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## Guest Editor's Foreword

**Valerij Dermol**

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In literature, the concept of intellectual capital is present since 1969, when the American economist James K. Galbraith introduced it in theory and practice. He envisioned it not as a fixed form of capital but as something intangible, dynamic, as a process of knowledge application, and as a tool for achieving the companies' objectives. The components of intellectual capital include people and their skills, as well as other aspects of knowledge in the broadest sense of its understanding in the internal and external structure of the company. Intellectual capital management has a significant impact on both short- and long-term policies of the company as well as synchronous operation of all its components. However, the concept of intellectual capital can be also understood wider, within the economy and society. As a component of the intellectual capital, social capital stresses the importance of membership in social networks and management of values, norms, understanding and trust to promote social and civic participation and to enhance the quality of life. On the other hand, human capital, which was introduced in the economic theory in 1961 by American Nobel laureate Theodore W. Schultz, emphasizes the issue of education and health systems, lifelong learning, and cause-effect links with company profitability, labour productivity and economic performance of countries. The concept of intellectual capital is closely linked to sustainability, which should be understood as a phenomenon that increases the quality of human life while living within the carrying capacity of supporting ecosystems. Deriving from that, intellectual capital is also closely linked with sustainable development, which is the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Only knowledge and the appropriate use of knowledge, which by definition is intellectual capital, can provide both – quality of life within the capabilities of current ecosystems as well as life that does not jeopardize the life of future generations.

Papers in this special issue of the journal are dealing with a wide range of topics, related to sustainability and sustainable development, which are founded on the concept of intellectual capital. The paper 'Determinants of Willingness to Pay for an Urban Green Area' reveals the importance of the systematic raising of awareness of the importance of maintaining sustainable green urban areas for quality of life in cities. The paper 'Supply Chains

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and the Apparel Industry' underlines the importance of transnational, non-state driven Initiatives for social sustainability for the improvement of workers' situation. In its content, the paper entitled 'The Impact of Exchange Rate on Poland's Trade Flows' is primarily leaning on the content from the field of economics, which together with the contents from the fields from ecology, culture and political science forms 'circles of sustainability,' an internationally renowned model for managing projects directed towards socially sustainable outcomes. Electronically archived knowledge and the right to forget and to be forgotten, which is becoming an urgent issue spread among professional and general public due to widespread use of the Internet, are addressed in the paper 'Online Right to Be Forgotten and the European Justice Evolution.' The effects of entrepreneurial capital and renewal capital, as key components of the intellectual capital, on the performance of smaller companies are discussed in the paper 'Entrepreneurial, Renewal Trust and Capital of Italian Firms.' The paper 'The Impact of the Relationships between Buyers and Suppliers Based on Their Financial, Social and Structural Bonds' investigates the relationship between the buyers and the suppliers showing that the firms which share the knowledge on the base of their non-formal relationships reduce the transaction costs and increase investment, trust, and performance. With the paper 'Knowledge Management for Knowledge Society and Intergenerational Education' the topics and contents discussed in this issue of the journal are rounded and summarized by linking concepts of knowledge management, intergenerational learning and knowledge society.

All published papers have been prepared and submitted within the implementation of the MakeLearn & TIIM 2015 Joint International Conference thematically entitled Managing Intellectual Capital and Innovation for Sustainable and Inclusive Society. Through MakeLearn (International Scientific Conference on Management of Knowledge and Learning), organizers are encouraging (a) sharing of the most recent developments in the field of knowledge management, (b) discussion and exchanging of knowledge between the academia and the economy, as well as (c) promotion of the Central and South-Eastern Europe higher education. Complementary, TIIM (Technology, Innovation and Industrial Management International Conference) promotes the exchange, discussion, and dialogue on how to manage industrial operations and organizations in more innovative, effective, and productive manners. Overall, TIIM conference underlines the roles of technology as well as integration of human capital and organizational cultures so that possible adaptations, learning, and improvement of research, practical examples, and excellent practices can be made.

At this point, it is worth mentioning that the conference participants submitted 453 papers, of which 308 were accepted for publication in the

conference proceedings or in any of the special issues of the sponsored journals. MakeLearn as well as TIIM International Conference have set several standards in order to achieve a high quality implementation. This includes following a rigorous selection process for publication in the conference proceedings or in any of the special issues of sponsored journals. In addition, all submitted papers are subject to a double-blind review process, which greatly contributes in the elimination of any perception of bias for or against an author or institution, country, gender, etc. Furthermore, papers' evaluation is based on their originality, clarity, methodological standards of research, significance of their findings, and clarity of exposition. MakeLearn & TIIM Joint International Conference follows the Publishing Ethics as defined by the ToKnowPress International Academic Publisher.

Finally yet importantly, I would like to thank the Editor-in-Chief of the International Journal of Management, Knowledge and Learning for the trust and excellent cooperation in preparation of this special issue.

**Dr. Valerij Dermol** is currently Vice Dean at the International School for Social and Business Studies. He is involved in courses on entrepreneurship, HRM and knowledge management, and also in several international and domestic research projects. Besides entrepreneurial learning he focuses his research on training and its influence on organisational learning and firms' performance. He has (co)authored papers published in many ranked journals such as *Personnel Review*, *Industrial management and Data systems*, *International Journal of Euro-Mediterranean Studies*, *International Journal of Management in Education* and others. [valerij.dermol@mfdps.si](mailto:valerij.dermol@mfdps.si)



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# Determinants of Willingness to Pay for an Urban Green Area: A Contingent Valuation Survey of College Students

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The aim of the study is to identify factors affecting young people's willingness to pay (WTP) for the conservation of an urban green area. A questionnaire survey, based on the Contingent Valuation method, was administered to a sample of students enrolled at the University of Molise (Italy). We examine the determinants of WTP for use and non-use values, visitors' profiles, socio-economic characteristics and environmental attitudes. We detect factors affecting WTP decisions through logistic regression analysis. Variables affecting the WTP differ from the environmental values and according to the visiting experience; socio-economic characteristics do not appear particularly significant; the main cause for zero bids is related to the perception of the green area as a public good. Our results highlight a growing tendency, in young generations, towards a more sustainable awareness, which we believe should be carefully nurtured through adequate policy instruments, so to enhance the quality of urban life.

*Keywords:* environmental values, use value, non-use value, WTP, pro-environmental behaviour, university students, urban green area, sustainability, environmental management, logit

## Introduction

Urban green spaces play different roles in cities, generating ecosystem services that tend to provide meaningful values for human well-being (Farley, 2012; Fisher, Bateman, & Turner 2011; Gómez-Baggethun & Barton, 2013). Such advantages have been widely recognized in international initiatives (Forest Research, 2010), in policy debates (TEEB, 2011), as well as in many studies that pointed out how crucial the aforesaid benefits are for both the health and environmental sustainability of cities (Tzoulas et al., 2007).

From a public policy perspective, measuring people's willingness to pay (WTP) for use and conservation of natural areas is considered as essential. Undoubtedly, this has financial implications. Given the severe shortage of public finances, many studies suggested to establish a fund (Merk et al., 2012) or to set admission fees to protect or manage the quality of the environment (Reynisdottir, Song, & Agrusa, 2008). To this purpose, the knowledge of WTP for environmental use and non-use values turns out to be vital to detect community's needs and to realize which policy interventions and strategies might be implemented to improve the management of green areas.

From an economic perspective, in Samuelson's two-types of goods approach, green spaces present the characteristics of public goods; i.e. non-excludable and non-rival in consumption. They generate positive externalities and represent a case of market failure, as private entities have no incentive to provide environmental services, and the benefits they create do not cover the necessary costs to either their production or maintenance; hence, public intervention appears as necessary.

Subsequent empirical and theoretical studies revealed that many environmental resources are not to be considered as pure public goods and, thus, introduced another concept of good, the common-pool, which is an intermediate type in the dichotomous classification, sharing the non-rivalry or non-subtractability to use attribute with private goods, and the not excludable nature with public goods (Ostrom & Ostrom, 1977). In this latter case, common property rights and regimes could be possibly more efficient than individual ones, given that some conditions are verified (McKean, 1998), and that trust (Ostrom, 2010) and other attributes solve the common social dilemma in a cooperative direction (Poteete, Janssen, & Ostrom, 2010).

