC. Third, the study employs identifies the different effects of ten different freedoms by analyzing the subcomponents of the economic freedoms index of the Heritage Foundation. Fourth, the study specifically examines the role of institutions as a factor that affects FDI inflows in the CEEC, in where institutions are underdeveloped but improving.

2 LITERATURE REVIEW

In this section, we review some selected studies in the literature of determinants of FDI with some institutional aspect.

Fabry and Zeghni (2006) use an analytical framework to analyze the link between transition, institutions and FDI in eleven CEEC (former communist states) over the period 1992-2003. They use several institutional indices: enterprise reform, health and education expenditure, index of competition policy, corruption perception index, and index of civil liberties. Their results confirm that FDI is sensitive to sensitive to specific and local institutional arrangements.

Walsh and Yu (2010) employ an UNCTAD dataset of 27 developed and emerging countries for the 1985-2008 period. When they employ FDI data disaggregated by sector, they find neither macroeconomic nor institutional variables have a statistically significant and economically important role on FDI flows in the primary sector. Nonetheless, they estimate that in the manufacturing and the services sectors macroeconomic variables are important determinants of FDI inflows owing to the size and significance of the coefficient FDI flows.

Vijayakumar (2010) examines the factors determining FDI inflows in Brazil, Russia, China, and South Africa (BRICS) over the 1975-2007 period. His findings reveal that market size, labor cost, infrastructure, exchange rate, and gross capital formation are the potential determinants of FDI inflows in BRICS countries. The economic stability (measured by inflation rate), growth prospects (measured by industrial production), and trade openness

are found as the statistically insignificant and economically less important determinants of FDI inflows in BRICS countries.

Daniele and Marani (2006) seek an answer whether institutions matter for FDI by using the Kaufman Governance Indicators for 10 Middle East and North Africa (MENA) countries over the 1995-2004 period. Their empirical analysis reveals that poor FDI inflows performance of MENA countries can be explained by the small size of local markets, the lack of economic integration, slow and insufficient economic and trading reforms in MENA countries.

Globerman and Shapiro (2002) use the Kaufmann Governance Infrastructure Indices (GII), the Human Development Index (HDI), and the Environmental Regulation Indices (ERI) to examine the effects of institutional infrastructure on both FDI inflows and outflows for 144 developed and developing countries over 1995-1997. They run their regression with OLS, while controlling for GDP, openness, labor costs, taxation and exchange rate instability. Their results confirm the positive and important role of GDP and openness on a global scale. They conclude that rule of law, regulatory environment, and graft variables have economic importance as the determinants of FDI.

Ali et al. (2010) address the same question as Globerman and Shapiro (2002) (whether institutions matter for FDI) by using a panel of 69 countries between 1981 and 2005. They use a new dataset from the World Bank that breaks down FDI inflows data into the primary, manufacturing and services sectors. Their results confirm that institutional quality is a robust determinant of FDI under different specifications in the services and the manufacturing sectors. They find the property rights institutional variable as the most relevant factor (in terms of magnitude and significance of the coefficient) compared with other variables, such as political instability, democracy, corruption and social tension.

Brenton et al. (1999) examine bilateral FDI flows and stocks data of a panel of CEEC (as the host countries) over the 1990-1999 period. In the study, they use GDP, population, and distance as the traditional gravity variables. They employ the economic freedoms index of the Heritage Foundation as an additional independent variable to test whether a business-friendly environment matters for foreign investors. The results indicate that FDI flows are positively affected by GDP size, whereas market size (as proxied by population) and EU membership do not appear to influence FDI flows in a statistically significant way. The economic freedoms index is estimated with the correct sign and as statistically significant for many investor countries along with economically meaningful magnitudes. This result suggests that policy makers in the CEEC should provide a more business-friendly environment to boost FDI inflows.

Galego et al. (2004) estimate a random effects panel data model to uncover the main determinants of FDI in the CEEC and to examine the probability of FDI diversion from the EU periphery to the transition economies. They use bilateral FDI data of 14 source and 27 destination countries over the 1993-1999 period. They use FDI inflows into the CEEC as the dependent variable and estimate that GDP per capita, openness, and relative labor compensation affect FDI inflows statistically significantly. The magnitude of these coefficients also confirms their economic importance that foreign investors in the CEEC take these factors into consideration before finalizing their investment decisions.

Resmini (2000) is one of the first studies to analyze the determinants of FDI inflows in the CEEC by using sectoral FDI data. He uses a firm-level database specially constructed for this

purpose, with data from 3000 manufacturing firms from ten CEEC between 1991 and 1995. the results suggest that GDP per capita, population, the operation risk index, and wage differentials are statistically significant factors.

Dunning (2004) investigates the role of institutions in attracting FDI to ten CEEC. First, he classifies the institutional factors as push and pull factors. Push factors affect the current strategy and behavior of multinational corporations, whereas pull factors determine the location specific advantages of countries (regions) to attract FDI. Then, he analyzes FDI and institutional factors with data gathered from the Economist Intelligence Unit for the 2003-2007 period. He concludes that FDI prospects for the CEEC are high given the improvement pace of institutions between 2003 and 2007, although the level of institutional indicators for the CEEC is lower than developing countries in Asia.

Janicki and Wunnava (2004) examine bilateral FDI between fourteen EU members (as source) and eight CEEC (as host) using data for 1997. They use GDP size, openness, labor costs, and credit rating (as a proxy for country risk) as the independent variables and estimate all of them with economically and statistically significant coefficients. They reach a conclusion that CEEC with higher GDP, lower labor costs, and lower country risks can attract more FDI.

Jimenez et al. (2011) examined the role of institutions and political risk in the CEEC. Their results show that institutional factors and specifically political risks are important factors that foreign investors take into account before finalizing their investment decisions.

The literature review above on the determinants of FDI, especially for the CEEC, underpins that there were a few studies which consider economic freedoms and other institutions as the determinants of FDI inflows and their results are mixed at best.

3 THEORETICAL BACKGROUND

In this section, we briefly present three relevant theoretical frameworks for our empirical study. The gravity model of FDI, which originally based on the Newton's rule of gravity, is an application of the gravity model of international trade to FDI. According to the gravity model, in a two-country world, FDI (or trade) between countries A and B is positively associated with the size (e.g. GDP, GDP per capita, market size) of countries A and B, and it is negatively associated with the physical distance between countries A and B (e.g. geographical distance between capital cities, financial centers, free economic zones). This simple yet important logic has constituted a strong basis for many empirical studies in the international trade literature after the pioneering studies of Tinbergen (1962) and Poyhonen (1963). As explained in the literature review, the first proposition of the gravity model regarding the size is abundantly confirmed by data, whereas the distance is not often verified (Chakrabarti, 2001, p. 98).

In our study, we use the role of size suggested by the gravity model as the benchmark explanatory variable. We do not employ any geographical distance variable, any common border, language, and cultural dummy variables. The first and foremost reason is that we want to focus on international trade and institutional aspects of the determinants of FDI inflows rather than the distance measures. Second, distance variables are commonly used with bilateral FDI data in the literature. Nonetheless, we use aggregate, bilateral and sectoral

FDI data together in the study. And the use of distance measures leads to some econometric problems in this context.[1]

A second theory, we mention is the knowledge based capital model of Markusen, which was first described in Markusen and Venables (1998), and further developed in Markusen and Maskus (2001), Markusen and Maskus (2002). Theoretically, the model attempts to explain the behavior of multinational corporations (MNCs) within a general equilibrium framework. Even though the model shows that transport costs, market size, and economies of scale are important for the investment decisions of MNCs with a sound mathematical analysis, it has been rarely tested (e.g. Carr et al., 2001).[2]
The last theory, we briefly describe is the eclectic theory of Dunning (1981a, 1981b). According to the eclectic theory, also known as the OLI paradigm, FDI is determined by three sets of advantages:

a) Ownership advantage in the host country (O): An advantage is given to an investor firm over its rivals by investing in the host country to use its brand name and to acquire market share (Gastanaga et al. 1998).
b) Location advantage of the host country (L): An advantage is given to an investor firm by starting its operations in that specific host country (instead of another country or investor's home country).
c) Internalization advantage via the host country (I): An advantage is given to an investor firm by bundling its production or service instead of unbundling technical consultation, maintenance etc.

Among the three advantages, the ownership advantage usually depends on the investor's behavior, intention or future plans, and therefore the host country has less power to influence these factors (sometimes called push factors, e.g. Dunning, 2004). On the other hand, a host country can use its power over the decision process of foreign investors by providing them better and stable economic institutions, low tax rates, a well-functioning bureaucracy and justice system. Put differently, economic and politic decisions or policies implemented by a host country can affect the decisions of investor firms by this channel. Therefore, in some studies scholars call these kinds of variables as policy variables (sometimes labeled as pull factors).

Broadly speaking, the pioneering study of North (1991) on institutional economics highlighted the importance of institutions within a sound theoretical framework. Together with the insights from the eclectic theory, scholars (e.g. Janicki and Wunnava, 2004; Acemoglu et al., 2003; Alfaro et al., 2008;) started to work with different sets of institutional variables in exploring the determinants of FDI, as we do in this study. Nonetheless, each institutional variable has its own shortcomings in terms of objectiveness, data coverage, measurement errors or collinearity of subcategories with other variables. Therefore, some scholars, such as Tsai (1994), prefer analyzing the determinants of FDI without considering institutions and concentrate on traditional factors suggested by the gravity model.

[1] In our trials, the use of such a constant distance measure generated near singular matrix problem with our estimation method (panel least squares). It implies a very large standard error for the distance measure (Hoover and Siegler, 2008, p. 17). See Janicki and Wunnava (2004) and Ali et al. (2010) for studies that neglect distance variables.

[2] See Faeth (2009) for a survey of theoretical approaches on the determinants of FDI, including the knowledge based capital model of Markusen.

4 EMPIRICAL MODEL AND DATA

4.1 Empirical Model

Our empirical model takes the following form:

$$\log FDI_{it} = \beta_0 + \beta_1 \log GDP_{it} + \beta_2 OPEN_{it} + \beta_3 INST_{it} + e_{it}$$

The explanation of the variables in the model is as follows:

FDI	: The logarithmic value FDI inflows in host country
GDP	: The logarithmic value of Gross Domestic Product of host country
OPEN	: The trade openness of the host country
INST	: The economic freedoms index values and its ten subcomponents
i	: 16 CEEC countries
t	: 1996-2009
e	: error term

We use the log of FDI inflows and log of GDP variables to be able to interpret the coefficient as the elasticity of FDI with respect to GDP. In addition, the use of logarithmic forms of FDI and GDP variables scales down the raw data of these variables that generate better estimation results in terms of statistical significance and standard errors (see Ali et al., 2010). The coefficients of these variables can be interpreted as the semi-elasticity of FDI variable with respect to the relevant explanatory variable.

4.2 Data

Table 1 presents the variables used in the study and their expected signs in the estimations. Broadly speaking, expected signs are determined according to the international trade theory and the design of institutional variables in our models. Our dependent variable is FDI inflows (in 2000 US$) and the data are gathered from the Vienna Institute for International Economic Studies (WIIW). The WIIW dataset uses the standard definition of FDI: “Foreign direct investment is the category of international investment in which an enterprise resident in one country (the direct investor, source) acquires an interest of at least 10 % in an enterprise resident in another country (the direct investment enterprise, host)” (UNCTAD, 2007).

As discussed in the literature review, GDP size is one of the most common variables to proxy the host economy market size in explaining the determinants of FDI. Nonetheless, some scholars prefer using per capita GDP on the grounds that it better reflects the purchasing power of people in host economies. Nonetheless, we also tried GDP per capita variable instead of GDP size in our estimation trials and reached similar results with GDP size in terms of the size and significance of the coefficient.[3]

Trade openness is used in several studies to explain the role of trade in FDI inflows. Theoretically, more open economies are more integrated to international markets that multinational companies may want to invest more in such countries to benefit from the easiness of international trade, and therefore FDI and international trade are interrelated. More specifically, the international trade theory suggests that the positive effects of FDI on

[3] See Walkenhorst (2004) and Vijayakumar (2010) who use GDP size, and see Ali et al. (2010) who use GDP per capita.

trade outnumber the negative ones. It implies a positive relation (complementary relation) between FDI and trade, whereas the empirical evidence is mixed (Chakrabarti, 2001). To this end, we expect to see a positive coefficient for the openness variable in our estimations.

Table 1: Variables and Expected Signs

Variable Name	Data Source	Unit or Scale	Symbol	Expected Sign
FDI Inflows (log)	WIIW Database	2000 US$	FDI	
GDP (log)	WDI	2000 US$	GDP	+
Openness [(Exports+Imports)/GDP]	WDI	scale 0 to 203	OPEN	+
Economic Freedoms (and its subcomponents)	Heritage Foundation	scale 0 to100	ECONFR	+

The role of institutions in international trade and FDI is acknowledged in the literature, especially after the contributions of North (1991) (see Acemoglu et al., 2003). In particular, the rise of globalization, the decline of the Soviet Union, worldwide open market policies, and institutional reforms have triggered a transformation process all around the world including CEEC. In this respect, we need to take the institutional aspect into account to understand the factors enhance FDI inflows in the CEEC. We do this specifically by using the economic freedoms index. It covers ten different freedoms which are critically important for business and economic activities.

4.3 The Economic Freedoms Index

The index is comprehensive in its view of the economic freedoms as well as in its worldwide coverage of 183 countries. The index looks at the economic freedoms from ten different viewpoints which are: Business Freedom, Trade Freedom, Fiscal Freedom, Government Spending, Monetary Freedom, Investment Freedom, Financial Freedom, Property Rights, Freedom from Corruption, and Labor Freedom. The index takes a snapshot of economies annually in terms of ten key economic institutional structures, which makes it a strong proxy of the economic freedoms and institutions. The scale of the index lies between 0 and 100. An increase in the index implies an improvement in freedoms, and hence we expect a positive sign for the coefficient.[4] Therefore any improvement in the economic freedoms is expected to generate a better investment climate which associates with a FDI inflow surge by attracting totally new foreign investors and generating a growth perspective for the existing ones in the host CEEC.

4.4 Specification

We work with eleven different specifications in which we separately add the all subcomponents of the economic freedoms index together with itself (the composite one). The sample covers the 1996-2009 period and sixteen CEEC: Albania, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Slovakia, Slovenia, and Ukraine.

[4] The economic freedoms index of the Heritage Foundation was used by Pournarakis and Varsakelis (2004) and Brenton et al. (1999) in a similar context. But these studies did not examine the specific roles of subcomponents as in this study.

5 REGRESSION ANALYSIS

We run our regressions by using panel OLS method and White heteroscedasticity consistent standard errors. Many studies employ this empirical method, such as Resmini (2000) and Vijayakumar (2010).

According to the estimation results in Table 2, GDP size and openness do have positive and statistically significant impacts on total FDI inflows in the CEEC. Ceteris paribus, it implies more open and bigger economies in the CEE region would attract more FDI inflows. A 1 point (1 percent) increase in GDP size leads to about 1 percent increase in total FDI inflows in the CEEC, whereas a 1 point increase in trade openness associates with about 0.05 percent increase in total FDI inflows. The positive and statistically significant coefficient of openness points out an important result: FDI inflows and international trade are complements (not substitutes) that they work in the same direction as Galego et al. (2004) found. Amiti and Wakelin (2003) claim that the sign of the openness variable in empirical studies might be used to differentiate whether mostly vertical FDI or horizontal FDI takes places in host countries.

According to the estimation result of specification 1, the economic freedoms affect FDI inflows to CEEC positively and significantly. A 1 point increase in the economic freedoms associates with a 0.03 percent increase in FDI inflows. We also separately examine the subcomponents of the economic freedoms in specifications 2 to 11. Among ten subcomponents, only the property freedom and freedom from corruption are found as statistically insignificant factors. Apart from that trade and fiscal freedoms seem to be the most important subcomponents of the economic freedoms among ten owing to the size and significance of their coefficients, which are 0.022 and 0.029, respectively.

Generally speaking, we find that the economic freedoms determine FDI inflows in the CEEC, in addition to the traditional factors, such as GDP size and trade openness. Strictly speaking, empowering the economic freedoms in the CEEC which covers the business oriented freedoms for a well-functioning open market economy would boost FDI inflows. However, the estimation results reveal that the effect of subcomponents of the economic freedoms is not uniform and requires further research on the causality mechanisms of such differences in the context of the CEEC.

Table 2: Estimation Results

Dependent Variable: Total FDI Inflows (Sample: 16 CEEC)											
	Spec. 1	**Spec. 2**	**Spec. 3**	**Spec. 4**	**Spec. 5**	**Spec. 6**	**Spec. 7**	**Spec. 8**	**Spec. 9**	**Spec. 10**	**Spec. 11**
logGDP	1.014***	1.034***	0.989***	1.136***	1.147***	1.013***	1.030***	1.015***	1.045***	1.052***	0.910***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OPEN	0.003***	0.006***	0.004***	0.006***	0.009***	0.006***	0.006***	0.005***	0.007***	0.008***	0.002**
	(0.010)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.023)	(0.000)	(0.000)	(0.025)
ECONFR	0.035***										
	(0.000)										
BUSINESS		0.005*									
		(0.068)									
TRADE			0.022***								
			(0.000)								
FISCAL				0.029***							
				(0.000)							
GOVSPEND					0.014***						
					(0.000)						
MONETARY						0.013***					
						(0.000)					
INVESTMENT							0.006**				
							(0.051)				
FINANCIAL								0.011***			
								(0.000)			
PROPERTY									-0.001		
									(0.585)		
CORRUPTION										-0.003	
										(0.383)	
LABOR											0.009**
											(0.046)
Ad. R-Sq.	0.715	0.68	0.7	0.728	0.7	0.723	0.683	0.696	0.679	0.679	0.656

Notes: Probabilities are in parentheses. (*) Significant at 10%; (**) Significant at 5%; (***) Significant at 1%. The intercept terms are not reported.

6 CONCLUSIONS

Our study analyzed the determinants of FDI inflows in the CEEC by taking the role of traditional determinant factors and the economic freedoms into consideration. It also separately analyzed the role of subcomponents of the economic freedoms. The empirical results revealed that GDP size, trade openness and the economic freedoms affect FDI inflows to CEEC positively and significantly. However, there are important differences in the size of the coefficients of the subcomponents of the economic freedoms. For example, trade and fiscal freedoms have significantly higher positive effect on FDI inflows than labor and financial freedoms. This result is important per se since it provides a preliminary indication for the direction and the order of the economic freedom reforms to boost FDI inflows in the CEEC.

More specifically, our results suggest that pro-growth and pro-trade policies would enhance FDI inflows into the CEEC. Apart from that higher economic freedoms would associate with higher FDI inflows in the CEEC. But these general results should not stop the CEEC to building up their national FDI strategies. In contrast, the CEEC should design their own national FDI strategies by examining their own strengths and weaknesses in different institutions of their economies. A closer look-up to the effect of the economic freedoms by a regression analysis also confirmed this. Some reforms which would improve trade and fiscal freedoms would affect FDI inflows more than others.

In sum, the results clarify the positive role of GDP size in explaining FDI inflows in the CEEC. Second, the role of international trade as a determinant of FDI inflows is identified that openness is estimated as positive and statistically significant in all specifications. In other words, the results reveal that international trade and FDI are complements (not substitutes) in the CEEC. Third, the results reveal that the economic freedoms have a positive and significant effect on FDI inflows to CEEC. But the effects of subcomponents are not uniform: some of them are more important than others. Moreover, two out of ten are found as statistically insignificant components. These results are of important for policy makers in the CEEC while designing national FDI strategies. Finally, the results are also relevant for institutional economics that show economic freedoms (a proxy for institutions) have a direct and remarkable impact on FDI inflows, which is a macroeconomic variable that has implications on other macroeconomic variables such as economic growth and balance of payments.

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HOW EMPLOYEES' SATISFACTION AFFECTS QUALITY AND PROFITABILITY IN SERVICE INDUSTRY. A CASE OF MALAYSIAN MAJOR SHOPPING CENTERS

Alireza Tahernejad[1]
University of Malaya (UM) Malaysia
a.tahernejad@hotmail.com

Zahra Seyed Ghorban
Multimedia University (MMU) Malaysia
setareh.star@gmail.com

Hossein Tahernejad*
University Technology Malaysia (UTM)
h.tahernejad@gmail.com

Abstract

How human resources can effect on the organization's operation have not been fully addressed so far. In operation management (OM) literature the significance of employees' attitudes in organizations such as satisfaction, loyalty, and commitment and how these attitudes could affect the organizations' performance, has not been explored in-depth (Boudreau, 2004; Boudreau, Hopp, McClain, & Thomas, 2003)

Employees are often deemed to be the first line in the service organizations, and they create the perception that customers take against the firms' services. Employees' satisfaction is the mediator between what a firm makes available for customers and how employees in that particular firm deliver the service. But the relationship between organizational strategies and employees attitudes needs to be further investigated, since few attempts have been done so far in this area (Hartline & Ferrell, 1996; Hartline, Maxham III, & McKee, 2000; Singh & Sirdeshmukh, 2000) This study focused on high contact service industries in Malaysia by examining 112 service shops in major shopping centers in Malaysia. By using structural equation modeling (SEM) this study found that the relationship between employee

[1] Corresponding Author

satisfaction and customer satisfaction is partially mediated by service quality, and customer satisfaction will lead to higher profitability in firms.

Keywords: Employee satisfaction; Customer satisfaction; Service quality; Firm profitability

Topic Groups: Production and operations management

1 INTRODUCTION

In this competitive and globalized era, every organization is looking to find ways to bring more values to the services it renders, and improves the quality of its services. Priority is given to the operational processes in profitable ways, which convey values to customers and fulfill what they expect (Frei, 1999; Yee, Yeung, & Cheng, 2008). Firms try to enhance their service quality and their operational efficiency in order to attract more customers to increase their profit share. In this matter more attention has been given to how firms design, manage and optimize their quality to bring more profit (Frei, 1999; Saccania, Johanssonb, & Perona, 2007; Yee, et al., 2008). But how their human resources such as their employees through their satisfaction, loyalty, and commitment can be companion in the task of increasing profit has not been fully addressed. In the high-contact service firms, employees are the people who are directly in touch with customers, and how they might respond to customers' wants, desires, and expectations is very important whether bring more value and profit to the firms or make customers to run away and may never come back.

It has been showed that satisfied employees are considered to be loyal and have great impact on service quality, which, as a consequence, bring satisfied and loyal customers that make more profit to the firms (Yee, Yeung, & Edwin Cheng, 2010). Many companies observe employee satisfaction behavior and employ programs to augment satisfaction and loyalty of the employees (Matzler & Renzl, 2007).

The nature of the service industry shows no doubt that employee satisfaction is vital in this industry (Lam, Zhang, & Baum, 2001), then it seems very much worthwhile for firms to be cautious to any behavior and signs regarding employee satisfaction. It has been shown by some researchers that there is a positive relationship between employee satisfaction and customer satisfaction (Koys, 2003; Wangenheim, Evanschitzky, & Wunderlich, 2007b), there is a relationship between low productivity and low job satisfaction (Appelbaum, et al., 2005), employee satisfaction is positively related to customers' satisfaction, while customers' satisfaction affects firm profitability (Bettencourt & Brown, 1997; Yee, et al., 2008), and both productivity and consumer satisfaction are positively associated to profitability (He, Chan, & Wu, 2007).

Since the study of employees in the service industry has been proven to be important based on what we mentioned above, this paper examines the relationship between employee satisfaction and customer satisfaction, and how this satisfaction from employees and customers can influence the firms' profitability. This paper practically examined the effects and consequences of employee satisfaction in the firms' service quality and their profitability by investigating 112 service shops in Malaysia by using structural equation modeling development.

2 THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Organizations are competing in a century that is full of rapid changes, globalization issues, and information technology booms, along with the increased number of service industries around the world. All of the above issues have made companies and their owners to become interested to find out where they can be more benefited from. It has been determined and demonstrated that one of the ways is increasing customers' satisfaction and retention. Antecedents and consequences of customers' satisfaction have become important matters that have made organizations to invest a lot of attentions and interests (Snipes, Oswald, LaTour, & Armenakis, 2005). It is worthwhile to study where customers' satisfaction comes from, and where it affects.

One of such antecedents to customers' satisfaction has been found to be employee satisfaction (Christina & Gursoy, 2009; Kenneth, Donthu, & Kennett, 2000; Tornow & Wiley, 1991; Wangenheim, et al., 2007b; Yee, et al., 2008; Yee, et al., 2010). Employee satisfaction has been an issue for social research for at least two decades since it is regarded as an important factor that can enhance companies' performance and productivity (Christina & Gursoy, 2009; Matzler & Renzl, 2007). (Locke, 1976), (Wanous & Lawler, 1972), and (O'Reilly, Chatman, & Caldwell, 1991) all defined job satisfaction as a auspicious stance or satisfying emotional state that results from a person's job experience or a fit between a person and an organization. Employees' or their job satisfaction have been defined in many different ways as well, like the one that defined it as a positive affective state that is resulted from the judgment of all facets of a working relationship among employees (Cheng, Lai, & Wu, 2010; Geyskens, Steenkamp, & Kumar, 1999). (Theo, 2004) defined employee satisfaction as the degree to which the working environment meets the wants, desires and needs of a particular employee.

Several studies have found where the employee satisfaction affects. When employees become satisfied with their jobs and their working environment, they are more likely to be attached to their organizations and less likely to leave there; and more likely to render quality services (in service industry) for their organizations, which these high quality services will bring more customers' satisfaction (Bettencourt & Brown, 1997; Christina & Gursoy, 2009; Steven & Lam, 2008; Yee, et al., 2008; Yee, et al., 2010). A lower level of intention to turn over by employees is rooted on the fact that satisfied employees recognize better benefits when they stay in their respective organizations, and consequently show higher level of loyalty to their organizations (Barrow, 1990; Guimaraes, 1997; Jun, Cai, & Shin, 2006; C. Lee & Way, 2010; Porter & Steers, 1973; Schlesinger & Zornitsky, 1991; Testa, 2001).

Many other studies conducted around the world also indicate that employee satisfaction has a positive and significant relationship with employees' loyalty to their organizations, and has a negative relationship with their intention to leave (Brown & Peterson, 1993; Griffeth, Hom, & Gaertner, 2000; Hom & Kinicki, 2001; Martensen & Gronholdt, 2001).

On the other hand (Schlesinger, 1982) found that satisfied employees provide better services than dissatisfied employees. Since service products require a great deal of human interference, it is vital for organizations that maintain and meet their employee's expectations, while it has been demonstrated that employees who experience job satisfaction will be more productive in their respective jobs (C. Lee & Way, 2010; McNeese-Smith, 1997; Rafaeli, 1989; Spinelli & Canavos, 2000).

Based on what we mentioned above the first proposition of this study is hypothesized as follow:

Hypothesis 1

H0: Employee satisfaction is not positively related to service quality.
H1: Employee satisfaction is positively related to service quality.

Among many studies done in the area of employee-customer satisfaction, one of the popular conceptualization is the service-profit chain (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994; Heskett, Sasser, & Schlesinger, 1997), which embraces several relationships between employee satisfaction, customer loyalty and company performance; and this is the reason why organizations are looking for the way to enhance their employees' satisfaction and loyalty (Matzler & Renzl, 2007).

(Heskett, et al., 1994) proposed the service profit chain idea that underscores the significance of employee characteristics to convey high levels of service quality to satisfy customers, and in turn increase organizations performance. On the other hand satisfied employees who become loyal to their organizations enhance the quality of the services, bring more innovative and productive ideas, which in turn bring satisfied customers to organizations (Edvinsson, 1999; Matzler & Renzl, 2007; Sveiby, 1997; Yee, et al., 2010). Maintaining quality employees seems an ideal way to preserve a dense reputation and create a loyal customer base (Keane, 1996; C. Lee & Way, 2010).

Based on the above mentioned explanation and on the findings that service quality has been found positively related to customers' satisfaction (Christina & Gursoy, 2009; Heskett, et al., 1994; Heskett, et al., 1997; Steven & Lam, 2008; Yee, et al., 2010); the second proposition of this study is hypothesized as follow:

Hypothesis 2

H0: Service quality does not mediate the relationship between employee satisfaction and customer satisfaction.
H1: Service quality mediates the relationship between employee satisfaction and customer satisfaction.

Employee satisfaction has been found to be influential on customers' satisfaction (direct or indirect), and customers' satisfaction has been found to be positively related to financial performance (Chi & Gursoy, 2009; Christina & Gursoy, 2009; Isaiah & Obeng, 2000; G. Lee, Magnini, & Kim, 2011).

Other scholars also found that employee satisfaction is directly related to customer loyalty, which in turn brings profitability to organizations (Fay, 1994; Iaffaldano & Muchinsky, 1985; C. Lee & Way, 2010).

Several other studies have found the positive and significant relationship between employee satisfaction, customer satisfaction, and firms' profitability (Bernhardt, Donthu, & Kennett, 2000; Bettencourt & Brown, 1997; Christina & Gursoy, 2009; Harter, Schmidt, & Hayes, 2002; Koys, 2003; Steven & Lam, 2008; Tornow & Wiley, 1991; Wangenheim, Evanschitzky, & Wunderlich, 2007a; Yee, et al., 2008).

Employee satisfaction in organization, especially service industry has been demonstrated to be influential on customer satisfaction (Christina & Gursoy, 2009; Kenneth, et al., 2000; Tornow & Wiley, 1991; Wangenheim, et al., 2007a; Yee, et al., 2008), and then the third proposition of the study is hypothesized as follow:

Hypothesis 3

H0: Employee satisfaction is not positively related to customer satisfaction.
H1: Employee satisfaction is positively related to customer satisfaction.

On the other hand, customer satisfaction has been found to be significantly related to firms' profitability in several studies (Bettencourt & Brown, 1997; He, et al., 2007; Yee, et al., 2008; Yee, et al., 2010), then the fourth proposition of this study is hypothesized as follow:

Hypothesis 4

H0: Customer satisfaction is not positively related to firms' profitability.
H1: Customer satisfaction is positively related to firms' profitability.

3 METHODOLOGY

3.1 Sampling and data collection procedures

In this paper, we try to concentrate on those industries that are in high contact with their customers through the services they offered in Malaysia. We identified big shopping centers and randomly chose 6 major shopping centers (e.g., KLCC, Midvaley). We focused of those shops that have 2 to 5 service employees. By service employee, we mean those employees who are responsible to offer services (e.g., beauty shops), or sell products to customers.

In order to collect data properly, the authors hired some local bachelor students and asked them to go to those identified major shopping centers in different areas to distribute the questionnaires. Two types of questionnaires were asked to distribute, one among the people who are in charge of shops, and the other among employees. For every one questionnaire for the shop managers, two questionnaires were distributed to employees. Some shop managers avoid participating in the survey, indicating that they cannot disclose their financial information, this matter made the authors to go by person to some shops and asked them again to participate by explaining that their financial information would be confidential and used only as a source.

Distributors visited around 200 shops in 3 months period. Total of 402 questionnaires obtained, 134 from shop managers and 268 from employees. We dropped 22 shops due to either missing information or incomplete questionnaire from shop managers or employees. Then, 112 sets of questionnaires from 402 participants were used to analyze (Table 1).

Table 1: Sampled shops

Service	Number of shops
Fashion retailing	25
Beauty salons	22
Skin care products and salons	21
Optical	10
Travel agency	8
Body massage shops	11
Jewelry	6
Others	9
Total	112

3.2 Variable measurements

For measuring employee satisfaction, customer satisfaction, service quality, and financial profitability this study adopted the questionnaires that (Yee, et al., 2008) developed and validated. In order to measure the employee satisfaction, four questions were chosen from Job Satisfaction Index (Smith, Kendall, & Hulin, 1969). Each item in this questionnaire was rated using seven-point Likert-Scale ranging from 1= "totally disagree" to 7= "totally agree". For measuring service quality, five questions were chosen based on the five dimensions of SERVQUAL (Parasuraman, Berry, & Zeithaml, 1991; Parasuraman, Zeithaml, & Berry, 1988) that are considered to be the most relevant to the service sectors in which this study focuses. Each item in this questionnaire was rated using seven-point Likert-Scale ranging from 1= "totally disagree" to 7= "totally agree".

To measure customer satisfaction four questions were developed related to feature performance, which impels satisfaction, including enquiry service, price, customer service in transactions, and service handling of dissatisfaction (Gustafsson, Johnson, & Roos, 2005; Heskett, et al., 1997; Oliver, 1997).

For measuring firm profitability, return on assets (ROA), return on sales (ROS), return on investment (ROI), and overall profitability were chosen as indicators. These measurements of profitability have been shown to be consistent with previous studies (Yee, et al., 2008). We asked the shop managers to assess their profitability relative to their respective industry norms. Each item in this questionnaire was rated using seven-point Likert-Scale ranging from 1= "much lower" to 7= "much higher".

3.3 Reliability test

Reliability of this study verified by Cronbach's Alpha, which is a popular method for measuring reliability. For any research at its early stage, a reliability score or alpha that is 0.60 or above is sufficient (Nunnally, 1978). As shown in table 2, the reliability score of all constructs were measured to be greater than 0.60.

Table 2: Reliability coefficient test

Scales	Number of items	Alpha	Mean	SD
Employee satisfaction	4	.850	5.5000	.87536
Customer satisfaction	4	.636	5.5290	.74340
Service quality	5	.620	5.0464	.59744
Firm profitability	4	.874	5.2299	.82346

(Yee, et al., 2008) verified the validity of the instrument used in this study by doing exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

4 DATA ANALYSIS AND RESULTS

We applied structural equations modeling (SEM) to examine the proposed model. SEM is used to conduct the data analysis for testing the research hypotheses. SEM is a feasible statistical tool to examine the hypothesized factor structure for all variables. SEM also examines measurement error and provides path coefficients for both direct and indirect effects of structural hypotheses. In this study analysis of moment structure (AMOS) was used.

Table 3 shows the result of fit statistics for our model. The overall fit of our structural model was good, chi-square =293.144 degree of freedom=115, chi-square/degree of freedom=2.549, RMSEA=0.083, CFI=0.920, GFI=0.964. All the four hypothetical relationship were supported at the significance level of p=0.05.

Table 3: Goodness of fit indices of model

Goodness of fit measure	Criteria	Model
Chi-square of estimated model	------	293.144
Degree of freedom	------	115
Chi-square/degree of freedom	<= 3.0	2.549
Goodness of fit index (GFI)	>= 0.90	0.964
Root mean square (RMSE)	<= 0.10	0.083
Comparative fit index (CFI)	>= 0.90	0.920

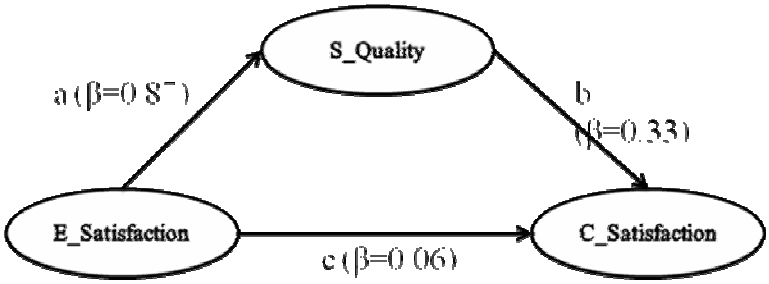
In order to test hypotheses 1, 2, and 3, the following steps were taken: (figure 1)

Step 1: We conducted a simple regression analysis with employee satisfaction predicting customer satisfaction to test the significance of path "c" alone (β=0.06).

Step 2: We conducted a simple regression analysis with employee satisfaction predicting service quality to test the significance of path "a" alone (β=0.87).

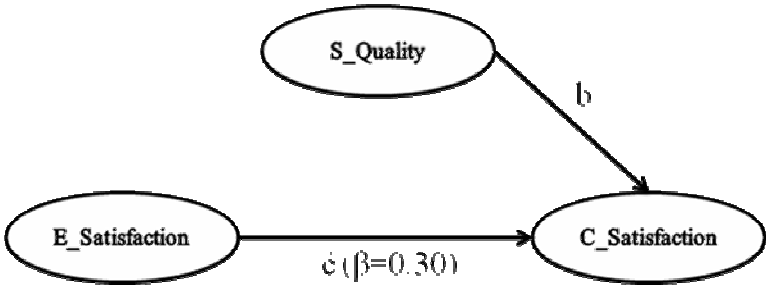
Step 3: We conducted a simple regression analysis with service quality predicting customer satisfaction to test the significance of path "b" alone (β=0.33).

Figure 1: Path analysis for step 1, 2, and 3.



Step 4: We conducted a multiple regression analysis with employee satisfaction and service quality predicting customer satisfaction to test "ć" (β=0.30).

Figure 2: Path analysis for step 4.

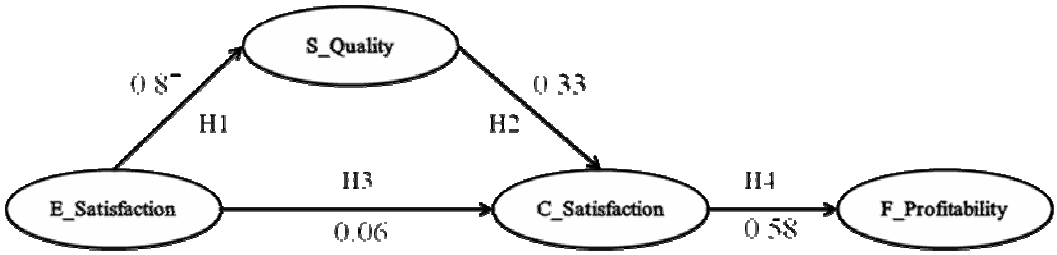


A, b, c, and ć are standardized regression coefficients, which all measured to be significant indicating that service quality is a partial mediation between employee satisfaction and customer satisfaction. The first three hypotheses were supported by these findings.

We conducted a simple regression between customer satisfaction and firm profitability (β=0.58), supporting the fourth hypothesis

The theoretical and hypothesized model is shown in figure 3.

Figure 3: Hypothesized model:



*p<0.05

5 DISCUSSION AND CONCLUSION

We developed and examined the relationship between employee satisfaction, service quality, customer satisfaction, and firm profitability. The findings of this study support that employee satisfaction is very important to enhance the quality of services that rendered to the customers in any given company, and is crucial to the firms' profitability. The results support that employee satisfaction leads to customer satisfaction through high service quality, and eventually the satisfaction from customers will lead to higher profitability. By this study we provided evidence that support the basic relationship between employee satisfaction, service quality, customer satisfaction, and firm profitability. These findings support the previous studies' findings (Yee, et al., 2008).

As in the study of Yee, et al. (2008), which supports the conceptual framework of the balance scorecard (Kaplan & Norton, 1996) proposing that employee morale and growth, internal business process, customer satisfaction, and financial measures are considered as four balanced quadrants that make the strategic initiatives of an organization; this study also provided evidence that support a right balance between those four perceptions as essential factors in small scale service industries that their employees are in high contact with their customers.

There always have been concerns among managers about which of the employee or customer satisfaction is more important for higher profitability in firm; by doing this study we practically demonstrated that for any firm in high contact service industries the employee satisfaction is more crucial in order for a firm to be more profitable. This study showed that higher satisfaction among employees brings high quality services to customers making them more satisfied with these high quality services, which in turn increase the firm profitability.
We here argued that for any service industry companies in Malaysia, employee satisfaction plays an important role for companies' profitability by showing that the relationship between employee satisfaction and customer satisfaction is partially mediated by service quality, and customer satisfaction is in significant relationship with firm profitability. Conclusively, employee satisfaction should be attended more carefully since it is an important factor to bring customer satisfaction and profitability.

6 LIMITATION

Limitations, like any other studies, were unavoidable in this study as well. One would be that some managers were not willing to participate since they consider the profitability section in questionnaire as information revelation. Some times during conducting this research we faced non responding managers that we needed to deal with them by going in person and explaining that their information is confident and that the financial information of theirs were not required in detail; some agreed to participate, and others not. In this study in order to measure customer satisfaction we rather asked employees and managers to participate in this measurement since it seemed to us that asking customers to participate would create many inconsistencies in our work. This study only focused on high contact service industries in Malaysia, which makes this study non-generalizable to those low contact services.

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AN EMPIRICAL ANALYSIS OF FACTORS AFFECTING THE ADOPTION OF ELECTRONIC BANKING IN MACEDONIA: A LOGIT MODEL

Vesna Bucevska

University "Ss. Cyril and Methodius", Faculty of Economics-Skopje

Republic of Macedonia

vesna@eccf.ukim.edu.mk

Jasmina Bucevska

Komercijalna Banka AD Skopje

Republic of Macedonia

jasmina.bucevska@kb.com.mk

Abstract

Although electronic banking has become an increasingly widespread banking channel in the world in the last years, its rate of adoption by the Macedonian retail banking customers remains still low. The purpose of this paper is to investigate the factors influencing the adoption of the electronic banking (e-banking) service of the biggest and leading Macedonian commercial bank - Komercijalna banka AD Skopje and to identify the key determinants among them. To achieve this goal we developed a binomial logit model. The findings indicate that the demographic factors, age and education, are the key determinants of adoption of e-banking by the retail customers of Komercijalna banka. Furthermore, the obtained results will have important practical implications for the Macedonian banking sector and also for the government since both will be aware of the key factors that should be taken into account to foster the usage of e-banking service and thus reaping out its benefits.

Keywords: customer behaviour, channels of distribution, electronic banking, logit model, Macedonian banking industry.

Topic Groups: Research methods, Marketing and consumer behavior, Technology and innovation management.

1 INTRODUCTION

The development of the banking industry has been significantly influenced by the evolution of the information technologies for over three decades (Chang, 2002; Gourlay & Pentecost, 2002; VanHoose, 2003). The information technology revolution in the banking industry has been most evident in the distribution channels from over-the-counter to introduction of the credit card and the automatic-teller-machine (ATM) in the early 1970s, telephone banking in the early 1980s, personal computer (PC) banking in the late 1980s and most recently electronic banking (e-banking). Daniel (1999) described electronic banking as the provision of banking services to customers through Internet technology. Karjaluoto (2002) indicated that banks have the choice to offer their banking services through various electronic distribution channels technologies such as Internet technology, video banking technology, telephone banking technology and WAP technology. However, Karjaluoto (2002) indicated that Internet technology is the main electronic distribution channel in the banking industry. In more details Karjaluoto (2000) described e-banking as an online banking that involves the provision of banking services such as accessing accounts, transferring funds between accounts, and offering an online financial services.

Despite the considerable diffusion of consumer internet banking in many countries to date, Macedonia is lagging far behind the European Union's average, but also the EU candidate countries in the use of the Internet for Internet banking (see Table 1).

Table 1: Use of Internet for Internet banking[1] in the EU and EU candidate countries (in % of individuals aged 16 to 74)

Country	2006	2007	2008	2009	2010
European Union (27 countries)	21	25	29	32	36
Croatia	na	9	13	16	20
Macedonia	0	na	3	4	4
Turkey	na	4	5	5	6

Source: Eurostat, Retrieved from World Wide Web on 25th November 2011 at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1]&language=en&pcode=tin00099.

According to the latest data of the State Statistical Office of the Republic of Macedonia (Newsrelease No. 8.1.11.25 as of 21th October 2011), 10,8% of individuals aged 16 to 74 used Internet banking in the last 3 months before the survey i.e. in the first quarter of 2011.

On the other hand, the degree of Internet penetration in Macedonia as a measure of customer readiness to transact on-line, has significantly increased in the last five years. The percentage of Macedonian households who have Internet access from home has increased from 14% of households in 2006 to 55% of households in 2011 and the percentage of individuals aged 16 to 74 who are regularly using the Internet has grown from 21% to 50% of individuals aged 16-74 regularly using the Internet. A statistical analysis on supply-demand dynamics (Bughin, 2001) concludes that the degree of Internet penetration has a more than proportional effect when a country achieves a penetration of 30% of quarterly Internet usage. This means that in countries where this threshold has already been

[1] According to Eurostat Internet banking includes electronic transactions with a bank for payment etc. or for looking up account information.

surpassed, on-line banking usage will start to increase disproportionaly. Similar findings are suggested by OECD research (Christiansen, 2001).

In order to grow to exploit the benefits of e-banking. Macedonian banks have to focus on increasing the consumer internet banking demand. To achieve that, they must gain an understanding of the key factors that influence consumer adoption and use of e-banking.

The purpose of this paper is to investigate the factors influencing the adoption of electronic banking (e-banking) by the retail customers of Komercijalna banka AD Skopje (KB) and to identify the key determinants among them by developing a binomial logit model.

KB is the biggest bank in Macedonia, its experience with e-banking adoption is likely to be representative of the adoption situation among the domestic banks in Macedonia. It was among the first banks in Macedonia to offer Internet banking services to retail customers in 2003. In the period 2007-2010 the number of users of e-banking service of KB significantly increased from 6,323 customers who used the service Internet Bank to 7,508 customers in 2010 which represents an increase of 18.74%. However, the fact that only 2% of all retail customers of KB use its service "Internet banka" points out that the development of the e-banking service is not sufficient alone to ensure its adoption by retail customers. A complex set of factors affect the adoption of the e-banking service. Thus, an understanding of the determinants of adoption of e-banking by Macedonian individuals should help the Bank's management to formulate marketing strategy for more efficient implementation of the service called "Internet banka".

The rest of the paper is organized as follows. After the Introduction section, a brief literature review of the prior research is presented in Section 2. The research methodology for the study is described in Section 3. Section 4 provides the estimation results and discussion of the findings. Finally, Section 5 includes conclusions and implications.

2 LITERATURE REVIEW

Turning to the literature dealing directly with factors affecting the adoption and use of Internet banking (Daniel, 1999; Sathye, 1999; Jayawardhena and Foley, 2000; Tan and Teo, 2000; Mattila, 2001; Polatoglu and Ekin, 2001; Chang, 2002; Karjaluoto et. al., 2002; Venkatesh et. al., 2003; Gerrard and Cunningham, 2003; Chinn and Fairlie, 2004; Choudrie and Lee, 2004; Pikkarainen et al., 2004; Choudrie and Dwivedi, 2005; So, Wong and Sculli, 2005; Dwivedi and Lal, 2007) we have identified a number of interrelated factors that affect the adoption and usage of electronic banking services. They are briefly presented below, followed by formulating a testable hypothesis for each factor.