Concerning our specific purposes, the environmental economic literature distinguishes between use and non-use values and introduces several taxonomies and value categories (Davidson, 2013; Togridou, Hovardas, & Pantis, 2006). The Contingent Valuation method (CVM) is one of the most widely used in literature to elicit WTP for public natural resources and environmental services (Carson, 2012). Socioeconomic characteristics, such as age, gender, educational level and income, are among the most studied variables influencing pro-environmental behaviours. Further studies have refined the analyses by focusing on residence location (Han, Yang, & Wang, 2011) and congestion (Gürlük, 2013); on environmental attitudes (Gulev, 2012) and information sources (Han et al., 2011); on psychological motives and cognitive-affective determinants of satisfaction underlying CVM responses (Spash et al., 2009; López-Mosquera & Sánchez, 2014). In addition, some studies consider the use value, mainly recreational (Marzetti, Disegna, Villani, & Speranza, 2011; Jim & Chen, 2006), while others inves-

tigate non-use values for the conservation of a natural area (Baral, Stern, & Bhattarai, 2008).

Finally, with respect to the target population, many studies consider the residents' perspective (Ami et al., 2014; Ezebilo et al., 2013; Song, Cho, Lang, & Piao, 2013). The aim of this study is to analyse young people's WTP for an urban green area and its drivers, so to investigate the extent of their sustainable awareness. The study area was a Site of Community Importance (European Commission, 2014) located in the Molise Region, Italy. To this purpose, we set an empirical framework to detect significant determinants of both use and non-use values, with reference to socio-economic characteristics, visitors' profile and environmental attitudes and behaviours. We approached use and non-use values separately; namely, recreational and educational values as well as existence and bequest values.

In order to add to the complexity of environmental values elicitation analyses and to develop an effective management strategy towards the use and conservation of natural areas, we focused our attention on the behaviour of young people for two main reasons: firstly because, if made particularly aware, they may almost certainly be capable of positively contributing to future environmental quality and sustainability. Indeed, they are in a particular stage of their lives in which they shape their personal identity and develop a system of values and beliefs, which are very likely to be used both in their current and in their adulthood lifestyle. Furthermore, as the core of future society, they are expected to be able to correctly influence policy makers and public choices, thus leading local urban planning towards a sustainable pattern.

## **Methodology and Data**

### ***The study area***

The study area is the green suburban site of Monte Vairano, in the Molise Region, Italy, of approximately 700 hectares. It is a free access area with the characteristics of an urban park for the enjoyment and benefit of local community. Monte Vairano is located in the Molise Apennines (993 m above sea level). It was declared a Site of Community Importance (SCI) and inserted into the Natura 2000 European Network of protected areas, thanks to its biodiversity and the preservation of natural habitats and ecosystems. Most of the area (81.5%) is covered by deciduous oaks (CORINE Land Cover category 3112). It falls within three municipalities (Baranello, Busso, Campobasso). Campobasso is the main urban centre (population of 48,487 inhabitants at 1st January 2013; ISTAT 2014) of the Molise Region.

Thanks to its characteristics, the site is well suited for different uses, but the current state of conservation is inadequate, preventing local community

from making a more extensive use of it. Difficulties in realizing management projects are mainly due to both a shortage of public funds. Therefore, it appears as necessary to either impose an admission fee or to search for private sources of funding, in order to foster future potential benefits for such area.

### **Data Collection and Methodologies**

This paper applies a Contingent Valuation Method to elicit the WTP for use and non-use values of the Monte Vairano area. The survey sample considers students regularly enrolled at the University of Molise at the date of 28th February 2014 and living in the closest municipalities surrounding Monte Vairano area (1,405 students). The University of Molise is the only academic institution located in the Region with 7,443 students attending the University (MIUR, 2014). Self-administered questionnaires were sent to institutional e-mail addresses of students in March 2014.

As it is well known, CVM is subject to a number of limitations affecting the validity and reliability of results. These include embedding, sequencing, information and elicitation effects, hypothetical and strategic biases, protest zero responses. Therefore, twenty students from different Departments of the University of Molise, not included in the final sample, were selected to pre-test the survey and to help clarifying its language form and defining its response bid options. They completed the questionnaire a second time, two weeks later, and results showed a high reliability coefficient (82%). The objectives of the survey were defined before entering the online compilation of the questionnaire. Respondents were provided with accurate information regarding the resources of the area before asking for the amount they would be willing to pay (Reynisdottir et al., 2008), thus making them fully aware of the market situation.

The questionnaire consisted of constructs measured on five-point Likert scales (ranging from 0 'None,' 1 'Low,' 2 'Fair,' 3 'High,' to 4 'Very high') and its structure was divided into three sections: knowledge and visit of the site; WTP and reasons for paying and not paying; socioeconomic characteristic (gender; age; education; residence; household size; location; department) and environmental behaviour (recycling, environmental association membership; visits to other natural areas in the past).

The first section investigated the knowledge of the site and collected information about the visit to appreciate how visiting students looked at the site and referred their impressions. The WTP section intended to present the market situation and ask for the value respondents gave to site characteristics. Respondents were surveyed about being willing to pay at least some amounts for two scenarios: i) examining WTP for use of the area; ii) eliciting WTP for non-use values. As regards the payment option used for

CVM, we followed a payment card system, offering different bids defined on the base of the pre-test questionnaire. Respondents were presented with a zero sum option and five ranges of monetary amounts (from 'Up to 50' to 'More than 250 Euros'); students were asked to tick the amount they would be willing to pay. In case of zero sum option, reasons for not being willing to pay were investigated. Respondents offering a positive monetary amount were also asked how much they would be willing to offer on a basis of four type of values (recreational; educational, bequest, existence); in case of zero amount, reasons were investigated.

The final section of the questionnaire collected information regarding respondents' socioeconomic characteristics and their environmental attitudes and behaviours. According to the objective and target of the paper, the independent variables selected to detect WTP motivations did not refer to a single specific approach. Firstly, as the sample focused on full-time university students, an income variable (typical of WTP economic analysis) was not considered. Yet, to get insights about dilemma concerns and conditional cooperation behaviours, considered in the framework of a public goods theory, respondents were asked who should bear the responsibility of paying. In line with the attitude-behaviour paradigm and the theory of planned behaviour, we considered the influence on WTP of environmental concern, of the attitude towards payment and of the behavioural control. Difficulties in paying were explored as well. Finally, the respondents' general environmental attitude and behaviour were taken into account.

A total of 242 valid questionnaires were considered (17.2% of the target population of students). Our sample size corresponded to a 95% confidence level and a 5.7% confidence interval. Hence, given the small size and number of inhabitants of the Molise Region, and the presence of only one University in the area, our paper targeted a sample of university students, representative of the study area.

Frequency distributions and descriptive statistics were analysed for the whole ( $N = 242$ ) and the restricted sample of visitors ( $N = 73$ ). Afterwards, logistic analyses were performed in order to identify the influence of visitors' and visit characteristics, as well as environmental and behavioural variables, on WTP for both use and non-use of the site scenarios, and on WTP for the different values attributed to the study area.

## Results and Discussion

### Respondents' Characteristics

The results of socioeconomic characteristics and environmental behaviour of the sample are summarised in Table 1.

Respondents are almost evenly divided between males (44%) and females (56%); most of them are aged between 19 and 23. The percentage

**Table 1** Socioeconomic Characteristics of Respondents

| Characteristic          |  | Percentage |
|-------------------------|--|------------|
| Gender                  | Female (1)                               | 56.34      |
|                         | Male (0)                                 | 43.66      |
| Age                     | 19–23 (1)                                | 56.34      |
|                         | 24–29 (2)                                | 38.73      |
|                         | over 30 (3)                              | 4.93       |
| Residence               | Campobasso municipality (1)              | 73.24      |
|                         | Other municipalities (0)                 | 26.76      |
| Location area           | Urban area (1)                           | 61.97      |
|                         | Suburban areas (0)                       | 38.03      |
| Department              | Economics (1)                            | 30.99      |
|                         | Law (2)                                  | 6.34       |
|                         | Agriculture studies (3)                  | 9.86       |
|                         | Biological sciences (4)                  | 14.08      |
|                         | Human Science (5)                        | 16.20      |
|                         | Medicine (6)                             | 22.54      |
| Environmental behaviour | Natural areas visit (0)                  | 84.51      |
|                         | Recycling (1)                            | 59.86      |
|                         | Environmental association membership (2) | 5.63       |

**Notes** Coding of all the variables used in regression analysis is provided in brackets.

of respondents on total population decreases as age classes increase, which may be explained by younger students using and checking their institutional e-mail address more frequently than older students; about 50% of surveyed students are enrolled in undergraduate studies. The great majority of respondents came from Campobasso, the place where Monte Vairano is located, with most of them living in urban rather than suburban areas. Only 28.5% of respondents had paid jobs over the past year, though temporarily. As concerns environmental behaviours, results showed that the majority of surveyed students (59.9%) showed regular recycling habits, while 84.5% visited other natural areas in the past, thus underlying the existence of a particularly green attitude. Only few of them were members of environmental associations (5.6%).

### Visit Characteristics

Table 2 presents the results of visit characteristics. The frequency distributions showed that more than 90% of respondents already knew about the existence of Monte Vairano site at the time of the survey, but only 76% of the sample knew its location. However, only 57% of those who were familiar with Monte Vairano had also visited the site and the visit frequency was quite low (45.9% once in the preceding year). Most respondents (57.3%)

**Table 2** Visit Characteristics

| Characteristic     |                             | Percentage |
|--------------------|-----------------------------|------------|
| Knowledge          | I know the area (1)         | 90.14      |
| Visit              | I have visited the area (1) | 69.16      |
| Distance           | 0–10 km (1)                 | 57.53      |
|                    | 10–20 km (2)                | 35.62      |
|                    | 20–30 km (3)                | 6.85       |
| Satisfaction level | Low (1)                     | 20.55      |
|                    | Fair (2)                    | 64.39      |
|                    | High (3)                    | 12.33      |
|                    | Very high (4)               | 4.11       |

**Notes** Coding of all the variables used in regression analysis is provided in brackets.

**Table 3** Willingness to Pay Bid Amounts

| Amount (in Euros) | Non-use scenario (%) | Use scenario (%) |
|-------------------|----------------------|------------------|
| 0                 | 30.29                | 28.17            |
| <50               | 52.11                | 47.89            |
| 51–100            | 7.04                 | 17.61            |
| >100              | 10.56                | 6.34             |
| Total             | 100.00               | 100.00           |

lived at a distance ranging between 0 and 10 kilometres from the area. Concerning their visit experience, the majority of respondents (76%) opted for leisure activities. A considerable part of visitors reported a low-middle satisfaction level from the visit; moreover, 28% of them were averagely satisfied with the area, its characteristics and the related activities it was possible to engage in, while there.

### ***Willingness to Pay for Scenarios and Environmental Values***

The frequency distribution of WTP responses for use and non-use scenarios of the site are presented in Table 3. As we can see, around 68% and 71% of the respondents, respectively, were willing to pay an amount ranging from 50 to more than 100 Euros for each scenario. Most of them seemed willing to offer up to 50 Euros yearly in both cases. Finally, about 30% of respondents declared they would not pay anything at all.

Reasons for this unwillingness to pay, for both use and non-use scenarios, are reported in Table 4. The main cause for zero bids is related to the perception of natural areas as public goods: indeed almost 50% of respondents believed the protection of the site should be a public, and not a private, concern. Such result is in line with the work of Han et al. (2011), where the first reason for zero bid was that government should provide financial support to maintain a natural reserve. Around 30% of respondents

**Table 4** Reasons for Not Being Willing to Pay

| Reason                                       | Non-use scenario (%) | Use scenario (%) |
|--|----------------------|------------------|
| Public bodies should bear the cost           | 46.48                | 51.43            |
| I can't afford to spend money in this period | 32.39                | 30.00            |
| I don't use the area                         | 8.45                 | 11.43            |
| I need further information to decide         | 5.63                 | 2.86             |
| I am not interested in preserving the area   | 2.82                 | 2.86             |
| Other  | 2.82                 | 0.00             |
| I prefer using another area than this one    | 1.41                 | 1.43             |
| Total  | 100.00               | 100.00           |

**Notes** Respondents were allowed to opt for more than one option.

**Table 5** Level of Importance of Study Area for Each Value Category

| Degree of importance | Recreational value (%) | Educational value (%) | Bequest value (%) | Existence value (%) |
|----------------------|------------------------|-----------------------|-------------------|---------------------|
| None (0)             | 2.0                    | 2.0                   | 0.0               | 0.0                 |
| Low (1)              | 6.0                    | 14.0                  | 17.8              | 0.0                 |
| Fair (2)             | 32.0                   | 24.0                  | 20.0              | 12.9                |
| High (3)             | 34.0                   | 40.0                  | 40.0              | 19.4                |
| Very high (4)        | 26.0                   | 20.0                  | 22.2              | 67.7                |
| Total                | 100.0                  | 100.0                 | 100.0             | 100.0               |

**Notes** Coding of all the variables used in regression analysis is provided in brackets.

declared not to be able to afford such expenditure at present time, and this implies that, despite temporary financial difficulties and lack of income source, most of them might be willing to pay a certain amount in the future. Almost 10% of the sample motivated their zero WTP bids by arguing their non-use of the site. Finally, only 3% of them stated not to be willing to pay as they were not particularly concerned with the conservation or use of the natural area.

Interestingly, the level of importance students gave to the site did not appear to be strongly related to their stated WTP, as it is shown in Table 5. As we can infer, respondents that would not pay for the use or non-use of the site seemed to be perfectly aware of its important environmental values. As a matter of fact, students who considered Monte Vairano as having a high level of importance, generally tended to recognize its usefulness for the existence value (68%).

### **Logistic Regression Analysis**

Logistic regression analyses were performed for both the whole and the visitors' samples in order to explore significant influences of main independent variables on WTP. To this purpose, a binary-choice model was used; y



was the dichotomous dependent variable used, taking the value of 1 if a respondent was willing to pay and 0 if otherwise.

With respect to explanatory variables, coding was provided in the descriptive statistics tables. Moreover, we used dummy variables *work*, *sport*, and *education*, taking the value of 1 to indicate students engaged in a job, those willing to pay for sports activities, and the ones enrolled in undergraduate courses, respectively. The *environmental behaviour* variable takes the value of 0, 1 and 2, respectively, if i) students had visited natural areas in the past; ii) recycling activities were reported; iii) students reported memberships to environmental associations. Other independent variables were coded according to an ordinal scale (1 = low, 2 = fair, 3 = high, 4 = very high): i.e. the variable measuring the environmental concern about the level of protection that the area should receive even if costs borne by community increased *area protection*, and the variables indicating who should bear the responsibility for the conservation of the natural area, that is, *citizens*, *local authorities*, *central state* and *private sector*, respectively.

#### *Logistic Regression for Use and Non-Use Scenarios: The Whole Sample*

Table 6 presents the results of two models of Logistic regression related to the use and non-use scenarios of the area. Concerning the use scenario, socioeconomic and visit characteristics are not significantly determinant for the payment issue, a finding perfectly in line with those reported by Togridou et al. (2006) and Han et al. (2011). The (recreational value) variable shows a significant result, thus implying that the higher the level of importance of using the area for recreational activities, the lower the likelihood of being willing to pay for its use. Moreover, the *citizens* variable significance shows that respondents tended to be more willing to pay whenever they considered that citizens themselves should be concerned with the conservation of public natural areas. On the contrary, the higher the consideration that the private sector should be responsible, the lower the likelihood of respondents being willing to pay. These results about the respondents' perception of studied green areas as a public good are indicative and seem to share insight from the public goods theory (Liebe, Preisendorfer, & Meyerhoff, 2011). The results of Chi-square tests indicated that the overall estimated model was satisfactory at 10% significance level, as it was able to correctly predict 75.35% of respondents.

As regards the non-use scenario model, coefficients presented in Table 6 show that the higher the respondents' level of education, the higher their WTP. In addition, the significance of the *area protection* variable shows that the more respondents were concerned with area protection, despite increasing costs borne by community, the higher was their WTP, confirming the direct and positive effect of environmental concern on people's attitude

and WTP. Significant results emerged also for most of the value variables. As in the use-model, the higher the importance of recreational use, the lower the likelihood of being willing to pay not to use it. On the contrary, the higher the respondents' commitment to protect the area for the benefit of future generations, the higher the likelihood of their WTP (Marzetti et al., 2011). Hence, a considerable sense of responsibility towards inter-generational environmental benefit of the area emerged. Finally, in line with previous results, even for the non-use scenario, the sign and significance of the *citizens* variable show that the likelihood of WTP is higher whenever respondents argue that citizens themselves should be concerned with the issue of the conservation of public natural areas. The estimated model is satisfactory and correctly predicted 73.94% of respondents.