Customer's age - Age affects the attitude of individuals towards Internet banking and their ability to learn how to use it. Barnett (1998) showed that the younger the consumers, the more comfortable they were in using electronic banking. Similarly, Karjaluoto et. al., (2002) demonstrated that electronic banking users were younger than non-electronic banking users. These findings imply that younger customers are more likely to adopt electronic banking:

H_1: Younger customers (up to 35) are more likely to adopt e-banking.

Customer's income - Empirical findings of income positively influencing adoption of electronic banking can be found in Al-Ashban and Burney's (2001) and Karjaluoto's (2002) studies.

Higher paid customers, who have higher value of time than customers with lower income, are more likely to favour electronic banking.

H_2: Higher paid customers are more likely to adopt electronic banking.

Education - Al-Ashban and Burney (2001) study showed that as consumers increased their educational qualification level, their adoption of electronic banking would increase as well. Bartel and Sicherman (1998) indicated that more educated individuals may require less training in response to technological change if their general skills enable them to learn the new technology. Consequently, well educated individuals will respond more quickly than less educated individuals when Internet banking is introduced.

H_3: Well educated customers are more likely to adopt electronic banking.

Gender - a number of empirical studies (Venkatesh & Morris, 2000; Chen & Wellman, 2004; MacGregor & Vrazalic, 2005; Laukkanen & Pasanen, 2008) show that males are more likely than females to adopt e-service. This could be explained with the fact that men are more interested than women in technology, and they are also more tech savvy. Thus the following hypothesis can be formulated:

H_4: Males are more likely to adopt the e-service than the females.

Security - Security refers to the ability to protect against potential threats. The results of the previous empirical studies (Miyazaki and Fernandez, 2001; Salisbury, 2001; Lee, 2009; Hua, 2009) have shown that the customers' decision to adopt the e-banking service is significantly influenced by their perception of the level of security control of the bank's website. Thus, the following hypothesis is formulated:

H_5: Customers who do not perceive bank's web site as secure are less likely to adopt the e-banking service.

Fear of misuse of personal data - Some empirical studies (Miyazaki and Fernandez, 2001; Gefen et. al, 2003; Nissenbaum, 2004) have shown that online consumers might refrain from using online services because of the fear that their personal sensitive information may be misused (sold to third parties). As such the following hypothesis will be tested:

H_6: Customers who are afraid that their personal data will be misused are less e likely to adopt this service.

Perceived ease of use - In the online context perceived ease of use was found to affect e-service adoption significantly, reflecting the importance of the role of the ease of use variable on adoption of e-services (Venkatesh & Davis, 2000; Venkatesh & Morris, 2000; Chau & Lai, 2003). Therefore the following hypothesis can be formulated:

H_7: Customers who perceive e-banking as easy to use are more likely to adopt the e-banking service

Access to Internet from home – Access to Internet at home has been identified as one of the most important factors for adoption of electronic banking in European Union candidate countries and Macedonia is one of them. Hence, the following hypothesis can be formulated:

H_8: Customers who can access Internet at home are more likely to adopt the e-banking service.

3 METHODOLOGY

The data for this research was obtained through a telephone survey of 370 retail customers of KB who are non-users of the electronic banking service of KB called "Internet Banka" and who have agreed that their personal data can be used for marketing purposes.. The survey took place in the period 8th April-16th May 2011. The names and addresses for the phone survey were randomly drawn from the data bank of KB. Out of 370 contacted retail customers, 91 customers were willing to answer the questionnaire which is equal to 24,59% response rate.

The questionnaire on e-banking adoption consisted of 8 questions. It contained 4 questions on demographic variables (gender, age, education and personal income), 1 question about customer's access to Internet at home, 1 question about how customers perceive e-banking (as user friendly or a complex service), 1 question regarding customer's fear of misuse of personal data and 1 question about how secure the customer perceives banking via Bank's web site.

Before presenting the results from the binomial logit models of the adoption process of e-banking, we examine the structure of the non-users of the e-banking service of KB. We focus on the non-users since the purpose of the paper is to identify the key barriers to acceptance of e-banking by Macedonian retail customers and due to the fact that the majority of the respondents (92% of the total number of respondents) were non-users of "Internet Banka".

Regarding gender, more than half of the respondents (57%) were male, whereas 43% of all respondents were female.

The age variable was grouped into two categories: 1) Between 18 and 40 years old and 2) 40 and over 40 years old. The majority of respondents (56%) are above 40 years old whereas 42% of the respondents belong to the younger group between 18 and 40 years old.

The survey uses only a grouped dummy for higher education i.e. university or above is used in the analysis in order to minimize the loss in degree of freedom by having too many insignificant variables suggested by the non-parametric tests. A very high proportion (64%) indicated no educational attainment of university or above.

The monthly income variable was categorized into two: 1) Below MKD 30,000 (which is the monthly average personal income suggested by the State Statistical Office of the Republic of Macedonia) and 2) MKD 30,000 and above. A very high proportion (83%) indicated that they earn less than MKD 30,000.

Most of the non-users of the e-banking service of KB (64%) perceive this service as user friendly service, whereas 34% of the respondents answered that they did not perceive it as user friendly.

Regarding access to Internet from home, the majority of the respondents (75%) have access to Internet from home.

Most of the non-users of the e-banking service of KB (68%) consider its web site as secure for doing banking and the majority of the respondents (78%) were not afraid that their personal data could be misused.

In order to identify the key factors that affect the decision of the retail customers to adopt the e-banking service of KB, we estimate the following binomial logit model using the computer package EViews 6:

USERS = *f* (GENDER, AGE, INTERNET, INCOME, SERVICE. EDUCATION, FEAR, SECURITY, ε) (3)

where:

USERS = Use of e-banking; 1 if the respondent is an electronic banking user; 0 otherwise;
GEN (+) = Gender; 1 if the respondent is male; 0 otherwise;
AGE (-) = Age level; 1 the respondent is is below 40; 0 otherwise;
INTERNET (+) = Internet access at home; 1 if the respondent has access to Internet from home; 0 otherwise;
INCOME (-) = Monthly income; 1 if the respondent's monthly salary is below MKD 30,000; 0 otherwise;
SERVICE (+) = Perceived user friendliness; 1 if e-banking is perceived as user friendly service; 0 otherwise
EDUCATION (+) = Education level; 1 the respondent completed higher education (university or above); 0 otherwise;
FEAR (-) = Fear of misuse of personal data; 1 if the respondent is afraid that his/her personal data will be misused; 0 otherwise
SECURITY (+) = Perceived security; 1 if the respondent perceives KB's web site as secure; 0 otherwise;
ε = Error term.

In our model we do not explicitly introduce cost and speed of transactions in the model. These determinants of adoption of e-banking are parameterized in terms of the constant.

4 EMPIRICAL RESULTS AND DISCUSSION

The results of our binomial logit model are presented in Figure 1.

The obtained results provide strong evidence that a probability of electronic banking adoption by Macedonian citizens is affected by individual characteristics (age and education). Customer's age is found to be the most significant factor affecting the adoption of "Internet Banka" of KB. The age group between 18-40 is more likely to adopt electronic banking than the age group of 40 or above. This finding is in line with the results of the previous empirical studies which found that the typical online banking customer is a young person who is familiar with PC and Internet navigation.

Figure 1: Results of the binomial logit model in EViews 6

Dependent Variable: USERS
Method: ML - Binary Logit (Quadratic hill climbing)
Date: 03/21/11 Time: 15:12
Sample: 1 89
Included observations: 84
Convergence achieved after 5 iterations
Covariance matrix computed using second derivatives

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.460590	0.857454	0.537160	0.5912
GENDER	-0.597747	0.914857	-0.653378	0.5135
AGE	2.667883	1.225990	2.167948	0.0302
INTERNET	-0.020569	0.860032	-0.023917	0.9809
INCOME	-1.460357	1.011307	-1.444029	0.1487
SERVICE	-0.920210	1.021329	-0.900992	0.3676
EDUCATION	1.324471	0.664331	1.993693	0.0462
FEAR	0.321049	1.005400	0.319325	0.7495
SECURITY	-0.813718	0.851125	-0.956049	0.3390

Mean dependent var	0.750000	S.D. dependent var	0.436613
S.E. of regression	0.385881	Akaike info criterion	1.002994
Sum squared resid	11.16783	Schwarz criterion	1.263439
Log likelihood	-33.12575	Hannan-Quinn criter.	1.107691
Restr. log likelihood	-47.23615	Avg. log likelihood	-0.394354
LR statistic (8 df)	28.22081	McFadden R-squared	0.298720
Probability(LR stat)	0.000434		

Obs with Dep=0	21	Total obs	84
Obs with Dep=1	63		

As can be seen from Figure 1, education also had a significant impact on the adoption of KB's e-banking service. Retail customers with university degree are more likely to adopt electronic banking than those with secondary education. Other variables were denoted as non-significant variables for the adoption and usage of the e-banking service of KB.

In summarizing the results from the binomial logit model, traditional demographic variables (age and education) play an important role in electronic banking adoption decision. By contrast, customers' gender, access to Internet at home, customer's monthly income, perceived user friendliness, fear of misuse of personal data and perceived security are not significant for the likelihood of e-banking adoption.

5 CONCLUSIONS AND IMPLICATIONS

This study examines the factors affecting adoption and usage of the e-banking service of the biggest and leading bank in Macedonia-Komercijalna banka AD Skopje. Our research has shown that the development of e-banking is not sufficient alone to ensure its adoption by the retail customers. A complex set of different determinants affect the adoption of the e-

banking service. The results of our binomial logit model indicated the demographic characteristics, age and education, as the most influential factors explaining the adoption and use of the e-banking service of KB.

Our study makes an important contribution to the emerging literature on Internet banking. It is the first study of its kind, that we are aware of, to empirically examine the different factors affecting the adoption and use of electronic banking in Macedonia. The empirical results of this study should provide insight on consumer adoption of e-banking in Macedonia, a country which is quite different from the developed economies that have been subjects of most empirical studies on adoption of e-banking services. Furthermore, the obtained results will have important implications for the Macedonian banking sector and also for the government since both will be aware of the key factors that should be taken into account to foster the usage of e-banking service and thus reaping out its benefits. It is also hoped that the applied methodology and the obtained empirical results will help future studies on factors affecting the adoption and usage of e-banking by citizens of the Western Balkan countries.

However, there are several limitations of our study. First, the obtained results are based only on a quantitative research (survey). The obtained findings would have been strengthened if the survey was supplemented with qualitative research i.e. with interviews with retail customers which could provide more in-depth on the factors affecting the adoption i.e. non-adoption of e-banking. In-depth interviews are used to verify and reinforce the data collected from the survey. Second, our study does not take into account the effect of time on adoption and use of e-banking by retail customers. The results of our study would have been reinforced by carrying out a longitudinal research in order to observe the effect of time on adoption and use of e-banking by retail customers. This was not possible due to time and resources constraints.

Hence, in the future research we would try overcome the above mentioned limitations by combining the quantitative research with in-depth interviews and by undertaking a longitudinal study. In order to test whether the obtained findings are specific to Macedonian retail customers or are similar across transition economies in the region, we will extend our research by including banking retail customers from Western Balkan countries (Croatia, Serbia, Bosnia and Herzegovina, Montenegro and Albania).

Practical implication of these empirical results is that in order to attract more e-banking customers, mainly from the active banking age group (40 and above years old) who perform larger and more complex banking transactions than younger generation, banks in Macedonia need to highlight that e-banking is easy to use. Moreover, they should give customers step-by-step instructions for doing it by inclusion of demo applications on their official web sites or on CD which simulate the mode in which transactions are processed on Internet. In parallel with that, they should make e-banking interface as simple as possible. Banks also need to make the consumers aware about the benefits of e-banking by providing them with the details of the benefits in their promotional and advertising activities.

From a policy perspective, the obtained empirical results point out the need of more intensive cooperation between Macedonian commercial banks and the government of the Republic of Macedonia in order to develop a positive attitude towards electronic banking, through general public awareness campaign. Private-public cooperation is also needed for stimulating the demand for e-banking, by increasing the level of Internet penetration at home and education not only at schools, but also organizing adults' training courses in order

to train older people, who belong to the active banking age group, but they did not have a chance to have internet education at school or at work.

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PSYCHOSOCIAL WORKLOAD IN INDUSTRIAL RELATIONS

Martin Rabe

Institute for Public Health, UMIT – The Health and Life Sciences University

Hall/Tyrol - Austria

martin.rabe@umit.at

Matthias Nübling

FFAS – Freiburg Research Centre of Occupational and Social Medicine

Freiburg – Germany

nuebling@ffas.de

Salvatore Giacomuzzi

Institute for Public Health, UMIT – The Health and Life Sciences University

Hall/Tyrol - Austria

Abstract

Aims: The purpose of this study was to investigate the psychosocial strain among full-time and volunteer work council members in Germany and compare them to the average of all professions.

Methods: We administered the German short form of the COPSOQ survey to work council members employed by the trade union IG Metal in Germany. The survey was conducted from September to October 2011and included 113 full-time and 196 volunteer works council members. Using data from the survey, we conducted multivariate linear regression analyses to examine the psychosocial stress and strain between full-time and part time work councils, accounting for relevant cofactors.

Results: In general work councils indicate significant adversely values in most scales on psychosocial strain compared to the average of all professions. Due to the profession, full-time and volunteer work councils assign substantial differences in the values.

Conclusion: The profession of being work council leads to higher psychosocial strain compared to the average of all professions. This effect varies between full-time and

volunteer work councils. Work councils´ self perceived job demands differ significantly due to the profession. Hence, preventive strategies to reduce psychosocial stress and strain for the profession of work councils should consider the specific demands conditioned to full-time and volunteer work councils. Addition studies may be needed to further characterize this association, including examining the impact of training courses on psychosocial stress among work council members.

Keywords: Coping, psychosocial workload, social dialogue, work councils

Topic Group: Industrial relations, working conditions, human resource management

INTRODUCTION

In the last decades, Western industrial countries are confronted with numerous, partly fundamentals changes of working conditions (Burk et al. 2008). Shifting the kind of employment from production sector to service sector these changes also involve significant changes for employee´s representatives, work councils' work (Haipeter 2011). Rising demands for employees for knowledge, flexibility and time thus lead to rising demands regarding the managerial and human resource skills for work councils. In context of these changes psychosocial demands have markedly increased. The days of disability of work and the treatment costs related to the field of psychology are increasing. So the DAK-health report 2011 (DAK = German employee insurance company) focusing psychological factors states psychological diseases with 12,1% as number four of major diseases. These changes, both working conditions and the changing demands of employees have serious effects on the Industrial Relations. In Germany the framework in Industrial Relations is set upon two columns. One is the centralized collective bargaining by trade unions, second works councils and plant-level codetermination. While bargaining the central wage agreements is lead to decrease the competition of wages, it is the job of work councils to adept these masters agreements on work place by keeping worker´s interest. This leads to a demand of highly skilled works councils, so this role of the representative interest is associated with mental strength, competence and control. Helplessness and failure are perceived as disadvantageous (Tietel 2006; Minssen et al. 2005). In fact there are two different types of works councils: full-time and volunteer workers representatives, which are confronted with both, changing demands of employees and changing working conditions. Due to these developments the strain of work councils changes. However, while there are many studies investigating changes in working conditions, to the best of our knowledge there are only few studies (Rabe et al. 2011) that compare the individual psychological strain among those who undertake a role on work councils compared to the average of all professions. Therefore, this study investigates psychological stress and strain between both work councils, volunteer and full-time, as compared to the average of all professions.

BACKGROUND

In occupational health the research of psychosocial risk factors is becoming more and more in the focus of scientific community. Due to the fact that these psychosocial risk factors do have a significant effect on health, health inequalities and the in the beginning outlined change of working conditions, there is a rising sensitivity for research and prevention (Lavicoli et al. 2006; European Agency for Health and Saftey at Work 2001). Analysing workplace-related physical and psychosocial exposures and conditions, it is of vital importance to be aware and to have an extensive knowledge about of the individual terms of work and the relevant influences. So, Moncada et al. (2010) found out that the kind of work,

the job conditions and physical and mental workload is connected to sick-leave days and healthy mental situation (Head et al. 2007; Andersen et al. 2004). Assessing psychological workload, the use of the Copenhagen Psychosocial Questionnaire (COPSOQ) offers important advantages. Due to the fact that there are different scientific approaches for assessing stress and strain at workplace, for example the "demand-control-support model" by Karasek et al. (1990; 2007) the "Effort-Reward Imbalance (ERI) model" by Siegrist et al. (1986a;1986b) or the model of resource conservation by Hobfoll (1988; 2005), a comprehensive investigation needs to be "theory-based, but not attached to one specific theory, …should include dimensions of related to work tasks, the organization of work, interpersonal relations at work, cooperation and leadership, …[and] should cover potential work stressors , as well as resources" (Burgoon et al. 2009, p. 439). Due to Kristensen et al. it is designed so ''there should not be any significant 'white spots' in the picture painted'' (Nübling et al. 2005, p. 439). There are less quantitative researches on psychological stress and strain of work councils and few studies using COPSOQ to compare work councils to certain reference groups, so this study is meant to the best knowledge of the author to be one of the first investigation using a comprehensive and comparable quantitative instrument.

AIMS

The purpose of this investigation is to compare psychosocial workload among specific professions in industrial relations. It is to investigate weather the kind of being work council, full-time or volunteer, is different in the self-perceptive psychosocial stress and strain. Furthermore, we want to analyse different kinds of work councils to the average of all professions of a selected database.

HYPOTHESIS

The development of hypotheses is based on the complex job-related tasks and responsibilities of volunteer and full-time works councils. Tietel (2005) describes this as the so-called "triadic relationship", where employees´ representatives have to bargain and mediate against employer´s and trade union´s interests. Jirhan (2009) and Haipeter (2011) assume this situation as potential factor for the emergence of psychosocial stress and strain. Taking these assumptions into account it is the aim of the study to analyse psychosocial workload of works councils and compare the results to the average of all professions.

Hypothesis 1: Work councils have higher stress and strain than the average of all professions.

Additional the research focuses the profession of works councils in detail. In contrast to detailed and deep analysis of employees´ physical and mental work situation, their representatives are not in the main focus of scientific research. Their vital means for employees' coping strategies is reported (Holler 2012), but there just few attempts on distinguish psychosocial workload between full-time and volunteer works councils (Seidl 1999; Giesert et al. 2001). So the second hypothesis is meant to analyse these aspects in detail:

Hypothesis 2: Full-time work councils experience psychosocial stress and strain less than volunteer work councils.

METHODS AND DATA COLLECTION

The authors used the German standard version of COPSOQ for assessing psychosocial stress and strain among work councils. This instrument was validated in 2003 – 2005 by Nübling et al. (2005; 2006). For the majority of scales the assessment of reliability, generalizability, constructs validity and criterion validity good measuring qualities were found. An overview of the structure and functioning of this instrument is free for access on the German COPSOQ website: http://www.copsoq.de.

Nübling et al. (2010, p. 3) describes the instrument as following:

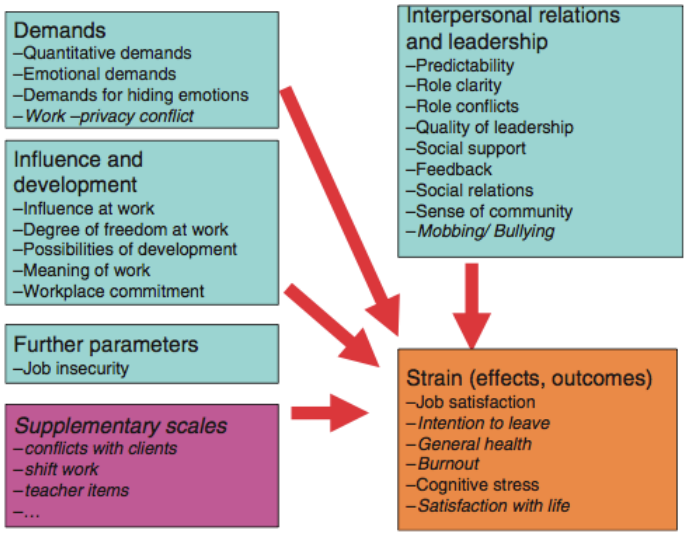
> *"The instrument includes 19 aspects (18 scales and 1 single item) for assessing the psychosocial work environment grouped into the sections: demands (4 scales), influence and development (5 scales), interpersonal support and relationship (8 scales and 1 single item), and job insecurity (1 scale) and six constructs (4 scales and 2 single items) assessing the employee's reaction to the workplace situation as outcome factors: job satisfaction, intention to leave, general health, burnout (scale: personal burnout), cognitive stress and satisfaction with life. In total 87 Likert-scaled items with mostly 5 answer categories are include".*

Due to the multidimensional concept of COPSOQ questionnaire, this comprehensive instrument considers most of the leading concepts, for example:

- The Job Characteristic Model (Hackman & Oldham 1975; 1976):
  The initial situation of this theoretical approach was to assess the individual perception of objective job related demands in a quantitative approach. Especially the influence of extrinsic and intrinsic motivation on daily work is a main focus, forming so-called "core job dimensions" (Hackmann 1974, p. 161; Weinert 1998, p.99): "variety of skills", "identity and significance of tasks", "autonomy" and "feedback".
- The Demand-Control-(Support) Model (Karasek 1979; Karasek & Theorell 1990):
  The main assumption of this model is the interaction of job demands, for example intensity and quantity of work and decision latitude at workplace. Psychosocial stress and strain arises of the situation facing high job demands with simultaneously combined limited opportunities to make own decisions. Adding the aspect of "support" implies that social relationship and emotional support at work leads to cushioning effects.
- The Effort-Reward-Imbalance Model (Siegrist et al. 1996a; 1996b)
  The focus of this theoretical approach is the reciprocal relationship of employee´s performed work and the received rewards, including payment and social acceptance. Imbalances between high demands and low rewards generate harmful and negative feelings and leads to rising risks for diseases (Rau et al. 2010).
- The Theory of Resource Conservation (Hobfoll 1989; Hobfoll et al. 2004)
  This theory considers the individual´s resources as major predictor for suffering or coping stress and strain. Resources can be objects, conditions, energy or characteristics. Individuals strive to maintain or to accumulate resources, whereas stress and strain arises out of the threat loosing them.

The structure und contend of the used instrument is presented in figure 1.

Figure 1: Content of the German standard COPSOQ, differences from the Danish/English original questionnaire in italics (Nübling et al. 2011; p.121)



PERFORMING THE STUDY ON WORK COUNCILS

The design of investigating psychosocial workload on works councils was selected as a cross-sectional, national-wide survey and conducted between October and November 2011. More than 50 administrative centres of trade union IG Metal sent in an anonymous survey a covering letter of IG Metal, a covering letter of the authors and the questionnaire via email and in a paper and pencil format. Shortly before the end of that period a reminder was send out. Participation was voluntary; there was no collection of personal data like the company or the address. Due to the setting of the research no approval by an ethics committee was needed. Attending works councils used email and anonymous envelops to send the completed questionnaires to the author. The dataset was analysed in cooperation with the FFAS (Freiburg Research Centre for Occupational and Social Medicine). For analysing the results, the software SPSS 19.0 was used to perform descriptive statistics. To compare the mean values of COPSOQ-aspects, t-tests and Analysis of variance (ANOVA) were performed. Given the large number of aspects the authors established the significance level at $p<0.05$ enabling the comparison of full-time and volunteer work councils versus reference groups.