#### *Logistic Regression for Use and Non-Use Scenarios: The Visitors' Sample*

Table 7 reports the results of Logistic models applied to the visitors' sub-sample. In this case, as concerns the use scenario of the site, the *environmental behaviour* variable is significant and positive, as in the work of Han et al. (2011); therefore, the higher the respondents' commitment in environmental activities, the higher their likelihood of being willing to pay. Furthermore, the model shows a significant and positive coefficient for the *local authorities* variable. Consequently, respondents would be more than willing to pay to use the area when they consider that local public authorities should be concerned with its preservation and conservation. This is, again, indicative of the trend to consider the site as a public good. Despite such interesting results and the correct allocation of about 80% of respondents, the overall model does not seem to be completely satisfactory.

Far more different results emerged when considering the Logistic model of WTP for not using the area. Firstly, only some of the visitors' and visit characteristics provided interesting results. Indeed age and gender coefficients were not significant. WTP was found higher among respondents with higher levels of education (del-Saz Salazar & Rausell-Köster, 2008), even if the statistical significance was not high. Moreover, the *work* variable showed that the more respondents tended to be engaged in job activities, the higher their likelihood of being willing to pay, even if they did not use the area. Such result is indicative and in line with Tao, Yan, and Zhan (2007) and Adekunle, Momoh, & Agbaje (2008), as most visitors would be more than willing to pay for the conservation of the area, if endowed with an income source. The negative coefficient of *distance* and *recreational value* variables provided evidence, respectively, that the higher the distance separating respondents from the natural area, the lower their WTP for the non-use of the site, and that whenever respondents considered crucial to keep the site for recreational activities the WTP tended to be lower. Yet,

**Table 6** Logistic regression results: Whole sample

|   | Use scenario |     |       |       | Non-use scenario |     |       |       |
|---|--------------|-----|-------|-------|------------------|-----|-------|-------|
|   | (1)          | (2) | (3)   | (4)   | (1)              | (2) | (3)   | (4)   |
| <i>Respondents' characteristics</i>               |              |     |       |       |                  |     |       |       |
| Gender  | 0.642        |     | 0.479 | 1.900 | 0.711            |     | 0.488 | 2.036 |
| Age   | -0.472       |     | 0.442 | 0.623 | -0.063           |     | 0.410 | 0.938 |
| Location  | -0.320       |     | 0.540 | 0.725 | -0.031           |     | 0.541 | 0.969 |
| Education   | 0.177        |     | 0.482 | 1.193 | 0.824 *          |     | 0.496 | 2.280 |
| Department  | -0.157       |     | 0.120 | 0.854 | -0.118           |     | 0.116 | 0.888 |
| Work  | 0.807        |     | 0.608 | 0.184 | 0.359            |     | 0.601 | 1.431 |
| Sport activities                                  | -0.168       |     | 0.495 | 0.734 | 0.717            |     | 0.496 | 2.048 |
| <i>Visit characteristics</i>                      |              |     |       |       |                  |     |       |       |
| Knowledge   | 1.259        |     | 0.853 | 3.524 | 0.883            |     | 0.772 | 2.420 |
| Visit   | -0.431       |     | 0.492 | 0.649 | -0.395           |     | 0.485 | 0.673 |
| <i>Environmental concern and values</i>           |              |     |       |       |                  |     |       |       |
| Area protection                                   | 0.505        |     | 0.341 | 1.658 | 0.716 **         |     | 0.340 | 2.047 |
| Recreational value                                | -0.562 *     |     | 0.319 | 0.569 | -0.610 **        |     | 0.305 | 0.543 |
| Educational value                                 | -0.350       |     | 0.311 | 0.704 | 0.041            |     | 0.296 | 1.042 |
| Bequest value                                     | -0.178       |     | 0.379 | 0.836 | 0.838 **         |     | 0.368 | 2.312 |
| <i>Environmental behaviour and responsibility</i> |              |     |       |       |                  |     |       |       |
| Env. behaviour                                    | 0.155        |     | 0.415 | 1.168 | 0.049            |     | 0.407 | 1.051 |
| Natural areas visit                               | 0.669        |     | 0.572 | 1.953 | -0.116           |     | 0.600 | 0.890 |
| Citizens  | 0.779 ***    |     | 0.294 | 2.180 | 0.434 *          |     | 0.262 | 1.544 |
| Local authorities                                 | -0.216       |     | 0.397 | 0.804 | -0.067           |     | 0.367 | 0.934 |
| Central state                                     | 0.263        |     | 0.295 | 1.301 | 0.089            |     | 0.275 | 1.093 |
| Private sector                                    | -0.497 *     |     | 0.276 | 0.607 | -0.059           |     | 0.264 | 0.941 |
| Chi square  | 29.830       |     |       |       | 31.650           |     |       |       |
| p-value   | *            |     |       |       | **               |     |       |       |
| % correct predictions                             | 75.35        |     |       |       | 73.94            |     |       |       |

**Notes** Column headings are as follows: (1) variable coefficients ( $\beta$ ), (2) statistical significance at \* 1%, \*\* 5% and \*\*\* 10% levels, (3) standard error of the estimated coefficients, (4) odd ratios ( $\exp(\beta)$ ).

the *environmental behaviour* variable appeared to be significant and positive. Thus the higher the respondents' environmental commitment and awareness, the higher their likelihood of being willing to pay for the non-use of the site. Consistently with use-values results, respondents would seem more than willing to pay not to use the area when considering *local authorities* as the main body responsible for the good keeping of the site. Concerning such finding, the visitors' subsample results are by far different from those of the whole sample, where the responsibility for the protection of the area was significantly assigned to the citizens. The over-

all model appears to be particularly satisfactory, as it predicted correctly 78.08% of respondents.

When comparing the results of the Logistic models used for the two scenarios, as well as for the whole and the visitors' sample, it emerges that it is not possible to explain WTP with common variables across all models. Such evidence holds even when relevant variables are compared between paired models, i.e., changing the scenario for the same sample or considering the two samples for the same scenario. In the visitors' sample, our evidence shows that respondents adopting environmental behaviours and perceiving the responsibility of local public authorities towards the protection of the area appeared more willing to pay both in the scenario in which the site is suitable for visits and in the one where visits would not be possible; in the whole sample this evidence did not emerge. The responsibility of citizens for the good-keeping of the green area is a common explanatory variable of the WTP for the whole sample in the two scenarios, but not for the visitor's sample. Finally, in all models, the recreational value of the site is negatively related to the WTP. This somehow surprising result is perfectly in line with our previous findings showing the great importance students gave to non-use values. In conclusion, the different findings emerged according to the importance of personal profile (residents vs. visitors) and scenarios, contribute to the issue of WTP sensitiveness to different exploratory variables (Liebe et al., 2011), thus suggesting accuracy in selecting independent variables and in drawing general conclusions about the main drivers of people's WTP for a green area.

#### *Logistic Regressions of WTP for Environmental Values*

In this subsection, we reported evidence of logistic regressions performed to explore, for the total respondents' sample, the influence of variables on willingness to pay for different values of the study area.

Specifically, WTP for recreational, educational and bequest values were modelled separately (Table 8). The results for existence value were not significant due to the very homogeneous data among the sample.

Concerning the *recreational value* model, its results show that the more the respondents tended to be engaged in job activities, the higher their likelihood of being willing to pay for using the area for sports activities. Such finding is indicative as respondents would be more than willing to contribute for the conservation and consequent recreational use of the area, if endowed with an income source.

With respect to the *educational value* model, a similar result was obtained concerning the *work* variable and with a much higher significance level. Moreover, the significance of the *area protection* variable shows that the more the respondents believed the natural area should be protected,

**Table 7** Logistic Regression Results: Visitors' Sample

|   | Use scenario |     |       |        | Non-use scenario |     |       |        |
|---|--------------|-----|-------|--------|------------------|-----|-------|--------|
|   | (1)          | (2) | (3)   | (4)    | (1)              | (2) | (3)   | (4)    |
| <i>Visitors' characteristics</i>                  |              |     |       |        |                  |     |       |        |
| Gender  | -0.363       |     | 0.816 | 0.695  | 0.575            |     | 0.794 | 1.778  |
| Age   | -0.899       |     | 0.659 | 0.406  | -0.894           |     | 0.740 | 0.408  |
| Location  | -0.315       |     | 0.783 | 0.729  | 0.852            |     | 0.805 | 2.344  |
| Education   | 0.107        |     | 0.783 | 1.113  | 1.170            |     | 0.810 | 3.223  |
| Department  | -0.272       |     | 0.201 | 0.761  | -0.252           |     | 0.208 | 0.776  |
| Work  | 0.090        |     | 0.940 | 1.094  | 1.837 *          |     | 1.001 | 6.277  |
| Sport activities                                  | -0.400       |     | 0.777 | 0.669  | -0.618           |     | 0.790 | 0.538  |
| <i>Visit characteristics</i>                      |              |     |       |        |                  |     |       |        |
| Distance  | 1.047        |     | 0.690 | 0.350  | -1.178 *         |     | 0.693 | 0.307  |
| Satisfaction                                      | -0.396       |     | 0.418 | 0.672  | 0.273            |     | 0.498 | 1.313  |
| <i>Environmental concern and values</i>           |              |     |       |        |                  |     |       |        |
| Area Protection                                   | 0.865        |     | 0.784 | 2.376  | 0.941            |     | 0.808 | 2.563  |
| Recreational value                                | -1.686       |     | 1.175 | 0.185  | -1.829 *         |     | 1.020 | 0.160  |
| Educational value                                 | -0.333       |     | 0.675 | 0.716  | 0.068            |     | 0.776 | 1.070  |
| Bequest value                                     | -0.427       |     | 0.792 | 0.652  | 0.186            |     | 0.810 | 1.205  |
| <i>Environmental behaviour and responsibility</i> |              |     |       |        |                  |     |       |        |
| Env. Behaviour                                    | 1.534 **     |     | 0.721 | 4.641  | 1.737 **         |     | 0.812 | 5.681  |
| Natural areas visit                               | 0.056        |     | 1.385 | 1.058  | -0.845           |     | 1.205 | 0.429  |
| Citizens  | -0.159       |     | 0.681 | 0.852  | -0.346           |     | 0.696 | 0.706  |
| Local authorities                                 | 2.364 *      |     | 1.470 | 10.637 | 3.680 **         |     | 1.699 | 39.668 |
| Central state                                     | -0.650       |     | 0.705 | 0.521  | -0.017           |     | 0.681 | 0.982  |
| Private sector                                    | -1.185 *     |     | 0.677 | 0.305  | -1.058           |     | 0.736 | 0.346  |
| Chi square  | 24.890       |     |       |        | 30.460           |     |       |        |
| p-value   | ns           |     |       |        | ***              |     |       |        |
| % correct predictions                             | 79.45        |     |       |        | 78.08            |     |       |        |

**Notes** Column headings are as follows: (1) variable coefficients ( $\beta$ ), (2) statistical significance at \* 1%, \*\* 5% and \*\*\* 10% levels, (3) standard error of the estimated coefficients, (4) odd ratios ( $\exp(\beta)$ ).

the higher their willingness to pay for the educational purposes offered by the natural site.

The last analysed model concerns the *bequest value*. In this model, some respondents' characteristics appear significant even if the sign of the coefficients is not always as expected. This is the case of age and education variables: the higher the age of respondents, the lower their WTP to keep the area and leave it to future generations. Similarly, WTP tends to significantly decrease when respondents reach higher levels of education. On the contrary, the *location* variable appears significant and positive, showing

**Table 8** Logistic Regression Models of WTP for Environmental Values

| Variable  | (1)    | (2) | (3)    | (2) | (4)    | (2) |
|---|--------|-----|--------|-----|--------|-----|
| <i>Visitors' characteristics</i>                  |        |     |        |     |        |     |
| Gender  | -0.029 |     | -0.019 |     | 0.310  |     |
| Age   | 0.403  |     | -0.235 |     | -0.907 | *   |
| Location  | 0.067  |     | 0.728  |     | 1.199  | **  |
| Education   | -0.351 |     | -0.794 |     | -1.432 | **  |
| Department  | -0.054 |     | 0.036  |     | 0.143  |     |
| Work  | 1.067  | *   | 1.785  | *** | 1.044  |     |
| Sport activities                                  | -0.427 |     | -0.395 |     | -1.026 |     |
| <i>Visit characteristics</i>                      |        |     |        |     |        |     |
| Knowledge   | 0.829  |     | 0.351  |     | -2.296 |     |
| Visit   | 0.393  |     | -0.690 |     | 0.389  |     |
| Area Protection                                   | 0.411  |     | 0.491  | *   | 0.708  | *   |
| <i>Environmental behaviour and responsibility</i> |        |     |        |     |        |     |
| Environmental behaviour                           | -0.231 |     | 0.075  |     | 0.281  |     |
| Natural areas visit                               | -0.729 |     | -0.315 |     | -0.612 |     |
| Citizens  | 0.212  |     | 0.129  |     | -0.069 |     |
| Local Authorities                                 | 0.257  |     | 0.313  |     | 1.044  | *** |
| Central State                                     | -0.218 |     | 0.181  |     | 0.066  |     |
| Private sector                                    | 0.296  |     | 0.154  |     | 0.314  |     |
| Chi square  | 24.990 |     | 32.450 |     | 42.580 |     |
| p-value   |        | *   |        | *** |        | *** |
| % correct predictions                             | 74.65  |     | 73.94  |     | 85.21  |     |

**Notes** Column headings are as follows: (1) recreational value, (2) statistical significance at \*1%, \*\*5% and \*\*\*10% levels, (3) educational value, (4) bequest value.

that the more the respondents live next to the study area, the higher their likelihood of being willing to pay to preserve it for future generations. Thus, respondents who live close to Monte Vairano site reported a strong sense of belonging and responsibility. The positive and significant coefficient of the *area protection* variable indicated that the more the respondents believed the green area should be protected, the higher their WTP to preserve it and to let future generations benefit from it. When considering environmental responsibility variables, the *local authorities* variable showed to be positive and significant. Hence, respondents were more than willing to pay to preserve the area for future generations when they considered that local public authorities had to be concerned with its restoration and conservation.

In conclusion, all estimated models appeared highly satisfactory, but the best results were obtained in the *bequest* model. Respondents' WTP is mainly related to bequest value and not to preserve natural resources for educational purposes or recreational activities. This finding about the be-

quest value, together with the high importance given to the existence value of the site, support the study aim and confirm evidence about a higher environmental consciousness and commitment of younger generations (Kamri, 2013; Verbič & Slabe-Erker, 2009). Finally, when comparing logistic results for the different values attributed to the study area, some interesting conclusions could be drawn. Firstly, the *bequest model* is the most satisfactory. Secondly, different independent variables appear to be significant in explaining WTP for recreational and educational purposes, and for the bequest value. Indeed, the WTP models for recreational and educational uses share the importance of the *work* variable, confirming the relevance of an income source towards the willingness to pay. Moreover, such model clarifies the positive relationship between WTP, respondents' concern about the protection of the area and the responsibility of local public authorities. We can therefore conclude that different factors influence the WTP for each environmental value, though the specific elicited value should be accurately considered when selecting different exploratory variables (Shan, 2014) and drawing conclusions about factors influencing people's WTP for green areas.

### Conclusions and Implications

This paper aimed at identifying the factors influencing willingness to pay for the use and non-use of the Monte Vairano urban green area, by means of the Contingent Valuation method. The knowledge of residents' WTP for environmental quality is crucial to detect community's needs and, as a consequence, to implement the most suitable policy interventions and management strategies.

Sustainability issues seem relevant in the case studied, both for the high concern of young people towards the protection of the green area and the importance of WTP for non-use environmental values. Our evidence shows that the main causes for zero bids are related to the perception of the urban green area as a public good. Consequently, the majority of respondents believed the good-keeping of the area should be a public, and not a private, concern. Moreover, both local public authorities and citizens are believed to be mainly responsible for the conservation of the site.

Such findings may offer interesting policy implications. First of all, the recognised importance of non-use values encourages a public intervention to preserve the environmental services of the green site and its benefit for a sustainable quality of urban life. Furthermore, many respondents seemed to agree on being possibly charged for either the use or the conservation of the site, which would suggest the adoption of specific interventions so to increase the frequency of visits and, consequently, the appreciation of the site. Our results thus highlight a growing tendency, in young generations, towards a more sustainable awareness, which we believe should be carefully

nurtured through adequate policy instruments, so to enhance the quality of urban life.

In conclusion, while these results are suggestive, it seems proper to draw some attention to possible limitations of the study. As a matter of fact, our paper mainly provides a local evidence about people enrolled in a regional University and living in locations surrounding the examined urban green area. Thus, generalizations concerning our results and conclusions should be drawn carefully. Nonetheless, further analyses may certainly deepen our findings. Indeed, it might be useful to perform more specific econometric studies on a larger or alternative sample of correspondents, as well as to focus on other natural sites and attractions, in order to take into consideration additional variables and characteristics and, in so doing, improve the understanding of willingness to pay towards environmental protection.