Comparing the means, due to Nübling et al. (2010) the difference of five points and more indicate significance. COPSOQ scales do have a standard deviation of about 15-25 points, “thus a difference of 5 points corresponds to an effect size of at least 0.2 which is considered as being the threshold of a small effect; for scales with smaller SDs the effect size is than 0.3-0.35 for a 5 point difference” (Nübling et al. 2010, p.4).

RESULTS

309 work councils took part in this national-wide survey. They are employed by a great range of company´s size, most of them are working in companies employing 100-500 or more than 2.000 people. Due to the fact that more than 50 administrative centres of trade union IG Metal distributed the survey to work councils the authors were not able the

response rate. Considering this limitation, the small sample size of 309 participants, the restriction to a specific branch and the general study setting there is no claim for being representative.

The subjects were grouped according to their occupation: 113 participants were full-time work councils, 196 participants were volunteer work councils (including 23 stewards belonging to the same profession). As table 1 shows, the vast majority of the participants are male. This is true for the profession of work councils. The groups aged 45 years and more are well represented. Most of the participants work full-time (92,90%), some part-time (6,5%) and only few less than 15 hours per week. The working-structure states mainly mentally working (69,60%), some are about equal (35,90%) and only a rare number of work councils are working mostly physical (4,5%). In contrast to the high number of mostly mentally working participants, most of the work councils do have a physical professional education (76,70%) and only few (8,70%) have a collage degree. Table 1 shows the socio-demographic characteristics.

Table 1: Socio-demographic Characteristics and working schedule of Study Participants

		Total; N= 309	
Gender	Male	225	72,80%
	Female	84	27,20%
	No answer	0	
Age	18-24 and 25 - 34	32	10,40%
	35-44	81	26,20%
	45-54	143	46,30%
	55+	47	15,20%
	No answer	6	1,90%
Work hours per week	35+ h/week	287	92,90%
	15-34 h/week	20	6,50%
	< 15 h/week	2	0,60%
	no answer	0	0,00%
Company size	0 - 100	33	10,70%
	100 - 500	90	29,10%
	500 - 1000	60	19,40%
	1000 - 1500	16	5,20%
	1500 - 2000	12	3,90%
	> 2000	31,7	31,70%
Kind of work	Mostly mentally working	215	69,60%
	Mostly physically working	14	4,50%
	About equally	80	35,90%
	No answer	0	0,00%
Education	Completed school education	4	1,30%
	Completed professional education	237	76,70%
	College degree	21	8,70%
	No answer	41	13,30%
Kind of employee´s representative	Full time work council	113	36,60%
	Volunteer work council	196	63,40%
	No answer	0	0,00%
Branch	Metal	235	76,50%
	Service	36	11,70%

	IT	7	2,30%
	Chemistry	18	5,90%
	Textile	8	2,60%
	Others	3	1,00%
KdB92 Classification	Storage	11	3,60%
	Chemistry	4	1,30%
	Metal producing and working	29	9,40%
	Metal, machine and similar	80	25,90%
	Electro and similar	25	8,10%
	Machinist and engine driver	8	2,60%
	Engineer	20	6,50%
	Technic profession (engineer, chemist)	33	10,70%
	Service	21	6,80%
	Organisation and management (leading position)	20	6,50%
	Business employees	47	15,20%
	Health sector	4	1,30%
	Social and educational profession	4	1,30%
	No answer	3	1,00%

Sum may differ from 100% due to rounding

PSYCHOSOCIAL FACTORS AT WORK

The authors performed internal comparison for all COPSOQ-scales. 19 aspects assessed the working situation, whereas six factors on outcomes were measured between full-time, volunteer work councils and the general mean of all professions of COPSOQ database (N>35.000).

DIFFERENCES BETWEEN WORK COUNCILS AND EMPLOYEES WORKING IN THE SAME SECTOR

Table 2 presents the results of the comparison between the scales of full-time and volunteer work councils and the general mean of COPSOQ database. According to Nübling et al. (2010) and the statistical conditions deviations in means of at minimum five points or more indicate significance at the level of $p<0.05$. Characterizing this briefly, the description by "+"-sign exceeding or "-"-sign be less than the reference values was chosen. In order to avoid misleading interpretations of the used characterization, they do not imply an advantageous or disadvantageous meaning. To decide this, the context of the scale has to be taken in consideration. In comparing the scale means between full-time (indicated as "wc"), volunteer (indicated as "vwc") work councils and the overall COPSOQ database Table 2 shows that the general profession of work councils do have significant differences in values.

Table 2: Study results for full time work councils (COPwc), volunteer work councils (COPvwc) and COPSOQ database reference value total (all occupations, COPall). Scale means and standard deviation

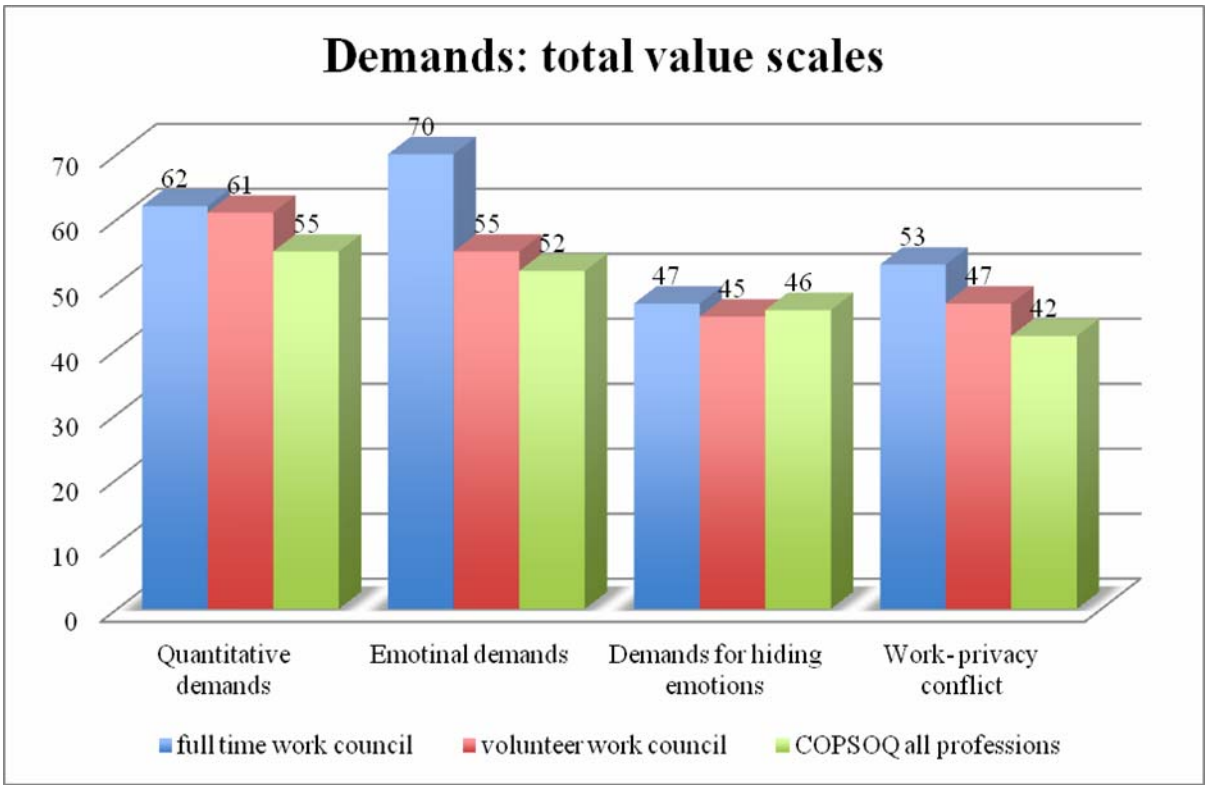
Scales and single items	Study WC; N = 309 mean (SD)		COPSOQ full time work council N = 113 mean (SD)		COPSOQ volunteer work council N = 196 mean (SD)		COPSOQ all N>35.000 mean (SD)		COPwc vs. COPvwc	COPwc vs. COPall	COPvwc vs. COPSall
Demands											
Quantitative demands	61	(15)	62	(15)	61	(16)	55	(15)		+	+
Emotional demands	61	(20)	70	(16)	55	(19)	52	(20)	+	+	
Demands for hiding emotions	46	(21)	47	(18)	45	(23)	46	(21)			
Work- privacy conflict	49	(24)	53	(23)	47	(24)	42	(24)	+	+	+
Influence and development											
Influence at work	49	(20)	57	(18)	45	(20)	42	(20)	+	+	
Degree of freedom at work	64	(20)	71	(18)	60	(20)	53	(20)	+	+	+
Possibilities for development	72	(19)	80	(13)	67	(20)	67	(19)	+	+	
Meaning of work	74	(20)	85	(14)	67	(21)	74	(20)	+	+	-
Workplace commitment	58	(18)	64	(14)	54	(19)	57	(18)	+	+	
Interpersonal relations and leadership											
Predictability	53	(21)	62	(16)	48	(21)	54	(21)	+	+	-
Role clarity	71	(15)	74	(13)	69	(16)	73	(15)	+		
Role conflicts	54	(18)	58	(18)	52	(19)	44	(18)	+	+	+
Quality of leadership	35	(23)	22	(27)	43	(17)	50	(23)	-	-	-
Social support	52	(19)	43	(20)	57	(16)	64	(19)	-	-	-
Feedback	41	(17)	34	(17)	45	(16)	41	(17)	-	-	
Social relations (quantity)	58	(19)	56	(19)	59	(19)	52	(19)			+
Sense of community	70	(20)	69	(23)	71	(18)	75	(20)		-	
Mobbing (single item)	36	(24)	29	(21)	40	(24)	21	(24)	-	+	+
Additional scales											
Job insecurity	40	(17)	35	(17)	43	(16)	32	(17)	-		+
Intention to leave (single item)	21	(26)	18	(21)	23	(28)	16	(26)	-		+
Job satisfaction	60	(16)	66	(13)	56	(17)	63	(16)	+		-
General health (singel item)	65	(20)	67	(20)	65	(21)	71	(20)			-

Personal burnout	46	(19)	43	(17)	48	(20)	42	(19)	-		+
Cognitive stress symptoms	38	(20)	35	(19)	40	(21)	29	(20)	-	+	+
Satisfaction with life scale	66	(16)	68	(15)	65	(16)	65	(16)			

Deviations in scale means exceeding five points or more are expressed by using "+"-sign: profession-specific value is higher than the compared mean value. Deviation in scale means is less than five points or more are expressed by a "-"-sign: profession-specific value is lower than the compared mean value ($p<0.05$).

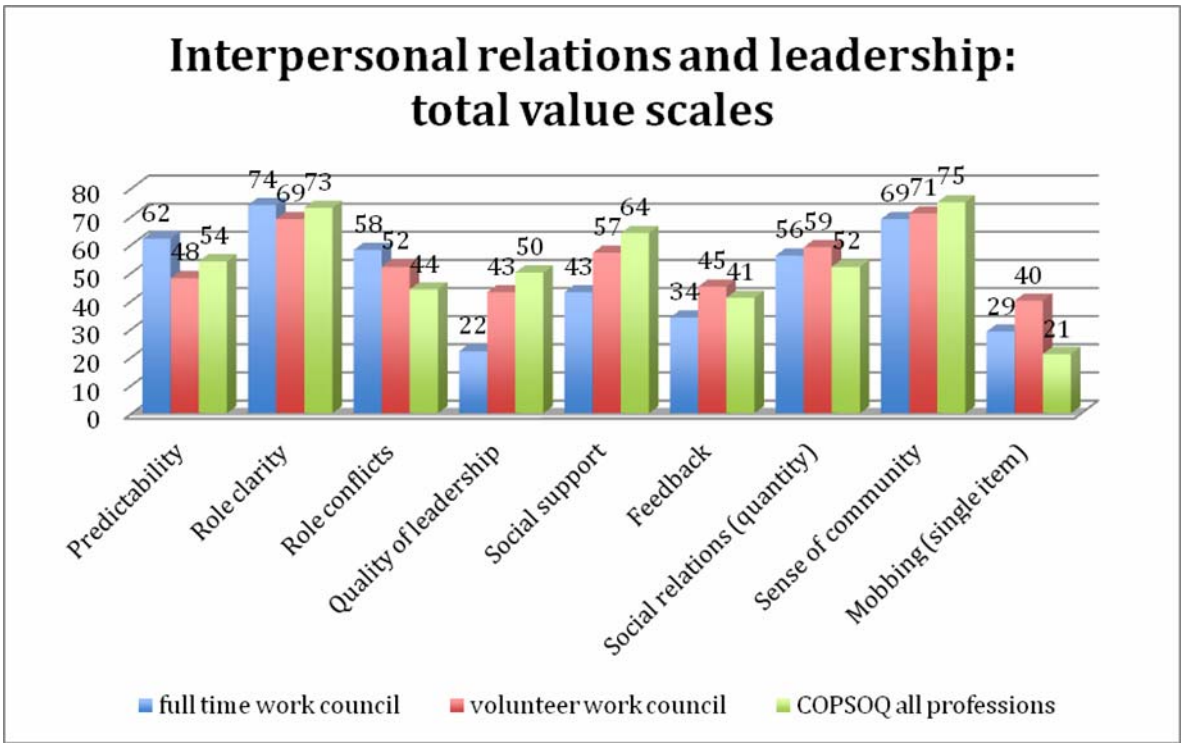
Illustrating the different aspects of COPSOQ clearly, the results are grouped in the following tables. Table 3 shows four scales assessing the aspect “demands”.

Table 3: Comparison of mean values of COPSOQ-aspects on „demands“



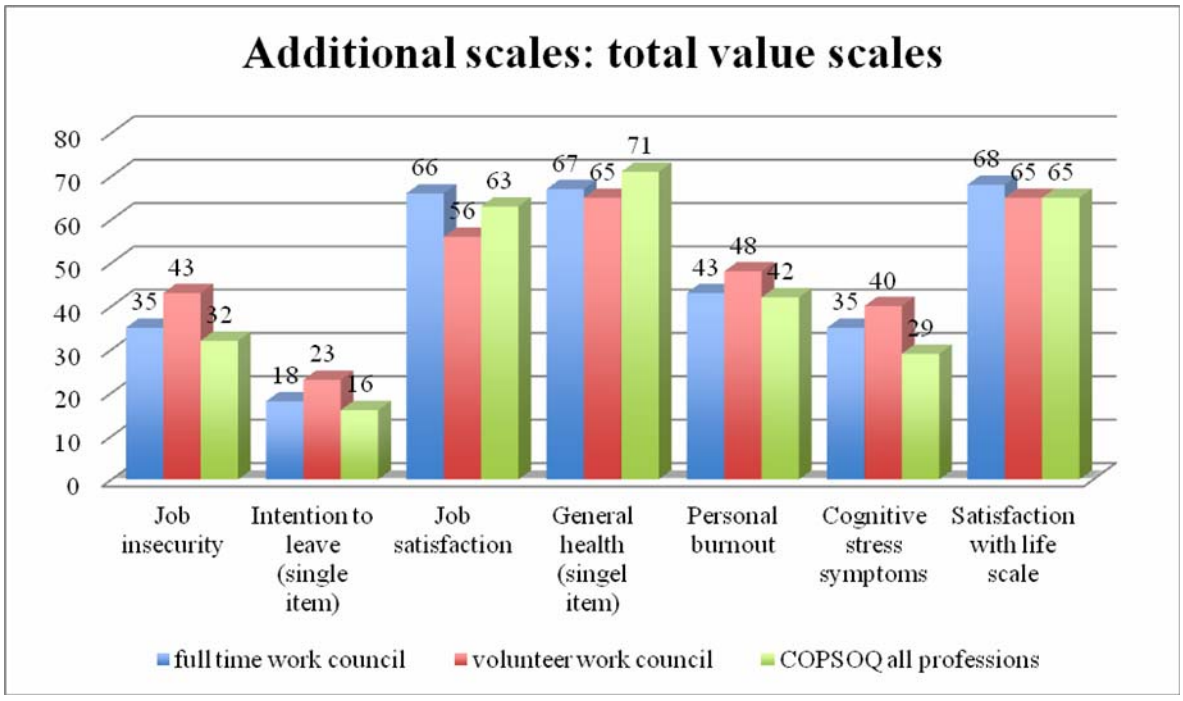
In table four the means of nine scales are presented to demonstrate similarities and differences on interpersonal relations and leadership.

Table 4: Comparison of mean values on COPSOQ-aspects „Interpersonal relations and leadership“



In table five there are seven aspects drawing the picture of the additional scales means of COPSOQ.

Table 5: Comparison of mean values for selected professions on COPSOQ-aspects „additional scales“



Comparison of the scale means between full-time and volunteer work councils showing higher values in the scales indicate a positive meaning:

- Social relations
  Volunteer work councils show significant higher values than the all-over database COPSOQ, full-time work councils indicate higher values.
- Influence at work
  Full-time work councils show significant higher values than the all-over database COPSOQ, volunteer work councils indicate higher scores.
- Degrees of freedom at work
  Full-time and volunteer work councils show significant higher values than the all-over database COPSOQ.
- Satisfaction with life scales
  Full-time work councils indicate higher values.

Comparison of the scale means between full-time and volunteer work councils showing higher values in the scales indicate a partly positive meaning:

- Possibility of development
  Full-time work councils show significant higher values than the all-over database COPSOQ, volunteer work councils indicate the average of all-over data set.

Comparison of the scale means between full-time and volunteer work councils showing higher values in the scales indicate a negative meaning:

- Quantitative demands
  Quantitative demands show significant higher values for both, full and volunteer work councils in comparison to the average of all professions.
  This indicates that both kinds of work councils have significantly higher efforts in quantitative demands of working.
- Emotional demands
  Full-time work councils have significant higher values than volunteer work councils and the all-over data base COPSOQ. Volunteer work councils indicate a higher value.
  This result indicates that full time work councils have to deal with significant higher emotional demands than volunteer work councils, who just indicate a higher score than the average of all professions.
- Work-Privacy Conflict
  Both full time and volunteer work councils show significant higher values the all-over database COPSOQ
- Role conflicts
  Full-time and volunteer work councils show significant higher values than the all-over database COPSOQ
- Mobbing
  Both, full-time and volunteer work councils show significant higher values than the all-over database COPSOQ
- Burn out
  Volunteer work councils show significant higher values than the all-over database COPSOQ.

- Cognitive stress symptoms
  Both, full-time and volunteer work councils show significant higher values than the all-over database COPSOQ
- Job-insecurity
  Volunteer work councils indicate significant higher values, full-time work councils higher values than the all-over database COPSOQ
- Intention to leave job
  Volunteer work councils indicate significant higher values, full-time work councils higher values than the all-over database COPSOQ

Comparison of the scale means between full-time and volunteer work councils showing lower values in the scales indicate a negative meaning:

- Quality of leadership
  Full-time and volunteer work councils show significant lower values than the all-over database COPSOQ
- Social support
  Full-time and volunteer work councils show significant lower values than the all-over database COPSOQ
- Sense of community
  Full-time work councils show significant lower values than the all-over database COPSOQ, volunteer work councils show lower values.
- General health
  Volunteer work councils show significant lower values, full-time work councils show lower values than the all-over database COPSOQ

Differences between full-time and volunteer work councils
Comparison of the results of full-time, volunteer work councils and the overall mean of COPSOQ database showed great differences in scale values among the profession of the participants:

- Job satisfaction
  Full-time work councils show higher values having which indicates positive a higher job satisfaction than the all-over database COPSOQ. In contrast to volunteer work councils showing significant lower values indicating lower job-satisfaction.
- Meaning of work
  Full-time work councils indicate a significant higher, this means positive value, volunteer work councils indicate significant lower values due to a negative meaning.
- Predictability
  Full-time work councils show significant higher values than the average of all-over-data set COPSOQ. Volunteer work councils show lower values indicating a disadvantage.
- Feedback
  Full-time work councils show significant lower values than the all-over database COPSOQ, Volunteer work councils indicate higher, meaning positive values.
- Commitment to the workplace
  Full-time work councils show significant higher values than the average of all-over-data set COPSOQ. Volunteer work councils show lower values indicating a disadvantage.

DISCUSSION AND CONCLUSION

Investigating the self-perceived psychosocial factors at work on work councils belonging to the sector of trade union IG Metal the theory-based German version of COPSOQ was used. Psychosocial workload on work councils was compared to the general mean of all professions of COPSOQ database. Furthermore the meaning of the profession, being full-time or volunteer work councils, on psychosocial workload was analysed. The identification of differences in perception of mental stress and strain between full-time and volunteer work councils was a main focus of this research.

This investigation confirmed expected results of potential job-related stress and strain factors. For example, taking the managerial and mediating role of works councils into account, the significant and high outcome of the aspect “role conflict”. Comparing the results to recent national (Minssen et al. 2005; Korunkaa et al. 2009) and international (Haipeter 2011) researches on this profession, they are congruent. The assumption behind that is the complex triadic structure (in industrial relations demands a balancing of different, often opposing interests for work councils who have to deal with employees’ interests under awareness of the economic situation of the company. Additionally, the study confirmed high psychosocial stress, namely the exceptional high values indicating increasing demands for “mobbing”, “Quality of leadership” “Job insecurity” and “social support”. Theoretically, however, high emotional demands, mobbing and less social support are implications the occupational group of employees’ representative which do not surprise.

In general, there are also some unexpected results of this research. Differences in the perception of the values for the scales “Job satisfaction” “Meaning of work” “predictability” and “Commitment to the work place” reveal a contrary point of view stating a disadvantage position for volunteer work councils.

Several interpretations are possible:

1. Due to their profession as employee representatives work councils have to deal with different and widespread tasks. In this “triadic relationship” (Tietel 2006, p. 25) it is their job to represent and to mediate interests of the work force against the employer´s and trade union´s demands. Changes in economical, managerial and psychosocial demands of the daily work lead to increasing demands on the skills of work councils.
2. Decentralisation (Haipeter 2011, p. 680) leads to increasing demands for work councils due to the fact that bargaining responsibility is delegated from trade unions 'collective bargaining to lower levels of plant bargaining for employees ‘representatives. Full-time work councils use to deal with this problem as daily work, meanwhile volunteer work councils have to combine the normal workers day and the responsibility for employee´s interests at are set to deal with “different worlds”.
3. The profession of works councils differs, due to terms of being voluntarily or full-time representing, in their daily tasks and kind of work. So analysing the job demands and conditions could be evaluated in different ways. So, as an example, a systematic misrepresentation could be the degree of participating being work council.
4. Volunteer work councils are set to deal with the daily work of production or service with colleagues and additional have to be theirs´ representatives. It is frequently argued that demands, wishes and needs of humans are individual, they cannot satisfy all preferences of their colleagues. This leads to higher confrontations at work and increasing psychosocial stress and strain.

5. Both, full-time and volunteer work councils are afraid of losing their job. Work councils are elected for a period of 4 years, in this period they are strongly protected by WCA. But if they are not elected a second time, their tasks changes from being employees' representative back to "normal work". This may perceived as disadvantage. Also they could be afraid of repressions for decisions in the time being work councils by the management.