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# Supply Chains in the Apparel Industry: Do Transnational Initiatives for Social Sustainability Improve Workers' Situation?

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Non-state driven Transnational Initiatives for Social Sustainability (TISSs) have increasingly attempted to approach social issues like labour laws in global supply chains. The reason is that state-laws are territorially confined. But can TISSs contribute to effective solutions of issues on which they are focused? This examination presents a theoretical framework explaining the effectiveness of TISSs. For the empirical case study, the Business Social Compliance Initiative (BSCI) and the Fair Wear Foundation (FWF) were selected. Data was collected from expert interviews and documents. The results led to the conclusion that stakeholder-involving approaches are adequate to support social sustainability in the future.

*Keywords:* transnational initiatives, globalisation, social sustainability, apparel industry, stakeholder, labour rights

## Introduction

In today's globalised world, supply chains have become transboundary: products are often designed in one part of the world and produced in another. Because there are no state-based mandatory laws on the global level, issues linked to transboundary supply chains like labour rights are, in fact, usually unregulated (which can lead, e.g., to unacceptable labour conditions) (Dingwerth & Pattberg, 2006; Rosenau & Czempiel, 1992; Willke, 2014). In the last 15 years, voluntary transnational initiatives that aim to contribute to social or environmental sustainability have increasingly attempted to fill this regulatory gap (Fransen, 2012; Levy & Kaplan, 2008). Over a decade after the demand for and establishment of transnational initiatives for social sustainability (TISSs), the central question is if and how effectively they reach their own aims (e.g., implementation of labour rights) (Abbott & Snidal, 2009; Fransen, 2012; Held, 2004; Rieth, 2009; Van Tulder & Kolk, 2001; Zadek, 2004).

This study, therefore, examines what rules influence the effectiveness of achieving the self-declared aims of TISSs. This is of importance because

social sustainability is only provided if TISSs contribute effectively to the achievement of self-declared aims. This is also important for companies that implement TISS's rules, as it affects the credibility of their corporate social responsibility (CSR) concepts.

As cases, the two TISSs Business Social Compliance Initiative (BSCI) and Fair Wear Foundation were selected (for more information on the cases, see methodology section). They are both focused on the apparel industry and aim to provide labour conditions for workers in production places that are accordant with core conventions of the International Labour Organisation (ILO). The provision of such conditions can be understood as social sustainability. The abstract of this paper has been presented and published at the MakeLearn & TIIM 2015 International Conference. The content presented in the article is part of a broader study on the effectiveness of TISSs (Author).

### Theoretical Framework

Generally, the basis of a TISS is its formal rules. The different rules have a potential to influence the effectiveness of a TISS. Effectiveness means the extent to which a TISS has achieved conformity in practice with its own aims as stated in its set of rules. In the following three theoretically central effectiveness-influencing rules (rules to support provision of information, rules for multi-stakeholder dialogues and rules for involvement of the stakeholder member-company) are explained, because they are influential, they are taken as independent variables while effectiveness, which is influenced by these rules, is taken as the dependent variable (for more details, see section research design).

#### Rules to Support Provision of Information

The first two rules to be considered are *audit systems* and *transparency requirements*. According to the stakeholder agency theory, both audit systems and transparency are part of those rules supporting the provision of information about an agent's activities (Hill & Jones, 1992; Shankman, 1999). The concept of agency theory is that a principal that has a stake concerning a certain issue delegates tasks by referring this issue to an agent (Fama, 1980; Fama & Jensen, 1983; Hill & Jones, 1992; Jensen & Meckling, 1976). In the case of the BSCI and FWF, this means that these two TISSs are the principals that have a stake with regard to the social issue labour rights in global supply chains. Companies in the apparel industry that became members of BSCI or FWF have committed themselves to implement these TISSs' rules. Therefore, these member-companies are understood as the agents that act on behalf of or according to the rules of either BSCI or FWF. The management of a member-company thereby never

has exactly the same interests as the TISS: providing social sustainability is rarely the primary interest of a company (Rondinelli, 2002). Thus there is, at least to a certain extent, a divergence of interests between the company and TISSs. Moreover, while the company, as an agent, knows its activities, the TISS as a principal has less information about these activities. This leads to information asymmetry. The audit systems and transparency requirements are rules that intend to transfer relevant information from the member-company to BSCI or FWF with the aim to align their interests. This theoretical consideration leads to the following thesis:

- T1 *Audit systems (a) and transparency requirements (b) provide TISSs with relevant information and thus help to lower the information asymmetry between a TISS (principal) and a member-company (agent). This is assumed to support the alignment of interests between these two actors and to accordingly increase the effectiveness of TISSs.*

### **Multi-Stakeholder Dialogues**

The literature states that multi-stakeholder dialogues contribute to solutions of issues like labour laws by supporting an interactive process (Calton & Payne, 2003; Mena et al., 2010; Strand, 2010). Such dialogues are characterised by a plurality of views regarding the central issue: Fact-perceptions and values are integrated and reconstructed in them. Multi-stakeholder dialogues around an issue can be initiated and integrated into the rules by a TISS (and thus also by BSCI and FWF). The iterated interactions between stakeholders in dialogues are assumed to lead to a more convergent understanding of the issue and in a next step lead to a process of learning (Calton & Payne, 2003). Converging understanding and collective learning are thus conditions to contribute effectively to solutions regarding an issue (Camillus, 2008). This leads to the following thesis:

- T2 *Multi-Stakeholder dialogues that lead to a more convergent understanding of an issue and to a collective learning process are assumed to help to contribute to solutions regarding the issue and to accordingly increase the effectiveness of TISSs.*

### **Involvement of the Stakeholder Member-Company**

The next aspect considered is the involvement of the TISS member-company as required by rules. It is assumed that by incorporating the rules of the TISS and their underlying meaning into the *management system* of a member-company, a TISS' potential to contribute effectively to solutions of the focused issue is increased (Abbott & Snidal, 2009; Delmas, 2001). This is strongly supported if central responsibilities concerning rule-implementation on an *operational level* are also explicitly transferred to a

member-company. If both of these aspects are required, the rules of a TISS become deeply incorporated in a company's organisation (if done seriously). During the process of incorporating and implementing the rules, the company can develop its knowledge in social sustainability (Sachs & Rühli, 2011). Knowledge is not only a central resource when effectively implementing social sustainability, it is also a principally unlimited resource. Therefore knowledge has the potential to be increased when the company cooperates (e.g., in networks) with external stakeholders (Sachs & Rühli, 2011). In other words, when the resources of knowledge from different stakeholders are bundled in an aim-oriented way through cooperation, core competencies can be established. Such core competencies go beyond what any single company can do (Prahalad & Hamel, 1990; Sachs & Rühli, 2011). This leads to the following thesis:

- T3 *A strong involvement of the member-company required by the rules of the TISS (with regard to management systems and implementation on an operational level) is assumed to foster the development of issue-oriented knowledge and thus to contribute to solutions regarding the issue and to accordingly increase the effectiveness of the TISSs.*

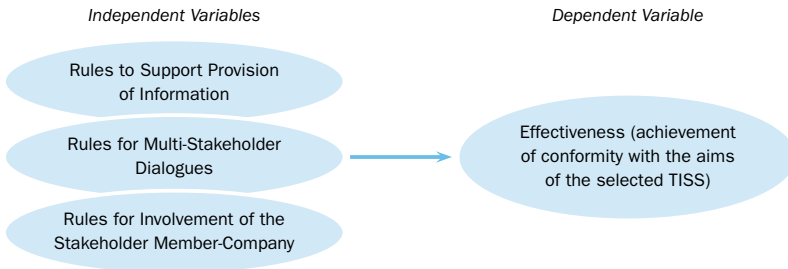
## Methodology

### Research Design

The examination was conducted by means of a case study. More precisely, an elementary cross-case comparison oriented at John Stuart Mill's method of difference (George & Bennett, 2005; Lijphart, 1971) was performed. This method 'attempts to identify independent variables associated with different outcomes [of the dependent variable]' (George & Bennett, 2005, p. 153). To do so the selected cases have to be similar concerning as many aspects as possible, but have to differ concerning a few central aspects (i.e., independent variables) that influence the dependent variable according to their values (Przeworski & Teune, 1970). Following this, independent variables that have a covariance with the dependent variable should be identified. Because the outcome of the dependent variable was unknown *ex-ante*, I first theoretically derived plausible independent variables that had a potential covariance with the dependent variable. These were, as indicated in the theoretical section, the three explained effectiveness-influencing rules: *rules to support provision of information, for multi-stakeholder dialogues and for involvement of the stakeholder member-company*. The dependent variable is effectiveness (as also indicated in the theoretical section).