The key contribution of this study to science is the evaluation of differences on self-perceived psychosocial workload between full-time and volunteer work councils. The results lead to implications for further decisions of working conditions and training courses for this profession. Possible economic impacts could be an adaption of training courses for work councils with focus on psychosocial stress and strain.

STRENGTHS AND LIMITATIONS

Using self-reported data on risk factors and only one data source is a general imitation and could lead to a "common method bias". It would be an advantage to link different data sources for measurement in a "multi-source" assessment (Nübling et al., 2010), this means the use of different approaches. So assessing psychosocial workload by a questionnaire and perform additional "objective" examination by physicians. Furthermore, using questionnaires measuring psychosocial workload could do not claim on completeness and taking every aspect into consideration, results are tend to correspondent to individual reactions than describing aspects of the job-related mental situation. Also the COPSOQ database contains more than 35.000, the overall mean is not claimed to be representatively for all employees. Additional the database of 309 work councils may not be representative.

The major advantage of this study is the investigation of psychosocial workload in industrial relations by the use of a comprehensive and evaluated questionnaire that is based upon different theoretical approaches and enables comparison of different professions. Additional this approach identifies differences in self-perceived psychosocial work factors and affected aspects.

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ATTITUDES TOWARD WORK AND THE ORGANIZATION IN THE CONTEXT OF A BONUS REWARD SYSTEM

Iva Mikulić
Sunce International Health Centre, Zagreb
Croatia
iva.mikulic@live.hr

Ana Šimunić
Department of Psychology, University in Zadar
Croatia
asimunic@unizd.hr

Matilda Nikolić
Department of Psychology, University in Zadar
Croatia
mnikolic@unizd.hr

SUMMARY

Given that people spend most of their life in the workplace, it seems reasonable to expect some form of compensation with respect to the effort, time and knowledge. The aim of this study was to examine whether differences in the reward system with respect to the work place of the employees have any effect on attitudes toward work in these troubled economic times.

The research was conducted on a convenience sample of 150 employees of an insurance company in Croatia 'Koncern Agram', of which 71 men and 79 women. Of the total, 65 employees performed their job in the office in different sectors and were awarded on group basis, while the remaining 74 were in the sales sector and were rewarded individually.

Employees whose achievements were rewarded individually were more committed to the organization, estimated higher equity compensation, and accordingly were more satisfied

with the rewards. They had better relationships in the organization and were more motivated to work.

Keywords: compensation, reward system, work place type, attitudes toward work

Topic Groups: Managerial and organizational psychology

INTRODUCTION

Given that the average person spends a great amount of time at work, it is logical that this part of life greatly influences attitudes in general, especially attitudes about work and the work organization in particular. Compensation or rewarding may be divided into monetary and non-monetary. Monetary rewards may be given based on an employee's individual or group performance. Given that different studies on different populations have not given unambiguous results in terms of the influence of rewarding systems on attitudes towards work and the preferences of workers according to these systems, it was interesting to examine how different reward systems influence attitudes toward work and whether material gain is the most important in these times of unstable economy.

THEORY

Compensation or rewarding of employees is considered the most complex and sensitive human resource management function. It, inter alia, is used to motivate employees to behave and operate in a manner that ensures the full realization of organizational goals and interests. Over the basic functions that include management of human resources, the employer plans, organizes, manages and oversees the various types of payment systems to reward employees whether with respect to their job (individual position, tenure in current position, seniority, and/or contribution to the organization) and/or with respect to work performance (group and individual achievement). The main advantage of using both payment systems is the possibility of attracting, securing, and retaining employees to support organizational strategy and objectives (Gomez -Mejia & Balkin, 1992a i 1992b; Kanter, 1989; Ismail, 2007).

Compensations may be intrinsic and extrinsic. Intrinsic usually include the feeling of satisfaction that the job is completed or a goal is scored, while extrinsic include a tangible way of rewarding (monetary or other). This method of compensation is usually direct (fixed and variable wage), or indirect, which is mainly related to some kind of relief. Intrinsic rewards are typically ranging from achievement, satisfaction, and personal growth all the way to formal recognition, while the extrinsic from incentives, benefits, advancement to formal recognition. Material rewards and incentives include salary, benefits, and other forms of material compensation for the invested work, which can be categorized based on the direct material or financial rewards and inkind prizes. These include pension and disability insurance, health insurance, nutrition, scholarships and tuition fees, various forms of life insurance, days off, vacations, recreation and more. That part of the material benefits of employees is very diverse and in modern organizations are highly developed, so it accounts for an increasing proportion of total labor costs. Past experience indicates that it has a positive effect on attracting and retaining people, but there is no greater impact on their work behavior.

A job usually regarded as something done by one person. However, where appropriate, the job can be designed to be performed by a group of employees. In an attempt to achieve

greater significance of the work and the exploitation of higher productivity and loyalty that occur as a result, more organizations are using a group of employees for certain jobs. The majority of employees belong to a formal work group, while organizations often set up a temporary group in order to achieve different tasks. In addition, different groups within the organization work together for common goals. However, teamwork is one of the challenges in designing a reward system, which is primarily to identify whether the award should be based on individual or group performance, or perhaps their combination. In awarding the group members, it is not enough to look only for the overall group effect, but also the individual contributions of each member, which makes one of the most complex and sensitive function of human resources even more complex.

It should be noted that individual and group reward systems have their advantages and disadvantages. Deciding whether a system of rewards will be based on group or individual performance, is usually based on the assumption that, on the one hand, the individual rewarding limits group activities, on the other hand, group rewarding will limit individual motivation, primarily because individuals can easily lose a sense of how their performance contributes to the overall achievement. Thus, a survey on 2,000 employees from various organizations found that the majority voted in favor of individual incentives over group incentives at the organizational level (LeBlanc i Mulvey, 1998; Jackson i Mathis, 2008). When the performance of a whole group is rewarded, greater cooperation is needed and usually is achieved (Mathis and Jackson, 2008). However, competition between groups can lead to a reduction of the overall achievement in certain conditions. Adequate financial rewarding forms the basis upon which a broad structure of motivational incentives to increase the overall motivating potential and attractiveness of the work situation should be built. Material compensation is therefore a necessary but not sufficient condition for the development of a broad motivational basis of diverse behaviors within the company. In developed economic systems intangible compensation is becoming increasingly important, while, for example, in Croatia, according to research from 1993 by the Institute of Economics the salaries were at the top of the motivational factors hierarchy. The reason for this lies in different economic conditions, culture, heritage, etc. (Bahtijarević-Šiber, 1991; Kutleša, 2005). In particular, the fact that employees must have confidence in the overall compensation system and its fairness should be taken into account. Good interpersonal relations must be accompanied by attractive salaries and incentive wages, because motivation is closely linked with earnings. From the individual perspective, wages and awards primarily provide existential needs, but a quality reward system contributes to the individual's sense of adequacy, purpose, unity, fairness, job and life satisfaction, and a sense of belonging, which all together leads to greater efficiency and effort of employees and ultimately a more profit organization. This is why quality reward systems are clearly presented to all employees, and they know exactly what is required for them to be adequately rewarded. Changes in expectations are stressful for people, keep them in suspense, and contribute to a sense of failure. Quality and adequate rewards provide employees a sense of recognition and respect by their employer. Although the financial and material part of employee compensation is not necessarily the most important aspect of the job, at the present time of economic instability, it is certainly one of the most important. Therefore, the purpose of this study was to examine whether differences in the way (individual and group) of rewarding employees influence their attitudes about the job.

Given that teamwork encourages collaboration among employees and develops a sense of belonging, it is assumed that it will also promote stronger bonds and better relationships amongst the co-workers. When people work together they usually help each other and they

can manage to carry out larger tasks than they could do individually. Not only that, but group can create more realistic plan and objective than the individual can do by himself, and that can lead to highre feeling of accomplishment and of course, as a result, feeling more satisfied with their job.

Many researchers (ex., Dimmlich, 1999, Reilly, 2003) indicate that rewarding on a group level motivates employees to help eachother as they are all working together and for the same goal on a highly competitive market. Working in a group also creates a positive atmosphere at the workplace which is very important since individuals in a group spend a lot of time working closely together. When people are rewarded as a team it reduces competition between the employees and increases wellbeing as well as satisfaction towards work, motivation and feeling of belonging, and workers are more likely to push harder for their team and company. Because individuals feel the need of belonging to a group so they can feel recognition, working in a group can lead to a higher commitment of the employees and, as we said earlier, make them feel a higher motivation to do a good job.

Since many studies have shown that individual rewarding has the disadvantage that employees may care only for their profits and thereby impede the work of other employees because they are not motivated to cooperate, it is assumed that in situations when people are rewarded for individual work they will be less interested in communicating with other employees which can lead to an unhealthy atmosphere in a workplace. That can also lead to more competitivenes among employees on individual level which doesn't necessarily mean more productivity because individuals only rely on themselves and often don't have a very objective plan. Working as individuals can also lead to the diminissing feeling of belonging which can in addition lead to a lower feeling of commitment. As a result individuals can feel as if their employer does not value them enough, they can feel less satisfied with their pay, and job in general and may as a result look for another job.

Hypothesis 1: Employees who are rewarded for group performance report greater commitment to the organization than employees who are rewarded for individual achievement.

Hypothesis 2: Employees who are rewarded for group performance will be more satisfied by rewarding and procedural justice and more motivated at the job.

Hypothesis 3: Employees who do their job in the field and are rewarded individually will be less willing to cooperate with colleagues, have poorer business relationships with colleagues and poorer communication.

METHOD

Participants

The aimed participants were groups of employees which work in teams or individually and are thus rewarded according to group or individual performance. Insurance companies seemed convenient for this case. Numerous companies were contacted and approval was obtained from Agram. Therefore, the study was conducted on a convenience sample of a total of 150 employees of Agram insurance companies, 71 men and 79 women. Those who were rewarded individually (N=65; (individual rewarding) worked in the field, while those who were rewarded with their performance evaluated at the level of the organization or

group (N=74; group rewarding) worked in the office. Below is a display of the number of participants when groups are combined according to gender and rewarding system (Table 1). The results of the remaining 11 subjects, who work in the office and in the field, were excluded due to small sample. Sociodemographic characteristics of the sample are presented in Table 2. Statistical analyses showed that the participants in different rewarding systems do not differ according to the sociodemographic characteristics taken into account (age, education, years of total and current work, gender).

Table 1: The number of subjects in each group according to gender and rewarding system

	Rewarding system	
	Individual	**Group**
Men	34	34
Women	31	40

Table 2: Sociodemographic characteristics of the examined sample

		Rewarding system	
		Individual (f)	**Group (f)**
Gender	men	34	34
	women	31	40
Age	24-31	21	14
	32-39	24	30
	40-47	10	11
	48-55	9	12
	56-59	3	7
Sector	Sales	65	0
	Damages	0	14
	Finances	0	14
	Informatics	0	17
	Joint operations	0	29
Educational level	Unqualified	0	0
	High school	21	23
	Higher school	10	12
	College	34	39
Total years of work experience	0-6	13	13
	7 – 13	25	25
	> 14	27	36
Years at current workplace	0-6	32	41
	7 – 13	22	24
	> 14	11	9

Instruments

A list of social-demographic-type questions and typical requirements within the profession where the respondents were asked to answer questions on gender, age, total work experience and years of experience at the current workplace, workplace at the organization, and qualifications.

The Organizational Commitment Questionnaire consists of 32 items, which all relate to some aspect of commitment, such as emotional or functional loyalty to the place of employment, the willingness to invest effort in favor of the organization, etc. From a total of 32 items, the first 18 were constructed by Meyer, Allen and Smith (1993; Brown, 2003) and the remaining 15 by Porter and Smith (1970; Cook, Hepworth, Wall, and Warr, 2000). The items were evaluated on a 7-degree scale, where the number 1 indicates total disagreement with a particular statement, while the number 7 means complete agreement with the statement.

Exploratory factor analysis with varimax rotation resulted in one factor with an Eigen value greater than 1, explaining 44.7% of the total variance. Three items were excluded from further analysis due to nonsatisfactory psychometric properties (low correlation with the total score and a low saturation with the derived factor) and their ejection increased the internal homogeneity of the questionnaire or the internal consistency reliability (Cronbach alpha coefficient = 0,95). All the remaining items had a greater than 0,58 correlation with total score.

Rewarding Fairness Questionnaire - consists of 6 items related to some aspect of fairness in remuneration within the organization. All 6 items were adapted from the research of Brashear, Brooks, and Boles (2002), whose goal was to design and validate scales for measuring procedural and distributive justice. The items used in this study were taken from the subscale of distributive justice, which showed satisfactory psychometric properties in the original design. The items were evaluated on a 7-degree Likert-type scale, where 1 marked the complete unfairness of the rewarding system, while 7 marked total fairness of the system.

Exploratory factor analysis with varimax rotation derived one factor with Eigen value greater than 1, which explained 82.25% of the total variance. The internal consistency reliability (Cronbach α) of the extracted factor was 0.96. Further analysis included all items, as they were shown to have satisfactory psychometric properties. All the items had a equal to or greater than 0.86 correlation with the total score.

Rewarding Satisfaction Questionnaire consists of 19 items, which were taken from the questionnaire constructed in the study of Ismail (2007). Satisfaction with rewarding includes aspects such as satisfaction with the work environment, free work mode, the ability to use skills, satisfaction with available health benefits, etc. The items in the research cover four areas: financial and non-monetary rewards, distributive justice, and job satisfaction. For the first three areas items were constructed on the basis of the literature on these areas (Adams, 1963 and 1965; Folger and Cropanzano, 2001; Moorman, 1991), a part of job satisfaction was measured using the Overall Job Satisfaction Scale constructed by Warr, Cook, and Wall (1979). The items are evaluated on a 7-degree scale, where the number 1 marks complete disagreement and the number 7 complete agreement with the statement.

Exploratory factor analysis with varimax rotation derived one factor with an Eigen value greater than 1, explaining 43.6% of the total variance. The internal consistency reliability (Cronbach α) for this scale was 0.93. Further analysis included all 19 items, since they have satisfactory psychometric characteristics and all of them have an equal or greater than 0.44 correlation with the total score.

Job Satisfaction Scale and Scale of the Importance of Various Aspects of the Job - these two scales, which are two identical versions of a questionnaire consisting of 15 items, constructed in the study conducted by Gibbs (1980) who used 3 items from the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, and Løfquist, 1967) for constructing the scale design of the questionnaire used three particles from, and the remaining twelve items from the Job Descriptive Index (JDI) (Smith, Kendall, and Hulin, 1969) for constructing the scale.

Strength of motivation is a measure designed for this research so that the individual items of Job Satisfaction Questionnaire were multiplied with the items of the Importance of Job Satisfaction Questionnaire, in order to obtain the motivation index or the strength of motivation. Exploratory factor analysis with varimax rotation derived one factor with an Eigen value greater than 1. The extracted factor explains 57.4% of the total variance. Internal consistency reliability of the construct obtained was 0.95, and correlations of particles with the total score were equal or greater than 0.52. In further analysis we used the constructed measure of motivation strength rather than the measures of job satisfaction and the importance of various aspects of job satisfaction.

Procedural Justice Questionnaire is composed of 15 items that were used in the research of McNeilly and Lawsons (1999), and adapted from the original questionnaire which was constructed by Folger and Konovsky (1989). The selected items are related to processes managers use in their relations with employees. "Procedural justice" refers to situations in which employees evaluate the way their supervisors treat them and deal with their work and how fair they are in this process due to the given effort, time, and energy.

Exploratory factor analysis with varimax rotation derived one factor with an Eigen value greater than 1, explaining 70.7% of the total variance. The items were evaluated on a 7-degree scale where 1 meant total disagreement and 7 total agreement with the statement. The internal consistency reliability (Cronbach α) was 0.97, while the correlation of the items with the total score was equal or greater than 0.76.

Teamwork Questionnaire consists of 18 items each representing one aspect of the work environment, teamwork, relationships with coworkers and the quality of those relationships. The scale was adapted from the research of Kotze (2008), originally constructed by Seers (1989; Team Member Exchange Quality). The items were evaluated on a 7-degree Likert-type scale, where '1' denoted complete disagreement, and '7' total agreement with the statement. Exploratory factor analysis with varimax rotation derived three factors with an Eigen value greater than 1, which together explain 59.6% of the total variance. The first factor, with respect to the contents of the seven items it saturated, can be interpreted as "business relationship with colleagues", explaining 21.1% of the total variance, with a 0.89 internal consistency reliability (Cronbach α) and an equal to or greater than 0.58 correlation of the items with the total score. Business relationship with coworkers refers to all those aspects of work and situations in which employees affect each others' work and tasks in some way. Situations range from exchanging information at meetings, conflict resolution, expressing ideas, etc.

The second factor obtained was interpreted as "collaboration with colleagues", explaining 19.6% of the total variance. Five items entered this factor, whose content relates to situations in which coworkers and colleagues mutually seek help, offer help, or are ready to complete the job for their colleague. The internal consistency reliability (Cronbach α) for this

factor was 0.85, while the correlation of the items with the total score was equal to or greater than 0.59.

The third extracted factor, with respect to the content of the saturated items, can be interpreted as "communication among colleagues", explaining 18.9% of the total variance. The content of these six items refers to close relationships between coworkers and the quality of these relationships in terms of the possibility of establishing communication, achieving a sense of community, trust, etc. The internal consistency reliability (Cronbach α) was 0.86, while the correlations of the items with the total score were equal to or greater than 0.55.

RESULTS

Analyses of variance

One-way analysis of variance showed that there were significant differences in organizational commitment between the employees who worked in the field, or those who were rewarded for individual performance and achievement, and those who did their job in the office and were rewarded grouply. The employees who were rewarded for their individual performance had a higher level of organizational commitment. In addition, a significant difference was found between these groups of employees with regard to the fairness of rewarding, satisfaction with rewards, procedural justice, business relationship with colleagues, communicating with colleagues, and motivation. Employees who did their job in the field, who were rewarded individually, had higher results in all of the variables mentioned above. Although these results are not consistent with the hypothesis, there are many factors that could explain these findings. One of these factors may be the process of developing commitment, especially affective, which, to be developed, must be preceded by the assessment of the organization as one that rewards employees for performance and contributions, which are based on estimates of fair rewarding. So, as the results show, the group that was rewarded individually assessed a more equitable rewarding system and we thus morre committed to the organization. In addition, commitment is affected by other work related attitudes, such as procedural justice, which was also found to be greater in the group of employees who were rewarded grouply.

Differences in motivation and satisfaction with rewarding were obtained between men and women only in the group rewarding system (Figures 1 and 2). Specifically, women showed less motivation and satisfaction with the rewarding system than their male counterparts. There was no such difference when it comes to individual rewarding.

Table 3: One-way analyses of variance and the descriptive parameters of the examined variables among employees in different workplaces and rewarding systems

	Rewarding system	Mean	sd	df	F	P
Organizational commitment	group	5,530	1,065	1/137	9,205	0,003
	individual	6,019	0,797			
Rewarding fairness	group	5,024	1,484	1/137	4,261	0,041
	individual	5,536	1,431			
Satisfaction with rewarding	group	4,849	1,082	1/137	11,505	0,001
	individual	5,442	0,963			
Procedural justice	group	4,695	1,510	1/137	13,077	0,000
	individual	5,518	1,111			
Business relationship with colleagues	group	5,301	1,072	1/137	6,601	0,011
	individual	5,758	1,014			
Communication with colleagues	group	5,425	1,094	1/137	6,326	0,013
	individual	5,855	0,898			
Motivation strength	group	24,341	5,921	1/137	12,660	0,001
	individual	27,562	4,549			

Figure 1: Graphical display of the differences in satisafaction with rewarding according to gender and the rewarding system

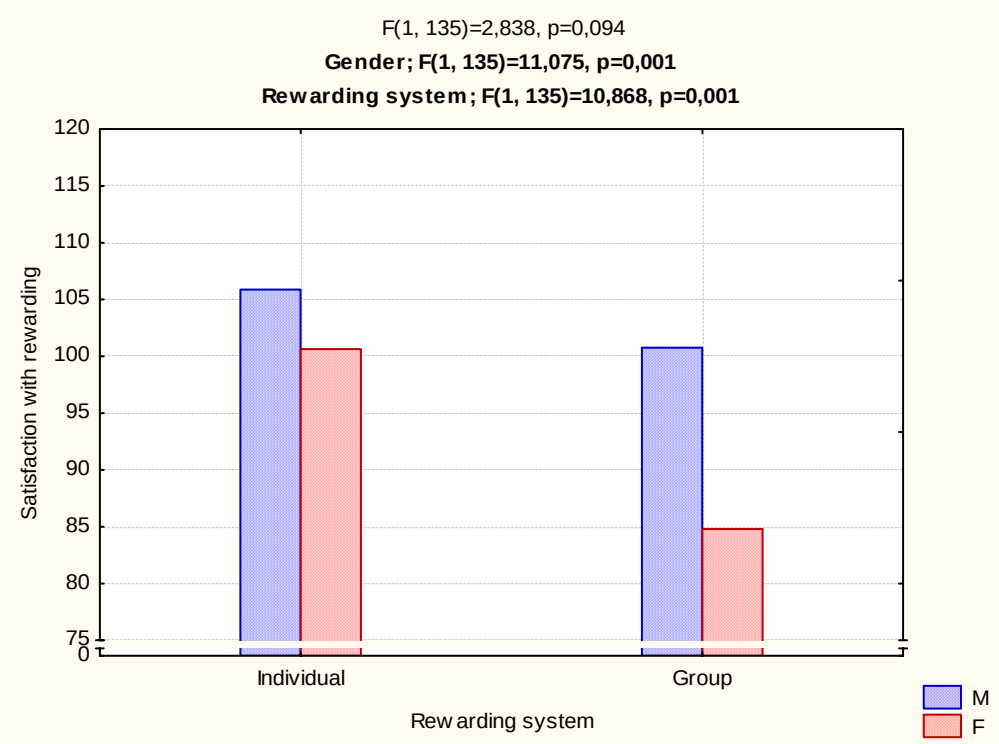
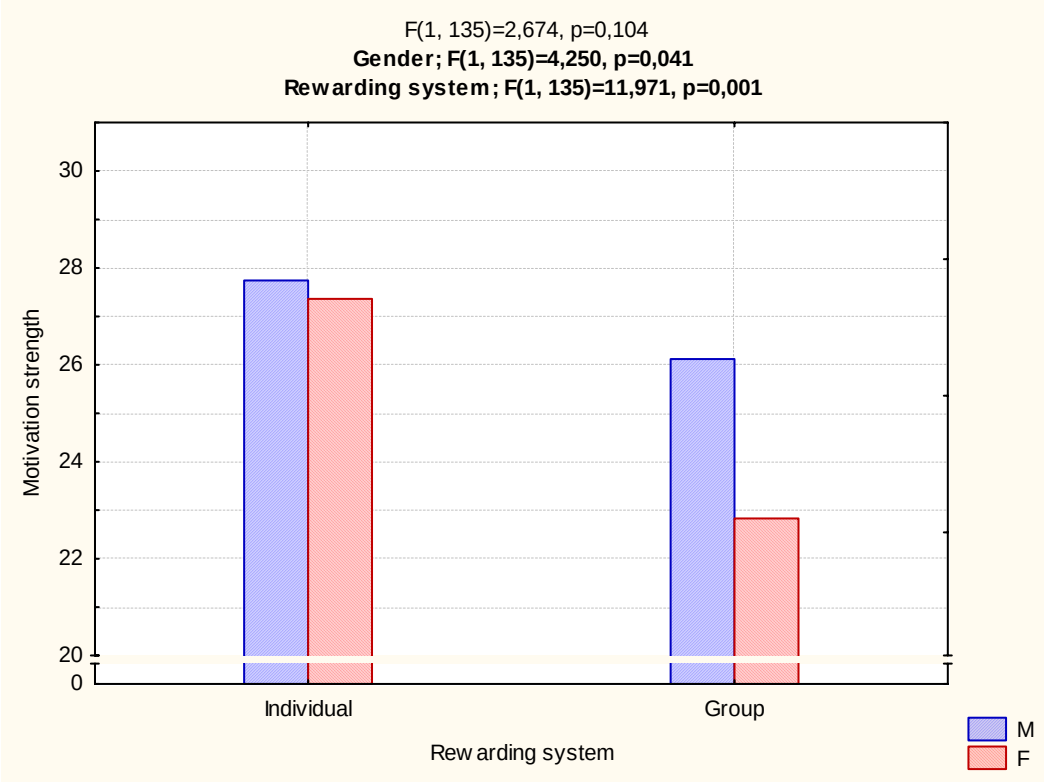


Figure 2: Graphical display of the differences in motivation strength according to gender and the rewarding system



REGRESSION ANALYSES

To determine the predictive value of some social-demographic variables and attitudes toward work for organizational commitment and satisfaction with rewards as the criteria, standard regression analyses were conducted (Table 4).

Table 4: A display of the results of standard regression analyses with organizational commitment and satisfaction with rewarding as criteria.

	Organizational Commitment				**Satisfaction with Rewarding**		
Variables	Beta	t	p	Variables	Beta	t	p
Gender	0,098	1,891	0,061	Gender	-0,129	-2,970	0,004
Education	-0,132	-2,629	0,010	Education	0,086	2,001	0,047
Work track (cwp)	0,105	2,095	0,038	Work track (cwp)	0,023	0,529	0,598
Rewarding fairness	0,298	4,241	0,000	Rewarding fairness	0,283	4,725	0,000
Satisfaction with rewarding	0,365	4,535	0,000	Satisfaction with rewarding	0,283	4,798	0,000
Procedural justice	-0,015	-0,220	0,826	Procedural justice	0,223	4,082	0,000
Business relations with coworkers	0,119	1,835	0,069	Business relations with coworkers	0,144	2,642	0,009
Collaboration with coworkers	0,030	0,498	0,619	Collaboration with coworkers	0,041	0,801	0,424
Communication with coworkers	0,135	2,040	0,043	Communication with coworkers	0,036	0,633	0,528

R	0,795	R	0,858
R^2	0,632	R^2	0,737
Corrected R^2	0,608	Korigirani R^2	0,720
	F (9, 140)= 26,662		F (9, 140)= 43,540

The regression analysis identified education as a significant negative predictor and work track at the current workplace as a positive predictor of organizational commitment. Specifically, it is likely that employees with higher education have more alternatives for employment, and it has generally been shown that the number of possible alternatives for employment negatively correlates with organizational commitment. The results of previous research showed that commitment to the organization increases in the function of work track at the given workplace, because it increases the difference between the perception of relative investment in the organization and the cost of leaving the organization and seeking new ones. Likewise, if one takes into account that the increase of service also means the increase of age, in situations of financial crisis, age can be a limiting factor for the number of possible employment alternatives. Furthermore, fairness of rewarding and satisfaction with rewarding were also shown as significant predictors of organizational commitment, which is consistent with some research that showed that the assessment of the organization as one that fairly rewards employees for their effort, giving them a feeling of competence, influences the development of organizational commitment (Meyer and Allen, 1997). It was found also that the quality of communication with colleagues is a significant predictor of organizational commitment. Although some studies have shown a low correlation between organizational commitment and measures of group cohesiveness, and the quality of communication in the group is one of the indicators of cohesiveness (Mathieu and Zajac, 1990; Kutleša, 2005), the fact that the organization which was included in the research involves group rewarding systems should be considered, which is probably the reason that good and quality communication with colleagues and the work environment contributes to the development of organizational commitment. Generally speaking, all predictors together explain 63.2% of the variance of organizational commitment.

When it comes to satisfaction with rewarding, distributive and procedural justice proved to be significant predictors. Besides the amount of rewards, it is understandable that the adequacy and fairness of compensation determines satisfaction with rewarding. Employees who believe they are fairly rewarded are thereby more satisfied with the rewarding system. Organizational commitment and the quality of business relationships with coworkers were significant correlates of satisfaction with rewarding; they themself directly affect the performance of the whole group and the remuneration of the individual as part of a group, in group rewarding, which reflects onto the sense of satisfaction with rewards. Generally, men were more satisfied with rewarding than their female colleagues. It was also found that the increase in qualification is followed by the increase of satisfaction with rewarding; probably because the qualification partly determines the amount of remuneration, at least the regular (base) salary. It should be noted that the regression analyses did not include the motivation strength variable, which showed a high correlation with all examined work attitudes.

DISCUSSION

A rewarding or compensation system is, in the simplest terms, a system of the exchange of goods. An employee offers his work in exchange for some form of payment. The rewarding system does not include only material compensation, but given the unstable economic situation, employees are largely focusing and evaluating material rewards, because that is

the part that ensures existence. Besides this important aspect of life, one's attitudes towards work are determined by the relationship of what an organization offers, what it expects in return and what it actually gets. So it is not surprising that varieties in the rewarding system affect attitudes towards work.

While taking into account the specific characteristics of the jobs (individual fieldwork and teamwork in the office), the work organization the survey was conducted in has developed two reward systems: individual and group. Such combinations within an organization can lead to dissatisfaction of employees who are not in the favored rewarding system, especially when they have to compare the advantages and disadvantages of both systems in the organization (Britt and Jex, 2008). Differences in comparison can result in increased dissatisfaction with one's own rewarding system, which was also shown in the results of this study. Specifically, employees in the individual bonus rewarding system were more satisfied than those whose reward size depends on group performance. Generally, the research results indicate the benefits of individual over group. Hans Lindblom (1996) states that, to be taken into account as an individual and not just as an individual in a crowd, or a number in a collective, is perceived as a reward in itself. Individual compensations are often considered better motivators than group compensations; so, even though the results of different studies are not always consistent with this assumption, this research has found that employees who work in the field and are rewarded individually are more motivated than employees who are rewarded at the group (office) level. Individual evaluation and rewarding obviously create healthy competition among employees. Employees in the individual rewarding system have an impact on the size of the rewards, which leads to increased motivation (Merchant et al. 2003; Ahlgren, 2007). On the other hand, employees who work in the office know that, although their individual contribution is also to be evaluated, the amount of remuneration is affected by the contribution of their colleagues which they generally can not influence directly, and are therefore less motivated. The differences between men and women in motivation and satisfaction with rewarding when they are rewarded grouply also go in favor of this. Specifically, women were less motivated and less satisfied with the rewards than their male counterparts in the group rewarding system, whereas no difference was found between men and women either in motivation or satisfaction with the rewards when it comes to individual rewarding. It is hard to tell what lies beneath these differences. Perhaps an explanation can be found in the results of a large number of studies that show that women are still negatively discriminated in the system of promotion and rewarding. Yet such an explanation remains at the level of speculation, because this study did not include measures of discrimination which could confirm it, and ultimately it was not in the aim of this research.

In addition to differences in satisfaction with rewarding and motivation, a difference in the assessment of justice, both procedural and distributive, between the two groups of employees was found. Employees rewarded based on their individual performance, evaluated the rewarding system as fairer than the employees whose reward size depended on the effect of the group. One of the criteria which must be fulfilled in order for the system of individual rewarding to be successful and just is the existence of the possibility to identify and measure each individual employee's performance (Jackson and Mathis, 2008). The group rewarding system included in this research does not involve the evaluation and rewarding of the performance of individuals within groups. Furthermore, the question is how these differences in motivation, satisfaction with rewarding, and perceptions of rewarding fairness reflect on the relationships within the group. It was found that the employees rewarded individually, who predominantly work in the field, have more quality business

relations and better cooperation and communication with fellow employees than the employees who work in offices and are rewarded grouply. Although it was expected that employees who spend more time together at work and whose business tasks require cooperation, due to group evaluation, will generate more business relationships and better communication, it seems that the negative side of the group rewarding system prevailed in this case. Although cooperation is one of the main factors that make organizations use group rewarding systems, it is not necessarily always a positive factor (Ahlgren, 2007). Group rewarding can result in conflicts among the members as individuals seek certificates and awards, which is enabled with regard to group evaluation. Group rewards can also lead to a phenomenon known as social loafing (Ahlgren, 2007) which refers to the fact that when individuals find themselves in a group where individual contribution can not be evaluated, they tend to reduce the effort they invest, while still benefitting from the investment efforts of other group members. This so-called loafing usually does not go unnoticed and negatively affects relationships among colleagues (associates) and the achievement of good communication and business relationships.

All the above stated differences in attitudes toward work among employees who were rewarded grouply and those rewarded individually may reflect on the commitment to the organization. Employees who did their job in the field, and whose achievements depended on individual performance felt greater commitment to the organization than the employees rewarded on the basis of group performance, which was not in line with the expectations. The explanation may lie in the development process of commitment and the factors that influence it. One of the factors that influence the development of affective commitment is the assessment of the organization as one that rewards performance, which was confirmed by various studies (Meyer and Allen, 1997). The results of these studies are based on the belief that employees develop a sense of affective commitment if they evaluate the organization as a place where they feel important and competent, and to feel important they must be adequately rewarded for their efforts. As demonstrated by the statistical analysis the employees who were rewarded individually and working in the field believed that they are more justly rewarded and were more satisfied with rewarding as opposed to employees who were working in the office and were rewarded grouply; so, it is not unusual that these employees have developed a stronger sense of commitment to the organization. Therefore, although wage and rewards are not necessarily the most important aspects of job satisfaction, as already noted, in today's unstable economic situation, people find material benefits which provide a livelihood more important than the relationships in the organization. Furthermore, another factor that influences the development of commitment is the assessment of procedural justice (Lok and Crawford, 2001; Britt and Jex, 2008). Employees who assess that the organization was fair in relation to them feel a greater commitment to the organization. As was expected, the analysis showed a significant association between commitment and rewarding fairness, and procedural justice and satisfaction with rewarding. In addition, regression analysis revealed that the most important predictors of organizational commitment were fairness of rewarding and satisfaction with rewarding.

Undoubtedly, it is hard to talk about causal relationships without an adequate experimental design so it is very possible that the interindividual differences in the contribution to group performance are consequences of reduced motivation and satisfaction with rewarding, in fact probably both is true. In addition, for reward systems to be consideres as fair, it must be primarily assessed as significant by employees (Lawler, 1990; Britt and Jex, 2008). The manner in which employees assess the significance of increasing rewards for success is somewhat subjective and depends on several factors, such as the current state of inflation,

the comparison with other colleagues' rewards or with the rewarding of employees in other organizations. Thus, among the employees who work in the field, there is a comparison of rewarding between people according to their position and achievement who get rewarded for individual performance and do not depend on one another. Rewards for the effect of one employee does not depend on the effect of another employee and objectively in terms of individual achievement can not be compared because their work assignments do not imply intensive cooperation with colleagues and, from their perspective, there are no differences that could affect the dissatisfaction with rewards and distributive and procedural justice. On the other hand, employees who work in the office, they have for comparison not only other employees within the group, on which the possibility of achieving their rewards depends, but also other groups of employees within the company that are rewarded in a different (individual) manner.

CONCLUSIONS

Employees who perform most of their work in the field while being rewarded individually were more commited to the organization, felt that they were more justly rewarded, and were more satisfied with rewarding and the procedural justice than the employees who work in the office and whose achievements have been awarded grouply. In addition, employees who are rewarded individually cited better working relationships and communication with colleagues and were more willing to collaborate with them in comparison with the other group of employees.

Qualifications, work experience at current job, satisfaction with rewarding, communication with colleagues, and rewarding fairness were significant predictors of organizational commitment, while gender, qualifications, organizational commitment, rewarding fairness, procedural justice, and business relationships with coworkers were significant predictors of satisfaction with rewarding.

It should be emphasized that in this study, a respectable amount of variance of satisfaction with rewarding was explained (73.7%), primarily by perceived rewarding justice (procedural and distributive) and organizational commitment, which in a way confirms that the rewarding fairness is more important than the amount of the remuneration. Also, it is important to emphasize the benefits of the individual over the group reward system, which is primarily reflected in a higher level of positive attitudes towards work.

IMPLICATIONS

The theoretical implications suggest, that is confirm, that there is no ideal rewarding system, but rather a combination of the group and individual system, depending on the preferences of workers, the organization of labor, the economic and politic situation, etc. Besides that, this research shows that the unstable economic situation induces a change in the importance of different factors of job satisfaction, that is, that you cannot generally talk about job commitment, relationships, nor salary as the most important factor in job satisfaction. Furthermore, this research indicates gender as an important variable in studying attitudes towards work, especially in countries where gender equality in the workplace is still only apparent on the one hand, and on the other hand, where women who are equal to men in these objective measures of work performance and yet less satisfied with the job than men.

Practical implications suggest different options for employers and workers; choosing the best combination of group and individul rewarding to stimulate collective (team) work which

elevates the collective solidarity, commitment, and efforts for productivity on the one hand and which fairly rewards individual work for the workers to gain a higher sense of value and independent contributions on the other hand. Individual rewarding ensures individual effort and the filtering of workers who contribute to the progress of the organization and of those who malinger. This could simultaneously create a high-quality and productive group of such workers, which would ultimately reduce the number of supervisors.

Surely, studying attitudes towards work in times of an unstable economic situation like this has drawbacks, and in the future it would be good to compare our results with those conducted in more stable times, or to do a longitudinal study. In addition, it would be a good time to research workers of state companies who have somewhat more secure jobs so the suspence is not so large which would greatly affect work attitudes. It would certainly be interesting to further investigate the influence of gender on work attitudes, to examine the possible effect of the "glass ceiling" in work organizations, as well as personality traits of workers and employers in this sense.

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MODEL-BASED DESIGN RESEARCH: A PRACTICAL METHOD FOR EDUCATIONAL INNOVATIONS

Johannes Pernaa

Unit of Chemistry Teacher Education, Department of Chemistry, University of Helsinki

Finland

johannes.pernaa@alumni.helsinki.fi

Maija Aksela

Unit of Chemistry Teacher Education, Department of Chemistry, University of Helsinki
Finland

maija.aksela@helsinki.fi

Abstract

This paper introduces a new collaborative model for design-based research (DBR), model-based design research (MBDR), in which the design process is carried out through model-based reasoning (MBR). The objective of the paper is to discuss how MBDR can be used as a method for educational innovation, which is a social transformation occurring when a certain group adopts a new educational practice. This aim is approached by analyzing three MBDR cases and comparing the results to the possibilities and challenges rising from the innovation research literature. According to the analysis, MBDR is a promising method for creating and teaching educational innovations. It is most suitable for inventing and supporting the adoption of new practices. By conducting DBR through MBR, design community can produce a comprehensive need analysis. This way design solutions that meet the design objectives can be constructed. Comprehensive need analysis and goal-oriented design leads to successful projects and designers more comprehensive participation to the research.

Key Words: Design research, educational innovation, model-based reasoning

Topic groups: Research methods, social sciences and business, technology and innovation managemen

INTRODUCTION

This paper introduces a new collaborative model for conducting design-based research (DBR) projects (e.g. Edelson, 2002). This new DBR model is called model-based design research (MBDR). The name MDBR was chosen because MBDR is conducted like any other DBR, but

in MDBR the theory of scientific models (e.g. Gilbert at el., 2000) is used to aid the coordination and documentation of collaborative and individual design decisions. The theoretical framework consists of the description of design research as a research method. Also some discussion related to its validity and reliability is presented. Validity and reliability are the biggest challenges in DBR, and the main reason to combine theory of modelling to traditional design research was to respond to this issue (Pernaa, 2011).

The objective of this paper is to study the possibilities of MBDR as an educational innovation method. This objective is approached by analysing three different MBDR case studies and comparing the results to possibilities and challenges rising from the innovation research literature (e.g. Denning, 2004, 2012; Denning & Durham, 2006; Rogers, 2003).

MODEL-BASED DESIGN RESEARCH

DBR is a research method in which experience-based design is supported through the combination of theoretical and experimental research phases (Edelson, 2002). It can be defined as a design methodology, which aims to develop teaching in real-world situations through a systematic, flexible and iterative research approach. The design process is carried out in iterative design cycles and the design decisions are justified through theory, formative and summative evaluation and collaboration between designers, and expertise of various stakeholders, who form the design community (Design-Based Research Collective, 2003). Research methods used in DBR change in case-by-case basis, depending on the design goals and design context. This makes DBR difficult to define or explain unambiguously (Barab & Squire, 2004). Even when every design research setting is unique and demands careful planning and execution, Edelson (2002) proposes that DBR can be controlled by examining the design decisions made during the research. Edelson divides the possible outcomes of DBR in three design decision categories:

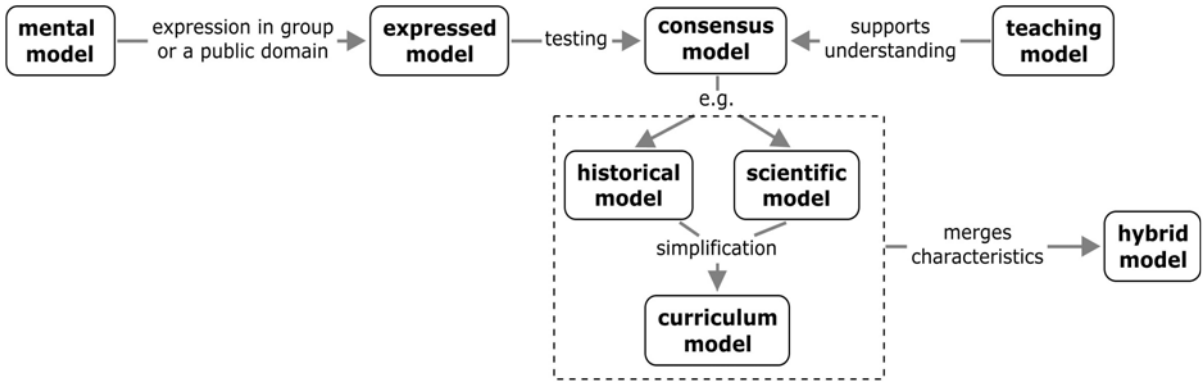
1. **Design process:** Design decision category, which addresses the possibilities and challenges related to the entire design process. Design process category gives knowledge of the process, how the design community achieved the designed outcome.
2. **Problem analysis:** Design decision category, which discusses the possibilities and challenges related to domain specific knowledge. This category enables designer to determine the objectives of the design solution.
3. **Design solution:** Design decision category, which addresses the possibilities and challenges of the design solution (a concrete artefact). This category produces e.g. new knowledge of the technical aspects and possible ways of using the designed learning environment (Edelson, 2002).

Design research is a relatively young research method. It was developed in the 1990's to reduce the gap between educational research and pragmatic needs of the actual educational field in schools and business. Teachers have criticized the educational research community for not providing them with useful information. For the past 20 years, the DBR community has been developing design research methods and discussed about the practical and methodological aspects of DBR so that the research would provide useful information and concrete educational artefacts for teachers but still maintain scientifically valid (e.g. Sandoval & Bell, 2004). Most discussion in research literature has focused on the reliability and validity of the design research, e.g. what is the balance between praxis and theory (Juuti & Lavonen, 2006), how the sufficient level of consensus can be defined and achieved in a complex

design process (Dede, 2004), and how the results from a single design can be generalised for a wider audience (Barab & Squire, 2004).

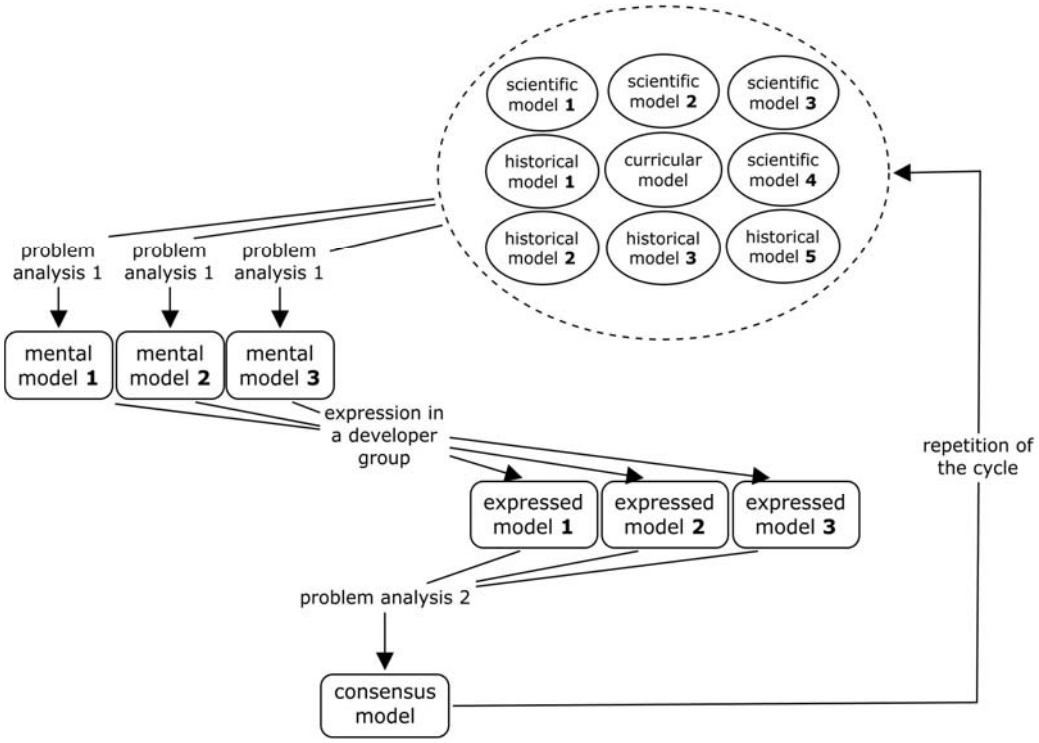
As a response to the above-mentioned challenges, Pernaa (2011) began to apply the theory of modelling from science education as a thinking tool to aid the consensus building process in collaborative design projects and created a DBR method called MBDR. In science education, models are used in teaching science, scientific processes and scientific thinking to students (Gilbert at el., 2000). Pernaa (2011) applied the ontological classification of models (Figure 1; Gilbert et al., 2000) to DBR, aiming to aid the design community in achieving a higher consensus on design decisions made during the design process.

Figure 1: The ontological status of a model concept (Gilbert et al., 2000)



In practice, models enable designers to study different design stages and designers involved in the current stage and reflect them on concrete design event, design research stage, and time. Models also support the iterative characteristics of design research. Iterative design starts from the initial models, which can be based on e.g. client's intuition, client's needs, scientific and historical models, curriculum models or some other regulation. Designers involved in the design community evaluate the initial models and form personal objectives for the design solution (mental model). These mental models change into expressed models after they are presented for the design group. After the designers have interacted and tested the expressed model and come to an agreement on the purpose and characteristics of it, the expressed model transforms into a consensus model, which becomes the common design objective of the research project. This design cycle is evaluated and repeated as many times needed to achieve the level of an acceptable design consensus and design solution quality (Figure 2) (Gilbert et al., 2000; Pernaa 2011).