A discussion and conclusion about the plausibility of the theoretical theses (T1–T3, see theoretical section) that connect the independent to the dependent variables was then conducted on the basis of the empirical data.





**Figure 1** Variables

Case studies as a method for small-*n* examinations are appropriate to conduct this study because they are strong ‘at assessing *whether* and *how* a variable mattered to the outcome of the [dependent variable]’ (George & Bennett, 2005, p. 25). They are, however, weak in assessing *how much* an independent variable mattered (George & Bennett, 2005). This leads to the following framework:

### Case Selection

As previously mentioned, the TISSs *Business Social Compliance Initiative (BSCI)*, a business-driven initiative, and *Fair Wear Foundation (FWF)*, a civil society-driven initiative, were selected as cases. The primary reason for their selection is that they enable a cross-case comparison according to the method of difference (see last section). Among the most important similarities between BSCI and FWF are that they both cover the apparel industry (which was chosen because TISSs have existed in this industry for over a decade) and that they have similar objectives: both TISSs require the central core-conventions of the ILO to be accomplished and maintained in their member-companies’ production places, both are common in European countries and members are brands or retail companies that are based there. However, they differ with regard to some theoretically central rules like their requirements concerning the involvement of the TISS member-companies, especially on the implementation level, as well as their approaches towards transparency (BSCI, 2009a, 2009e, 2012; FWF, 2009a, 2012a). What both TISSs have, though, are audit systems. Moreover, case studies are appropriate when a small number of cases are investigated (small-*n* investigation).

### Data and Measurement

As data sources for the dependent variable (effectiveness), audit reports from BSCI and FWF were used. These audit reports are confidential, i.e., not publicly accessible, and provide information about the social performance of TISS-relevant ILO core-conventions in production places. In the case of FWF,

the reports were provided by FWF itself. A systemic data archive was not established by FWF at the time of the request, that is why it was not possible to follow a fully systematic selection process. In the case of BSCI, access to audit reports was first allowed but later refused when they realised that FWF was also a case in the study. Nevertheless, a Swiss member-company directly provided their audit reports for the study.

The audit reports show an achieved level of conformity with aims (= effectiveness) or a 'reached state' at certain points in time. To identify and 'measure' changes in levels of conformity over time, the audit reports were selected and arranged in a longitudinal manner: two or more timely successive audit reports from a TISS referring to one single production place are considered to be a package (George & Bennett, 2005). The older and the newer audit reports of a factory were compared to each other with regard to conformity with ILO core-conventions. The ILO core-conventions, declared as aims to be achieved by both the BSCI and FWF, served as standards of reference and were, after being sorted into categories, considered in the examination (see table 1) (BSCI, 2009a; FWF, 2009a; ILO, 2012; Miles et al., 2002). If the newer audit report in a package included a reached state that is closer to conformity than the older report, this implies a change in conformity-level towards improvement in labour rights and in social sustainability, respectively.

For the different levels of conformity, a scoring system with three values was established: 1 = not conform, 2 = partly conform, 3 = conform. 27 FWF audit reports (13 packages) and 8 BSCI audit reports (4 packages) comprise the data bases (Mayring, 2010; Miles et al., 2002). To avoid a country bias (i.e., to hold the national context constant), audit reports were taken exclusively from production places in China (Rieth, 2009). To assess conformity in the reports, the qualitative data software atlas.ti was used (Friese, 2012). Atlas.ti was suitable for transforming the qualitative data into numeric data on the ordinal scale described (i.e. from 1 = not conform to 3 = conform).

If an improvement occurred, the question arose of whether it was indeed linked to the TISS' rules (independent variables). Moreover, although audit reports are probably the most standardised data source to assess effectiveness, the single reports sometimes varied a great deal concerning the quality of the content: sometimes the audit-template contained only very short comments while others had detailed sentences. Furthermore, it is not ensured that a subsequent audit report made reference to objections stated in the preceding report. And last but not least, for BSCI there are only 4 audit report packages with data from one company. Overall, these and other weaknesses and their effects on validity have been minimised as far as possible by considering them in the system of analysis.

**Table 1** Considered ILO Core-Conventions

| Category  | ILO core-convention   |
|---|---|
| Working Hours   | C1 – Hours of Work (Industry) Convention 1919   |
| Wages   | C26 – Minimum Wage-Fixing Machinery Convention, 1928<br>C131 – Minimum Wage Fixing Convention, 1970   |
| Freedom of Association (FoA),<br>Right to Collective Bargaining (RCB) | C87 – Freedom of Association and Protection of the Right to Organise Convention, 1948<br>C98 – Right to Organise and Collective Bargaining Convention, 1949<br>C135 – Workers’ Representatives Convention, 1971 |
| Employment is freely chosen   | C29 – Forced Labour Convention, 1930<br>C105 – Abolition of Forced Labour Convention, 1957  |
| Discrimination  | C100 – Equal Remuneration Convention, 1951<br>C111 – Discrimination (Employment and Occupation) Convention, 1958  |
| Child Labour  | C138 – Minimum Age Convention, 1973<br>C182 – Worst Forms of Child Labour Convention, 1999  |
| Health and Safety   | C155 – Occupational Safety and Health Convention, 1981  |

For assessing the independent variables (rules to provide information, stakeholder dialogue, involvement of the TISS member-companies), the central rule documents of BSCI and FWF were taken (BSCI, 2009a, 2009b, 2009c, 2009d, 2009e, 2009f; FWF, 2009a, 2009b, 2010, 2012b, 2012c). These documents contain TISS’ aims, intentions and implementation procedures. Among others, the ILO core-conventions with which a member-company has to comply are also mentioned within these documents.

As a data source these rule documents were generally valid: overall, the relevant contents were comprehensively available and they were basically comparable.

To serve as a third data source, expert interviews (Gläser & Laudel, 2010) were conducted with experts of BSCI and FWF, with supply chain officers and persons responsible for social sustainability in member-companies as well as with responsible persons in production places (factories) in China (Guangdong and Shanghai). Moreover, interviews were held with experts from NGOs in Switzerland and Hong Kong. Overall, 17 interviews of approximately one hour were conducted. The guideline for the semi-structured interviews was derived from theoretical considerations. The analysis was done by a qualitative content analysis. The qualitative data analysis software atlas.ti was used for interviews (Frieze, 2012; Gibbs, 2007; Gläser & Laudel, 2010; Mayring, 2010). Interviews are not tied to a specific variable. Their purpose is to offer a clearer empirical link between the two variables by providing more detail and context information.

The weakness of interviews is that no direct observation is possible: interviewees can react to the asked questions however they want (bias be-

**Table 2** Improvements and average scores

| Category                    | FWF   |      | BSCI  |      |
|-----------------------------|-------|------|-------|------|
|                             | (1)   | (2)  | (1)   | (2)  |
| Employment is freely chosen | 16.4% | 2.91 | 0.0%  | *    |
| Discrimination              | 23.5% | 2.97 | 33.3% | 2.30 |
| Child labour                | 32.3% | 2.55 | 33.3% | 2.50 |
| FoA and RCB                 | 28.6% | 1.93 | 9.1%  | 1.80 |
| Wages                       | 32.8% | 2.44 | 26.0% | 1.83 |
| Working hours               | 26.2% | 1.66 | 50.0% | 2.29 |
| Health and safety           | 17.0% | 2.50 | 10.8% | 2.62 |

**Notes** Column headings are as follows: (1) ratio of improvements, (2) score of category.

\* No specification in any report.

cause of reactivity) (Gläser & Laudel, 2010). Moreover, there is no full standardisation: interviewees differ in their eloquence and astuteness. Inter-interviewer reliability was assured in this study because all interviews were conducted exclusively by one person. Furthermore, high validity was ensured by methodological selection criteria for interviewees (experts from companies vs. NGOs, Europe vs. Asia) and by applying the same interview guideline for all interviewees.

### Findings

In table 2, improvements and average scores per ILO core-convention category are shown for FWF and BSCI (on the basis of audit report packages). The ratio of improvements shows the amount of improvements that effectively took place divided by the amount of potentially possible improvements.

In the following pages, the findings are presented and discussed along the three theses postulated in the theoretical section (T1–T3). Note that the scores on wages and working hours are of low reliability because of many inconsistencies in the data sources and also in the audit reports themselves. Inconsistencies range from inaccuracies (e.g., manual or no time record system, too early/late stamp) to intentional falsification.