Figure 2: Model-based thinking cycle (three designers or design groups) (Pernaa, 2011)



EDUCATIONAL INNOVATIONS

Innovations are a widely studied and published topic both in science and popular culture, but authors do not have consensus about what an innovation actually is (Denning, 2012). This causes diverse definitions of innovation and generates a number of alternative conceptions. Most common alternative conception related to innovations is that they are always big, widely spread, commercial successes and created only by few gifted persons with an extraordinary talent (Denning, 2004). Denning (2012) emphasizes that innovations can also be small, anyone can create them and only 4 % of innovations achieve their financial goals. Most importantly, designing innovations is a matter of education and it can be taught. Before becoming a skilful innovator, it is important to understand the difference and interaction between the concepts of invention and innovation. An invention is a new device, idea or process, but it is not an innovation before some social group adopts it to use. Therefore, an innovation can be defined as a social transformation, which occurs when an individual or a community adopts new practices (Denning, 2004, 2012; Denning & Durham, 2006).

The adoption of innovation can be analysed from e.g. the group's or individual's point of view. For example, in 1962 Rogers introduced a theoretical model called the diffusion of innovations. This model explains the rate that new practices spread through community. Rogers divided the population into five adopter groups: 1) innovators (2,5 %), 2) early adopters (13,5 %), 3) early majority (34 %), 4) late majority (34 %), and 5) laggards (16 %) (Rogers, 2003). For analysing the individual adoption, Hall & Hord (1987) have introduced a model called concerns-based adoption model (CBAM). CBAM addresses individuals professional development through eight hierarchical levels of use of the innovation: 0) non-use: no diffusion, 1) orientation: the user is seeking information about the innovation, 3) preparation: the user has decided to start using the innovation, 4)

mechanical: the user has started using the innovation, 5) routine: a routine pattern for the use of innovation has formed, 6) refinement: the user is customizing the use of innovation according to personal needs, 7) integration: the user is developing the innovation through local collaboration, and 8) renewal: strong international development through networks.

DBR can be used as a method for creating educational innovations. For example, Fishman et al. (2004) used DBR to create technology rich learning environments. They argued that producing educational innovations is a challenging task. The main issue is a context-based design setting, which provides locally effective solutions that often offer minimal possibility for usability, scalability and sustainability. This decreases the diffusion rate. Rogers (2003) also reports that diffusion of educational innovations is challenging because their scientific base is often weak and commercial potential limited, which leads to the lack of change agents. This study examines, how model-based reasoning (MBR) can be used to aid the educational innovation process.

Zhao et al. (2002) have divided the challenges of the diffusion of educational innovations into three categories: 1) innovator (e.g. teacher or trainer), 2) innovation (e.g. learning environment or teaching method), and 3) diffusion target (e.g. school or company).

1. **Innovator:** The teacher should be familiar with the domain knowledge and technological and social opportunities and challenges of the innovation. In addition, new educational practices require the possibility for peer support if problems occur.
2. **Innovation:** Innovation must be suitable for the culture of the diffusion target and compatible with the existing operating procedures and technologies. In order for an educational innovation to be successful, it must provide teachers with more improved ways to teach, and it must fit to the adopter's needs, resources and expertise level. In order to make the innovation easily adoptable, there has to be the possibility to scale it according to different skill levels.
3. **Diffusion target:** The diffusion target must provide support and services for the innovator and innovation. Such services include technical and theoretical maintenance and possible peer support. (Zhao et al., 2002)

According to Linn (1996), teachers often fail to adopt innovations because they have been designed by researchers. Researchers do not understand teachers, diffusion target needs or resources. In this study, the end users are included as active participants into the design processes, which ensure that their needs are included in the research. This also commits them into the design community and promotes the diffusion of innovation in their practices. Teachers make their design decisions according to their own needs and strive to create an innovation suitable for their work culture (Zhao et al. 2002).

According to Denning (2012), a successful innovation can be created via model called The Eight Ways of Innovation, which is a widely used innovation practice model. Denning's model divides innovation practices into three main categories, 1) invention, 2) adoption and 3) supporting the diffusion, which are divided again into eight smaller levels. These levels are not in hierarchical order. They interact with each other and often the innovator needs to perform several practices at the same time. Levels and their description are listed in Table 1.

Table 1: Structure of the innovation practices (Denning, 2012)

Main category of innovation practice	**Innovation practice**	**Practical example**
Invention	Sensing	Recognizing the possibilities of the innovation through needs.
	Envisioning	Justifying the possibilities of new practices.
Adoption	Offering	Production of an initial prototype.
	Adopting	Testing the prototype in action.
	Sustaining	Reporting the results aiming to expand the user community.
Supporting the diffusion	Executing	Making it possible for users and expert teams to develop the innovation further.
	Leading	Leading through example and inspiring more and more people to join the developer and user communities.
	Embodying	Achieving political trust and getting large communities to adopt the designed innovation to core practice.

RESEARCH

The possibilities of MBDR as a method for educational innovations are analysed by reflecting three design research cases to possibilities and challenges rising from the innovation research literature, especially to Denning's (2012) innovation practice model. The first study investigated MBDR as a course design method, the second study investigated possibilities of MBDR as a software design tool and the third study investigated the possibilities of MBDR as a group work method in research-based teaching. The analysis of the paper is conducted through the following research question: *What kind of possibilities does the model-based design research offer for educational innovations?*

Case 1: Model-based design research as a course design method

The first design research case was conducted during 2010–2011 at the University of Helsinki. The main objective of the study was to develop Models and Visualization in Chemistry Education course to offer chemistry teacher students more practical view on molecular modelling in order to support chemistry teaching in schools. This course is an advanced course for chemistry teacher students and it had been held six times before this research. There was an urgent need for this design research, because during the previous years, students had been criticizing the course for being too theoretical compared to the professional needs of future chemistry teachers.

The study was carried out by three researchers with different design experience levels. The responsible researcher was a PhD student working as a course assistant for the second time, second researcher was a professor, who had designed the initial course model eight years earlier, and third researcher was a recently graduated teacher with master's degree in

chemistry education. The research was conducted according to the design model described in Figure 2. The design process included five phases:

I. **Individual modelling:** Researchers analysed the six historical course models and each of them formed an individual mental model of the new course, and how it should be implemented in order to achieve the design goal.
II. **Group modelling:** Researchers published the individual mental models in a group design session.
III. **Consensus modelling:** Researchers developed a consensus through evaluating the expressed mental models.
IV. **Evaluating phase:** The design solution and design process were analysed formatively in the middle of the course and summatively after the course.
V. **Reporting phase:** Design results were documented, analysed and published (Pernaa, 2011; Pernaa et al., 2010; Vesterinen et al., 2012).

The research provided three types of knowledge (Edelson, 2002): 1) knowledge of the design solution, e.g. how this kind of course supports the diffusion of molecular modelling innovation in the individual level, 2) knowledge of the problem-analysis, e.g. what students learned from molecular modelling through the designed course, and 3) knowledge of the design process, e.g. what can be learned from the design process.

According to the students of the course (N=23), the course was consistent with the design objective, which was to teach molecular modelling on a level that would support its transfer into the field. The students were engaged as active participants in the design process and they were taught how to design their own modelling exercises (Zhao et al., 2002). Students felt that the course gave them tools to use modelling in their future work. For example, when students were asked how they felt their innovation skills had changed during the course, 18 students responded that they had achieved refinement or integration levels (Table 2) (Hall & Hord, 1987).

Table 2: The diffusion of molecular modelling innovation on individual level during the course (N=23) (see Hall & Hord, 1987)

Before the course	Individual skill level	After the course
3	Non-use	-
8	Orientation	-
5	Preparation	2
4	Mechanical	3
-	Routine	-
3	Refinement	16
-	Integration	2
-	Renewal	-

Researchers' design decisions focused on different targets according to their design experience. The less experienced designers focused on more practical design (e.g. teaching technology or students guiding), and the more experienced professor focused on theoretical aspects (e.g. course objectives). Ontological models used in MBDR consensus building process enabled time-pound design decision documentation and visualisation, which clarified the collaborative design process. The results from this study will help in planning of course objectives, contents, structures, and design processes of similar courses in the future.

Case 2: Model-based design research as a software design tool

The second design research case was conducted in 2011. The objective of the research was to transform a traditional graphic poster of isotopes used in nuclear medicine into an iPad compatible electronic learning environment. The research project was ordered by an international medical company. The design process was conducted in two phases: I) evaluation and updating the chemical data from the 25 years old graphic poster and transforming it into the form of a modern periodic table, and II) transforming the updated printed poster into a pedagogically meaningful electronic learning environment, which can be used in expert and novice levels by marketing and education sales personnel and their customers.

The project was carried out using the MBDR process described in Figure 2, but this time the consensus building process did not focus only on the differences between individual designers but also on those between different design groups. The design community consisted of 13 designers representing three different stakeholders. Design community included designers from the client, vendor and client's external partner. The client ensured that the design decisions focused on supporting the end user's needs, the vendor was responsible for programming, chemical data, graphic design and knowledge of design research, and the external partner was partly responsible from the visual appearance of the design solution. Altogether, the research included seven iterative design cycles, four at the first phase and three at the second phase. This design narrative focuses on the design decisions made at the second phase.

After three design cycles at the second design phase, the acceptable level of design consensus between client, vendor and external partner was achieved and an interactive learning environment was created. The final design solution offered knowledge and user activities on three levels: 1) filter function for selecting the isotopes by their medical use, 2) isotope data sheet containing nuclide data, and 3) Wikipedia and Nuclide database integration for each isotope. Design areas that needed most work in the consensus building process, were the visual appearance of the application and browser compatibilities. These areas included most interaction between all three design groups. However, after the research, it could be stated that the designed application fulfilled the objectives that were set at the beginning of the project. For example, according to the external summative evaluation made by a possible end user, the design decisions made concerning the technical details, educational approach, and different levels of chemical knowledge were successful.

The filter level can be used as an advance organizer, when the user is getting to know the tool or showing its structure and functions to someone else, for example for potential customer in a sales meeting. It stimulates primarily the first cognitive level (remember) from Bloom's revised taxonomy table, which was used in determining the learning objectives for the design solution. The isotope data level stimulates the knowledge level of the taxonomy table more diversely. The user can use it as a learning tool for chemistry, but it can also be

used for analysing, applying and evaluating the knowledge related to each isotope (Anderson & Krathwohl, 2001). The third level, the database integration, can be seen as a challenge of the tool, but also as an opportunity. Usefulness of this level depends on the articles they are linked to. For example the Nuclide database is a widely used tool in science, but it is maintained by project-based funding. The main concern was that what happens to the scientific quality and updating frequency of the database after the project funding ends? This is a challenge, but during the research it was discovered, that nuclide research is a solid research field in nuclear chemistry, and there will always be some tools that are up-to-date. Any changes that will occur in the future can be adapted with minor updates to the designed application. This was taken into account during the research and the application was designed so that it can be easily updated.

This research emphasized the constant empirical evaluation supported by experience, theoretical framework, and high level of consensus on the design decisions made during the design project. These are the key elements in educational design research (Dede, 2004; Edelson, 2002). MBDR enabled the visualisation of design inputs made by individuals and different design groups. Also the changes made to the design solution during the seven design cycles could be documented using model-based reasoning (MBR) (Gilbert et al., 2000).

Case 3: Model-based design research as a group work method

The third design research case was carried out in 2009–2010 at the University of Helsinki during Practical Chemistry in Education course. The aim of the research was to develop a pedagogical model that helps the students learn how to design technology-based chemistry learning environments. The research included two design cycles: I) a pilot design research in 2009, and II) the actual design research in 2010. The pilot study showed that there is a significant need for these kinds of learning environments in chemistry education, and this made it possible to carry on with this research (Pernaa & Aksela, 2009).

The second phase was conducted though MBDR model described in the Figure 2. Chemistry teacher students worked as responsible design researchers and the consensus building process was executed both inside the groups and between different design groups. The design process proceeded as follows. Students in the course (N=30) had a pre-assignment to read an article written about the pilot study (Pernaa & Aksela, 2009) and write a short essay about the challenges and opportunities of student-made design researches reported in the 2009 paper. The essay was the individual mental model. After the pre-assignment, students were divided into eight design groups and presented their mental models. After the evaluation of the models, they merged them into one consensus model and created an initial prototype design, tested it in a laboratory and introduced it to the rest of the design community. The design community evaluated the initial design solution and the groups made further development according to the feedback from the community. After the second design cycle, the students tested their design solutions in an authentic setting with comprehensive schools pupils and carried out the final design cycle according to the feedback from the pupils. After the design process was completed, groups reported their research process in a form of design narrative, which was used as the research data. Design narratives were analysed through a qualitative content analysis. The aim was to study the possibilities and challenges of MBDR as a research-based teaching method.

MBDR assisted students to take into account the historical models and earlier research in the design field. For example, what kind of design decisions they would have to make in order to

achieve a large number of users for their design solution (Juuti & Lavonen, 2006; Linn, 1996). The evaluation of the design solution in the design community and in authentic user setting was considered essential for the reliability and validity of the research. Many groups also reported that teacher and pupil feedback was crucial in order to achieve design decisions that could support the diffusion of innovations (Barab & Squire, 2004; Rogers, 2003; Zhao et al., 2002).

The eight successful design solutions indicated that MBDR has potential as a group work method in complex design settings with novice designers. According to the students, MBDR took a lot of time and effort but at the same time it provided good design results, which was rewarding. They reported that cooperation between the designers was the most essential factor in successful design research, and that the most challenging part of the research was the need analysis and delimitation of the design target during group phase. Students felt that MBDR model taught them how to conduct educational design research skill as well as research skills in general. Also Edelson (2002) brings out, that the strength of DBR is generally a comprehensive professional development of researchers.

SUMMARY AND CONCLUSIONS

This paper introduced MBDR model, which goal is to aid the consensus building process on a practical level in complex DBR settings. The objective of the paper was to investigate what kind of possibilities the MBDR model offers for educational innovations.

The concrete value that MBDR provides for the design research field is a new practical way to teach and conduct design research and at the same time emphasize scientific reliability and validity via ontological design decision visualization. As discussed in the theoretical framework, the reliability and validity have been one of the biggest issues in the DBR literature for the past 20 years. For example, the consensus building process and its effects on the reliability and validity of DBR has been one major concern. There is a need for new design research guidelines. (see Edelson, 2002; Barab & Squire, 2004; Dede, 2004; Juuti & Lavonen, 2006; Sandoval & Bell, 2004)

As discussed in the theoretical framework, educational innovations are challenging because of the complex nature of the educational designs and innovations in general. Educational designs are often produced first in a small scale and then generalized to a wider user community (Barab & Squire, 2004). Innovations on the other hand need usable, scalable and sustainable design solutions that take into account the needs of the innovator, innovation and diffusion target (Fishman et al., 2004; Zhao et al., 2002). This paper presented three design research cases that have been conducted through MBDR. According to these cases, the model-based design process supports monitoring of individual researcher's or design group's contribution in collaborative design projects. It also enables time-pound design decision documentation and visualisation that are important in design research or in any research or design project. Also according to Dede (2004) and Edelson (2002), the ontological design decisions are crucial from the DBR validity and reliability perspective.

Therefore, according to presented research cases and their successful design results, MBDR can be used as a method for conducting and teaching DBR. DBR itself has been used successfully as a method for educational innovations (e.g. Fishman et al., 2004; Pernaa, 2011), but can MBDR support creating educational innovations? By comparing the presented

design narratives with the Denning's (2012) innovation practices model it seems that MBDR can be used as a method for all eight innovation practice levels (Table 3).

In the three cases presented in the paper, the first six levels of innovation practices were utilized. According to three example cases, MBDR is the most effective for sensing and envisioning new practices (invention). Mental modelling via individual designers provides a comprehensive need analysis, which helps determining the design objectives. According to the students from the third case, the need analysis is the most important phase in order to achieve successful design solutions. Also in the first case, the comprehensive need analysis was the key element in successful course design. In the adopting category, the normal cyclic DBR process automatically utilizes levels offering, adopting and sustaining. According to the second case, MBR offers an ontological method for the documentation of cyclic design decisions and design inputs, which improves the validity and reliability of the research (Dede, 2004).

In the presented cases, supporting the diffusion category was achieved only by new knowledge and practices that the designers learnt during the design processes. For example, in the third case, students felt that they learned how to conduct DBR and that they will transfer new practices into other design settings. Leading and embodying levels were not present in the three design narratives. In order to achieve those levels through MBDR, the design projects need to last a longer period of time or they have to be repeated for several cycles. Without the last two levels, MBDR seems to be a promising way to support the main categories of invention and adoption in educational innovation processes both in public and commercial sectors.

Table 3: The possibilities of MBDR compared to the Eight Ways of Innovation (Denning, 2012)

Main category of innovation practice	**Innovation practice**	**MBDR practice**	**Practical example from MBDR cases**
Invention	Sensing	Need analysis via mental modelling	Individual need analysis via theory, experience or historical models provides a comprehensive view on the design task.
	Envisioning	Consensus building process	Design community envisions the possibilities and challenges of the design task via multiple expressed models.
Adoption	Offering	Designing an initial design solution	Design community merges the expressed mental models to a consensus model, which is the initial design solution.
	Adopting	Testing the initial design solution in an authentic setting and iteratively developing it further	Design community adopts the design solution in use during the cyclic design research process.
	Sustaining	Finalising the design	After the adequate design

		solution and reporting the research process	consensus has been achieved, the design solution can be reported and it can be introduced to a wider user community.
Supporting the diffusion	Executing	Design community continues using the design solution	Design research ends, but the designers continue using the developed solutions and practices in their own networks.
	Leading	Designers lead the future diffusion process through their own experience	Not achieved in presented MBDR cases.
	Embodying	Can be achieved through MBDR in a longer period	Not achieved in presented MBDR cases.

MBDR offers new possibilities for economic policies also in a larger scale. The demand for new educational innovations in a global scale is enormous. For example, new ways how to use information and communication technology in education is an essential development area both in public and commercial organizations. MBDR can be used as method for designing new educational innovations and supporting their diffusion. It is a practical design method that can easily be transferred into the organizations design practices, but it also is a scientific research method, which allows organizations to improve their design skills through academical knowledge.

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THE NEED TO UNDERSTAND CULTURAL HERITAGE TOURISTS BEHAVIOUR

WHAT MALAYSIA AND DEVELOPING COUNTRIES NEED

Dr. Lim Khong Chiu

Faculty of Tourism and Hospitality Management, Universiti Utara

Malaysia

lkc@uum.edu.my

Dr. Hisham Dzakiria

Faculty of Communication and Modern Language, Universiti Utara

Malaysia

hisham@uum.edu.my

Dr. Azilah Kasim

Faculty of Tourism and Hospitality, Universiti Utara

Malaysia

azilah@uum.edu.my

Dr. Cezar Scarlat

Faculty of Entrepreneurship, Business Engineering and Management, University "Politehnica" of Bucharest

Romania

cezarscarlat@yahoo.com

Abstract

Malaysia is increasingly realizing the potential of its cultural and heritage resources in tourism. However, this realization must be accompanied by accepting the importance of understanding cultural heritage tourist behaviours, if it wants to increase tourist visitation to those culture and heritage sites. Understanding the psychology of cultural heritage tourist

could be beneficial in planning for sustainable cultural heritage tourism market, as well as creation of an effective marketing plan. Our discussion on cultural heritage tourism will emphasize its definitions, types of tourists, and their demographic and psychographic characteristics. We will also briefly examine the importance of cultural heritage tourist behaviour specifically to tourists themselves, public sector managers, and business interests. Finally, this paper also offers recommendations that may help the cultural heritage tourism planners and marketers in Malaysia or any other developing countries with greater insights for the development of effective marketing plans for cultural heritage sites and events.

Keywords: cultural heritage, cultural heritage tourism, cultural heritage tourist, tourist behaviour, Malaysia

INTRODUCTION

The tourism industry has grown phenomenally in the past few decades. Greater numbers of people worldwide are travelling nationally and internationally (Travel Industry Association, 1999). In line with the growth in tourism, there is a booming interest in history, heritage, and culture.

Not only domestic tourists are interested in their own history and culture, but international tourists are interested in visiting historical sites, museums, and culture events (Cook, 2000).

The World Tourism Organization (WTO) estimates that cultural heritage tourism accounts for 37 percent of all international trips undertaken (McKercher and du Cros, 2002; Timothy and Boyd, 2003). According to Travel Industry Association (TIA) statistics, the cultural heritage tourism market increased by 10 percent from 1996 to 2000 and accounted for 14 percent of all tourism activities in the United States during that period. TIA statistics also indicate that two-thirds of US adult travellers included culture and heritage on a trip in 2001 and millions of travellers lengthened their trips because of culture and heritage (Nyaupane *et al.*, 2006). In addition, Antolovic (1999 - in McKercher and du Cros, 2002) reports that 70 percent of all Americans travelling to Europe seek a cultural heritage experience and about 67 percent of all visitors to the United Kingdom are seeking a cultural heritage tourism experience as part of their trip, but not necessarily as the main reason to visit the United Kingdom. In relation to that, reviews of trends in visitor numbers suggest that demand has been declining over a number of years (McDonnell and Burton, 2005). In Australia, the percentage of the population visiting museums in 1995 was reported as 27.8 percent and for art galleries 22.3 percent (ABS, 1997). More recent figures suggest a dramatic downward trend, particularly for museums, which reported attendance in 1999 at 19.9 percent and art galleries at 21.2 percent. Furthermore, there is some evidence that suggests an overall downward trend in Britain, Germany, and other parts of Europe (Richards, 1996).

The same situation affects Malaysia, where the numbers of tourists to cultural and heritage sites are found to be lower than anticipated. In line with these trends, it is important that culture and heritage tourism marketers strategize their marketing effort. Target marketing i.e. designing marketing efforts based on understanding of the market characteristics becomes more and more important. However, marketers need to know – what are the behaviour traits of culture and heritage tourists.

This paper reviews the literature in order to provide answers to this question and be able to offer some viable theoretical and managerial suggestions on the above issue. More specifically, this paper's objectives are to search the existing literature on cultural heritage

tourism; to analyze the typology of cultural heritage tourists; and to investigate their behaviour. Based on secondary research mostly, it is aiming to offer practical recommendations to tourism strategy makers in developing countries like Malaysia; it also provides a comprehensive model of the major parties interested in tourist behaviour. As this is a conceptual attempt, no methodology will be offered. Instead, this conceptual paper will use the literature to justify its discussion on definitions, types of tourists, and their demographic and psychographic characteristics of cultural heritage tourists. It will also examine the importance of cultural heritage tourists' behaviour specifically to tourists themselves, public sector managers, and business interests. Finally, it will provide recommendations for cultural heritage tourism planners and marketers who are attempting to design effective marketing plans for cultural heritage sites and events.

There are wide implications for scholars as well as for practitioners as the tourist behaviour matters – in general – to tourism analysts and researchers: especially to assist in the analysis of business performance, to understand socio-cultural and environmental concerns, and ultimately to consider tourism as a social institution in contemporary life.

CULTURAL HERITAGE TOURISM

Cultural and heritage are two interrelated forms of tourism. Heritage focus on the past, while culture focus on the present way of the life of a visited community (Faulkner *et al.,* 2000). Timothy and Boyd (2003) summarize the meaning of heritage by stating that 'heritage is not simply the past, but the modern-day use of elements of the past'. Within the tourism field, heritage has been used in both natural and cultural contexts (Chhabra *et al.,* 2003; Garrod and Fyall, 2000; Timothy and Boyd, 2006). However, as heritage tourism typically falls under the purview of cultural tourism (and vice versa), it is almost impossible to ascribe absolute parameters either to the resources used or to the tourist using them. They all share common sets of resources, management issues, and desired aspirational outcomes (McKercher and du Cros, 2002). Therefore, in all jurisdictions, cultural heritage tourism is more widely a recognized term rather than used as a separate entity when referring to types of tourism and form of travel (Pearson and Sullivan, 1995; Macintosh, 1999).

Definitions of cultural heritage tourism are highly varied. Smith (1978) defined cultural heritage tourism by listing the sites and activities that characterize them. Heritage tourism includes "the museum-cathedral circuit" and guided tours of monuments and ruins. On the other hand, cultural tourism includes meals, performances and festivals. Thus it can conclude that cultural heritage tourism is a form of tourism in which participants seek to learn about and experience the past and present cultures of themselves and others.

According to Christou (2005), the term cultural heritage tourism refers to the segment of the tourism industry that places special emphasis on heritage and cultural attractions. These attractions are varied, and include performances, museums, displays, archaeological sites and the like. In developed areas, cultural and heritage attractions include art museums, plays, and orchestral and other musical performances. Tourists may travel to specific sites to see a famous museum or to hear a special musical performance. In less developed areas, heritage and cultural attractions may include traditional religious practices, handicrafts and cultural performances (Christou, 2005). Likewise, Cultural heritage refers to tangibles such as historic buildings and structures, monuments and architectural remnants, as well as intangibles such as philosophies, traditions, values, ceremonies and art forms (Nuryanti, 1996; Prentice, 1993). However, in regard to what cultural heritage tourism means, one of

the most sharp and concise definitions comes from the Virginia Department of Historic Resources (Real, 2000: 291): "*Cultural or heritage tourism is travel directed towards experiencing the heritage, arts and special character of a place in an exciting, and informative way."* This definition captures several of the key points of cultural heritage tourism. This tourism is oriented towards encountering those components of a destination that make it unique. These components could be largely historical, in which case people typically use the term "heritage tourism", or they could be more arts-focused, hence prompting the term "cultural tourism". (For ease of reading, the terms "cultural heritage tourism/tourist" will be used throughout this paper to refer to tourism/tourist that includes visiting cultural and/or heritage attractions or events).

Cultural heritage tourism is important for various reasons; it has a positive economic and social impact, it establishes and reinforces identity, and it helps preserve the cultural heritage. With culture as an instrument, it facilitates harmony and understanding among people, and it supports culture and helps renew tourism (Richards, 1996).

According to Weiler and Hall (1992), culture, heritage and the arts have long contributed to appeal of tourist destination. However, in recent years 'culture' has been rediscovered as an important marketing tool to attract those travellers with special interests in heritage and arts. This is supported by Encyclopaedia Wikipedia (Cultural heritage, 2007) which states that cultural heritage tourism is the fastest growing segment of the tourism industry because there is a trend toward an increased specialization among tourist. This trend is evident in the rise of the volume of tourists who seek adventure, culture, history, archaeology and interaction with local people.

CULTURAL HERITAGE TOURISM IN MALAYSIA

Malaysia is increasingly realizing the potential of its cultural and heritage resources in tourism. With UNESCO's recognition of several new cultural and heritage sites such as Georgetown in Penang and Geopark in Langkawi, the country is set to use this type of resources to generate more tourism activities. While several of these sites have been successful in attracting foreign tourists (for example Batu Caves during the Deepavali festival), others have not (for example Bujang Valley which houses the oldest trading port in Malaysia). Thus marketing planners of those sites need to understand the importance of target marketing and try to understand tourist behaviours when they are in the context of cultural heritage tourism.

CULTURAL HERITAGE TOURISTS

Although the potential of cultural heritage tourism had captured the interest of some arts and tourism leaders, many were still not convinced of the significance of this market. Seeking to better understand these travellers, a research has been undertaken in the United States to identify cultural heritage tourists (TIA, 1997). Based on the research data conducted in 1997, for the first time reliable statistics that compared the demographics and behaviours of travellers partaking in cultural heritage activities with U.S. travellers in general were available (Real, 2000).

The terms 'tourist', 'visitor', 'traveller' have been used by many people within the context of the tourism industry. Unfortunately, there is still confusion over these very basic definitions. Even within the same country such as the United States and Malaysia, for example, different states may use different definitions for data gathering and statistical purposes. Based on The

World Tourism Organization (WTO, 1985) definitions and classifications the concepts of tourist, visitor, and traveller as follows:

- Tourist - (overnight visitor) visitor staying at least one night in a collective or private accommodation in the place visited;
- Visitor – any person travelling to a place other than that of his/her usual environment for less than 12 consecutive months and whose main purpose of travel is not to work for pay in the place visited; and
- Traveller – any person on a trip between two or more locations.

However, for the purpose of this paper, the terms will be used interchangeably which generally refers to cultural heritage tourists.

In the tourism industry every tourist has his/her own characteristics while going for travel. Consequently, it is common for managers and marketers to divide the market for their cultural heritages' products and services based on the three visitor characteristics: demographic, geographic and psychographic characteristics (Hall and Arthur, 1998).

Demographic characteristics are important to know for understanding the types of people who participate in cultural heritage tourism. Level of education, gender, age, income level and employment types are among the most important visitor attributes for cultural heritage managers to understand. It is commonly accepted that this knowledge will help managers and marketers determine people's desires and needs based on generalized patterns. High levels of education are the most important characteristics possessed by cultural heritage visitors. On average, the cultural heritage tourists are more educated than the general public. According to a study involving 6400 respondents (Richards, 1996), more than 80% of heritage or cultural tourists in Europe had tertiary (university/college/trade school) education, and nearly a quarter had postgraduate education. Thus, education is seen as a mechanism for broadening people's interest in, and knowledge about, times, places, people and events, which draw them to culture and heritage places.

Closely related to education is socio-economic status and employment. Since the cultural heritage public is better educated, it is also reasonable that they are better off financially than the average citizen and have better-paying jobs (Silberberg, 1995; TIA, 1997). In terms of gender, there is some evidence that more women than man visit historic sites. In facts, the general tendency or cultural activities attract more women than men. While the age of visitors who tend to involve in cultural heritage tourism are older and majority of them fall into the 25–54 age range. The reason is most of the teenagers are less interested in historical sites and they are more likely to choose the more "entertaining" dimensions of tourism (Balcar and Pearce, 1996; Prideaux and Kininmont, 1999; Richards, 1996). Silberberg (1995) states that, collectively, studies of cultural heritage tourists show that they are older, more educated, more likely to be female, spend more, and stay longer.

Geographic segmentation has traditionally been dominated by a classification based on where the tourists live, although some observers argue that this can be misleading, as many people do not travel directly from their home environments to cultural heritage properties. Instead, they might be travelling from other places they are visiting on holiday or from the homes of friends and relatives. Another aspect of geographic segmentation is where the tourist travels to. It would be helpful for managers to understand the spatial or geographical patterns of behaviour, travel and visitation once tourists are in a destination or a specific

heritage region. The geographic origins of cultural heritage tourists, whether international or domestic, are closely related to the scale of an individual heritage attraction. Places of international fame will bring in large numbers of visitors on their own merit, while smaller regional sites will draw more domestic tourists and local recreationists, although some international tourists may visit in conjunction with larger package tours and because they are already near the site for other reasons. For instance, Taj Mahal in Agra, India always attracts the international tourists to visit the site - while the smaller regional sites such as Lembah Bujang in Kedah, Malaysia usually attract more domestic tourists and local people. Usually, the local people who live near the sites will be the same day visitors to the cultural heritage sites, and the domestic tourists will stay overnight, whereas the international tourists are desired to spend enough time by spending more nights. These are important factors in supporting to all scales of cultural heritage sites.

While demographic and geographic characteristics give us some insight, the psychographic characteristics were commonly utilized for cultural heritage tourist segmentation by the managers and marketers. The psychographic characteristics are based on the notion that people's attitude influence their behaviour, these attitudes come from aspects of their individual lives such as lifestyle, social class and personality (Middleton, 1994). On the other hand, psychographic approaches use values, interests, opinion, personality and other individual characteristics and traits for segmentation (Chandler and Costello, 2002). For example, active outdoors-oriented people, middle and upper classes, and workaholics are ways of segmenting the market according to psychographic characteristics. Plog's (2001) psychographic model has had significant impact on the travel and tourism industry and has been widely cited in tourism research (Chandler and Costello, 2002). Plog's model segmented tourists along a spectrum ranging from 'allocentric' (adventure-seeking, preferring the exotic) to 'psychocentric' (safety-seeking, preferring the familiar). In a similar way, psychographic model can be applied to cultural heritage tourism. For instance, in this modern day, cultural heritage tourists to Europe are displaying 'psychocentric' tendencies to visit the well-established urban tourism places. In contrast, tourists who visit the temples of Asia, the rainforests of Africa and South America are displaying 'allocentric' tendencies (McDonnell and Burton, 2005). However, in this new Grand Tour, there are more 'allocentric' tendencies have being portrayed in the tourism industry. In relation to that Plog (1987 - in Ross, 1998) has made the point that there are many uses for psychographics research. Examples of psycho-graphically relevant topics in travel/leisure research are said to include: destination development, product positioning, development of supporting services, advertising and promotion, packaging, and master planning.

While demographic, geographic and psychographic characteristics give us the view of the cultural heritage tourists, the selective appeal of cultural heritage places may explained by considering the needs and motivations of those people who visit, or who do not visit the cultural heritage sites or events (Light and Prentice, 1994). Fun, according to Hawley (1990), is secondary to learning for cultural heritage tourists because they travel to increase their knowledge of people, places and things, besides, to experience a sense of nostalgia for the past. Thomas (1989) supports his contention and suggests that an interest in learning has increased among cultural heritage tourists over the past 20 years. According to Weiler and Hall (1992), cultural heritage tourists are motivated "more by a search for cultural heritage experiences than by a detailed interest in factual history."

Thus, if we understand why and how tourists travel to cultural heritage destinations, we can market them effectively. An equally compelling argument, however, is that we as a society

are responsible for providing individuals with opportunities to learn about the past, both to understand the significance of physical remains and to place them in a social context. Understanding the behaviour of cultural heritage tourists will help us to do this (Confer and Kerstetter, 2000).

TYPES OF CULTURAL HERITAGE TOURISTS

The typology of cultural heritage tourists is of great interest for both academics and researchers in the field pertaining to the characteristics of the visitors of cultural heritage sites.

According to Peterson (1994) there are four different types of cultural heritage visitors. They fall on a continuum, with 'aficionados' being the most involved and 'casual visitors' being the least involved, and others are 'event visitors' which visit sites on special occasions; and 'tourist' who are away from home and visiting historic sites. Prentice (1993) stated that cultural heritage tourists and visitors could be divided into five predominant groups: (1) educated visitors; (2) professionals; (3) families or groups; (4) schoolchildren; and (5) nostalgia seekers. Likewise, McKercher and du Cros (2002) have identified five types of cultural heritage tourists based on the importance of cultural heritage tourism in the overall decision to visit a destination and depth of experience. The types are presented graphically in Figure 1. The horizontal axis reflects the centrality of cultural heritage tourism in the overall decision to visit a destination. The vertical dimension represents depth of experience. Combining the two dimensions produces five possible types of cultural heritage tourist as shown in Figure 1 (McKercher and du Cros, 2002):

1. The purposeful cultural tourist – cultural heritage tourism is the primary motive for visiting a destination and the individual has a deep cultural and heritage experience.
2. The sightseeing cultural heritage tourist – cultural heritage tourism is a primary or major reason for visiting a destination, but the experience is shallower.
3. The serendipitous cultural heritage tourist – a tourist who does not travel for cultural heritage tourism reasons, but who, after participating, end up having a deep cultural heritage tourism experience.
4. The casual cultural heritage tourist – cultural heritage tourism is a weak motive for visiting a destination, and the resultant experience is shallow.
5. The incidental cultural heritage tourist – this tourist does not travel for cultural heritage tourism reasons but nonetheless participates in some activities and has shallow experiences.

Mckercher and du Cros (2002) further content that the recognition of the existence of different types of cultural heritage tourists has product development implications. For example, the purposeful and sightseeing cultural heritage tourists, those people who are motivated largely by cultural or heritage tourism reasons, will explore a destination area seeking experiences. But cultural heritage tourism represents only an adjunct to the trip for incidental, casual, and serendipitous cultural heritage tourists, who constitute the majority of participants. For them, consumption decisions will seek experiences in tourism nodes or in shopping precincts but will not venture widely for other experiences. Similarly, the majority of cultural heritage tourists seem to seek a fairly shallow, easy to consume experience. After all, they are on vacation and are looking for a break from their everyday routine. This means that products must be developed in an appropriate manner for the target audience.

Figure 1: The five possible types of cultural heritage tourist

<table>
<tr><td colspan="2" rowspan="2">Types of cultural heritage tourists</td><td colspan="3">Importance of cultural tourism in the decision to visit a destination</td></tr>
<tr><td colspan="3">Low ⟷ High</td></tr>
<tr><td rowspan="2">Experience sought</td><td rowspan="2">Deep
↕
Shallow</td><td colspan="2">SERENDIPITOUS cultural tourist</td><td>PURPOSEFUL cultural tourist</td></tr>
<tr><td>INCIDENTAL cultural tourist</td><td>CASUAL cultural tourist</td><td>SIGHTSEEING cultural tourist</td></tr>
</table>

A case worth mentioning is the signage and brochures of Geopark Langkawi, langkawi Island, Kedah, Malaysia. Annotated observations by service providers indicate that not many tourists are interested to explore Geopark Langkawi because the lingo on signage and brochures used to promote the park use difficult terms more suitable for experts in geology and not the regular tourists.

Tourist Behaviour: To whom does it matter?

Tourists are not all alike. In fact, they are staggeringly diverge in age, motivation, level of affluence and preferred activities (Pearce, 2005). Therefore, it is important for the researchers, planners and marketers to understand the complexities of tourist behaviour which are multiple perspectives in realities. In relation to tourist behaviour in tourism settings, there are people who are concerned with tourists' life experience – what they do – and they like to understand it. Pearce (2005) pointed out that tourist themselves are very concerned with their own experiences and how to maximize each one, whether it be a short regional visit or an extended international holiday.

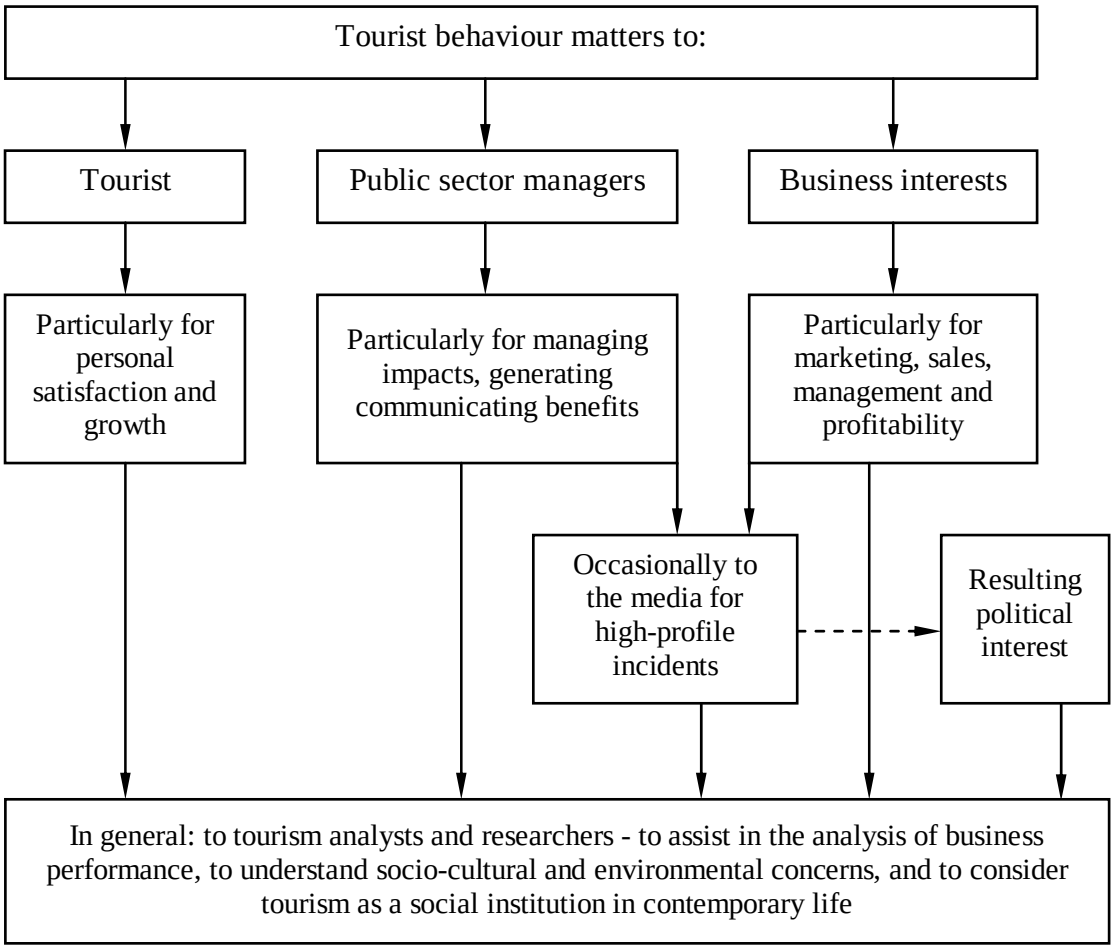
Next, tourist behaviour matters to people who are making decisions about tourists. They may be people in the public sector who provide permits for tour operators; they may be managers who let others go to the State Parks or white-water rafting, or climb up Mount Kinabalu which is the highest mountain in South East Asia. Thus, most decision-makers are concerned with tourist behaviour because job involves making an enabling decision or policy choice about tourist activities. There are public decision-makers who make either policy or management decisions about on-site behaviour. There are marketers in joint public-private cooperative endeavours whose interests include such factors as what will influence travellers to come to place A, B or C. There are also business decision makers concerned with the design and financial success of tourism products. These kinds of interest focus on what tourists will prefer and how they make their travel choices and purchases. Tourism industry lobby groups may also interested in select tourist behaviour issues, particularly topics such as user-pays fees and taxes on activities.

There are further groups who are also interested in tourist behaviour. For example, if tourists are creating certain kinds of impacts (maybe positive ones such as economics, or even negative socio-cultural and environmental impacts), the local community and then the media may find tourist behaviour noteworthy. However, generally, the individuals with the most

enduring and consistent interest in studying tourist behaviour are business analysts and academic researchers. Their work influences and considers the needs of the decision-makers as well as addressing the interests of the tourists themselves. A summary of these interested parties is presented in Figure 2. The diagram below shows that understanding cultural heritage tourist behaviour could ultimately assist managers in analyzing business performance, socio-cultural and environmental impact.

When the market is understood, targeting it becomes easier and more strategic. Similarly, understanding tourist behaviours can assist in addressing concern about increased visitation which result in degradation of heritage resources with the commoditisation of cultural and heritage resources (Howell, 1994) as well as concerns about the impacts that changing demographics (i.e. increase in retirees) might have on visitation (Martin *et al.,* 1998).

Figure 2: Scheme of the major parties interested in tourist behaviour (after Pearce, 2005: 7)



It will help in the planning for a sustainable cultural heritage tourism market, as well as creation of an effective marketing plan – all of which require accurate information about visitors. Only then a programme of product development that enhances the cultural and heritage products for visitors without negative consequences for the integrity of the organizations or institutions can be implemented (McDonnell and Burton, 2005).

LIMITATIONS AND FURTHER RESEARCH

Not much research has been conducted to quantitatively profile the cultural heritage tourists. A few have focused on clustering heritage tourists according to motivation, experience, benefit, or socio-demographics (Martin *et al.,* 2004). However, many questions about cultural heritage tourists are still unanswered and results of the few quantitative studies are sometimes conflicting.

Currently, there are little quantitative data on the heritage and cultural tourist. According to Prentice (1993), "comparatively little is known in a systematic manner about the characteristics of cultural heritage tourists."

Most if not all of the data were collected through cross-sectional surveys that, while valuable, give us only a glimpse of cultural heritage tourists. To determine whether a true heritage tourist exists, more a longitudinal study need to be carried out by focusing on tourist behaviour related to cultural heritage tourism. Furthermore, in order to identify and rectify the differences among the tourists, it is recommended that more research should be undertaken by utilizing quantitative and qualitative approaches.

CONCLUSIONS

Implications and recommendations for the Malay cultural heritage tourism

This paper has highlighted the importance of understanding cultural heritage tourism by for both marketing and sustainability managers when planning and promoting cultural heritage tourism. Considering the fact that at the moment, most tourists profile are conducted within the context of mass tourism and ecotourism, this argument adds to knowledge as it addresses a previously often neglected issue.

It is worthwhile and important for the tourism managers and marketers to understand the demographics, geographic, psychographic characteristics and their behaviour differences in development of effective marketing plans for cultural heritage sites and events. Similarly, managers and marketers of cultural heritage of Malaysia can better achieve their marketing objective of increasing visitation by broadening their appeal to a scientifically determined (via research) target market that could be targeted in future marketing activities. Targeted promotional strategies that focus on promotion of the cultural heritage destination to a predetermined target market will ensure the effectiveness of marketing and lessening of budget wastage on generic and unproductive marketing activities. In sum, effective promotion of appropriate products that suits the needs and wants of the target market is essential if cultural and heritage attractions are to improve their market share of visitors to Malaysia.

There are important implications for both marketing and sustainability that need to be considered when planning and promoting cultural heritage tourism. These include the concern that increased visitation will result in degradation of heritage resources with the commoditization of cultural and heritage resources (Howell, 1994) as well as concerns about the impacts that changing demographics (i.e. increase in retirees) might have on visitation (Martin *et al.,* 1998). Thus, planning for a sustainable cultural heritage tourism market, as well as creation of an effective marketing plan, requires accurate information about visitors.

In relation to studies conducted in Europe, United States, and Australia, there was wider socioeconomic range of people visit cultural heritage attractions. Thus, by looking at the trends of the phenomenon is unlikely to occur among cultural heritage tourists in Malaysia. This would suggest that managers and marketers of cultural heritage of Malaysia organizations related to cultural heritage tourism can better achieve their marketing objective of increasing visits from tourists to Malaysia by broadening their appeal to a wider community rather than concentrate to well-educated, affluence middle class, and specifying age groupings tourists. A programme of products development that enhances the cultural and heritage products for visitors without negative consequences for the integrity of the organizations or institutions can be implemented (McDonnell and Burton, 2005). Promotional strategies should focus on local promotion rather than spend on offshore promotion. Effective promotion of appropriate products in Malaysia is therefore essential if cultural and heritage attractions are to improve their market share of visitors to Malaysia.

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