### Rules to Support Provision of Information: Audit System (T1a)

As mentioned previously, BSCI and FWF both have audit systems: professional audit teams check conformity with the relevant categories of ILO core-conventions. The sources of information of audits are, in both cases, interviews with management and workers, as well as the review of documents and work place inspections. After an audit, BSCI and FWF established corrective action plans that would then be discussed with the management of a production place.

The table 2 shows that improvements towards conformity in both cases indeed took place in different categories of ILO core-conventions. Interviewees stated that audits primarily lead to changes in behaviour in categories that are easy to measure, such as health and safety. Generally, this is consistent with findings in audit reports (dependent variable): They show higher scores in categories that are assumed to be easier to measure, e.g., health and safety, child labour and, to a lesser extent (concerning measurability), if employment is freely chosen (i.e., not forced labour).

Overall, the theoretical consideration that audit systems help to lower information asymmetry between the TISS (principal) and member-company (agent) and that this supports the alignment of interests between these two actors seems basically plausible. The potential for information transfer is, however, limited concerning categories of labour issues that are more difficult to assess (e.g., FoA and RCB). What contradicts this conclusion is that the improvement-ratios of difficult-to-measure categories are often quite high. Overall, the manipulability of audit reports mentioned in interviews has to be taken into consideration. Many interviewees stated that audits alone are not enough to achieve conformity with labour rights.

#### **Rules to Support Provision of Information: Transparency (T1b)**

In contrast to BSCI, FWF requires its members to publish a social report on their homepage as well as on FWF's. BSCI members are required to communicate their membership but not to publish any social reports. Interviewees frequently stated (from NGOs, member-companies to factories and TISS experts) that the pressure to publish has a positive influence on the implementation of ILO core-conventions. The requirement to publish information about social performance like labour issues put internal pressure on responsible persons to really implement the TISS' rules. Seen from this vantage point, the requirement of transparency towards all stakeholders can be understood as a rule that lowers the information asymmetry between the TISS and member-company. Thus, the pressure to publish indeed supports the alignment of interests between the two actors and accordingly facilitates an effective implementation of ILO core-conventions.

A link to the findings in audit report-packages may be detected in the clearly higher overall-improvement ratio of FWF (29.7%) than BSCI (21.7%) and the higher score (FWF 2.3, BSCI 2.0). This, of course, is only an indication and it is not clear if this connection is causal. For a more accurate and reliable conclusion, more data, especially from BSCI, would be needed.

#### **Stakeholder dialogue (T2)**

With regard to stakeholder dialogue, BSCI and FWF have similar platforms to involve issue-relevant stakeholders in discussions. The most important

ones are stakeholder meetings on national and international levels as well as round tables for stakeholder dialogues in production countries (in both companies, NGOs and sometimes State actors participate). Most interviewees from member-companies and Western NGOs find stakeholder meetings to be useful because they support the comprehension of views of other stakeholder. According to interviewees, in this way it is indeed possible to come to a more convergent understanding of the issues. Moreover, practical implementation approaches are discussed among the experts from different stakeholder groups.

Overall, stakeholder dialogue seems to support the technical exchange and the understanding between stakeholder groups and of issues. This fosters and can be seen as sustainable collective learning. Therefore, overall, it is plausible to assume that stakeholder dialogues support an effective implementation of ILO core-conventions. This finding is limited by the fact that an immediate causal effect of stakeholder dialogues on audit report-packages could not be ascertained based on the available data.

### ***Involvement of TISS Member-Companies (T3)***

According to their rules, FWF requires a stronger involvement from its member-companies than BSCI. Members of FWF have to adapt their management system and to establish systems to monitor the implementation of ILO core-conventions in production places. All of this is checked by FWF, but the main responsibility is in the hands of FWF member-companies. BSCI, which does not have such requirements, provides its members with recommendations on how to adapt management systems for social sustainability in labour rights.

Interviewees largely stated that the involvement of member-companies is an important aspect of the implementation of a TISS' requirements concerning labour rights. It was also stated that an effective implementation depends on the input of resources. The level of the input depends on the will of a member-company. To decrease the need of high resource input and to use synergies, the cooperation between competing member-companies was mentioned (e.g., by enhancing market power: competing member-companies often buy from the same suppliers).

Through such cooperation with suppliers and competitors, the knowledge pool as the resource for establishing potential core competencies with regard to social sustainability towards labour rights increases. Thus, close cooperation of a member-company with its suppliers allows them to establish and develop core competencies concerning labour rights. These competencies can be expanded to inter-company core competencies through cooperation and learning towards labour rights between member-companies. Based on interview data, the assumption that a strong involvement of member-

companies supports an effective implementation of ILO core-conventions is plausible. A direct relationship to improvements in audit report-packages cannot, however, be ascertained.

### **Assessing causality**

Based on the available data, it was generally not possible to find causal proof to determine if TISSs are indeed responsible for detected improvements in empirics. Therefore, a method which I call ‘causality check’ was applied to audit report packages (see section data measurement). This check looks for text-based causalities: if there are clear implicit or explicit statements in the second audit reports that refer to objections stated in the first audit reports, then causality is assumed to be present (of course, this primarily considers the thesis of audit (T1) systems because the bases are exclusively audits and audit reports). In sum, a total of 23.81% of all improvements by BSCI and FWF can be assumed to be of a causal nature. In around two thirds of all improvements cases, it is not implausible to assume causality. And in about 10%, information was too sparse to assess causality or there were clearly other reasons for improvements.

The category of FoA and RCB was particularly noteworthy. During analysis (and not before) it was detected that BSCI does not insist on all its own specific requirements to be implemented in China. FWF, on the other hand, does require it. These results are striking: the improvement ratio of FWF (28.6%) is much higher than that of BSCI (9.1%). This points to a considerable effectiveness of TISSs (here of FWF).

### **Conclusion**

The examination showed that improvements concerning social sustainability in labour rights in production places of global supply chains can indeed be achieved. If and how these improvements are linked causally to TISSs in detail could, however, not be made fully clear based on the available data (especially for BSCI, as there are only audit reports from one company). Nevertheless, the data from the interviews overall supports the plausibility of the theses that audit systems (T1a), transparency (T1b), stakeholder dialogues (T2) and a stronger involvement of the TISS member-companies (T3) facilitate increasing labour conditions (as well as the special case of FoA and RCB as explained in the last section). Moreover, the findings show that audit systems mainly support improvements in categories that are easy to assess, but not in those that are more difficult to measure. Thus, audit systems are not enough. This is probably because audit systems neither foster deeper interactions between stakeholders nor a collective inter-stakeholder learning. They merely control conformity with ILO core-conventions. This is different concerning stakeholder dialogue and in-

volvement of the TISS member-companies. With these rules (as especially stated in interviews) interactions between stakeholders are fostered: this results in a better comprehension of the issues between the different stakeholder groups and leads to a more convergent understanding. The considered forms of stakeholder involvement led to the establishment and development of knowledge in the field of labour issues and to inter-company as well as to inter-stakeholder core competencies. Knowledge as the basic resource for collective learning is thus established by organised stakeholder involvement or as required by the TISS.

In future research, the specific mechanisms of stakeholder involvement could be investigated because institutionalised interaction between stakeholders seems to be essential for labour issues that are difficult to assess. Conceptually, it would also be meaningful to examine single categories of labour issues in more depth with the aim to understand the causal mechanisms more accurately. Of course, adequate data would be needed for this. For the ascertainment of statistical causality, quantitative examinations could be undertaken, provided the necessary data can be collected.

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# The Impact of Exchange Rate on Poland's Trade Flows

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The aim of this paper is to investigate the effect of exchange rate on Poland's foreign trade, especially on bilateral trade flows between Poland and the Euro area, which is its major trading partner. The research verifies the theoretical concepts that explain how the exchange rate influences the trade turnover. The empirical analysis was preceded by a theoretical basis of the problem. Data used in this study covers the period from 2004 to 2013. The theoretical and empirical analysis confirm that the exchange rate is a substantial factor influencing bilateral trade turnover between Poland and its main trading partners. The Polish zloty depreciation is the cause for the Polish exports growth. In the case of imports, the depreciation of the Polish zloty causes a decrease of the value of the Polish imports. Moreover, the exchange rate is an important adjustment mechanism, thanks to which the Polish economy was able to avoid a large decline in exports and GDP during the recent financial and economic crisis.

*Keywords:* economy, international finance, exchange rate, foreign trade, trade competitiveness

## Introduction

The collapse of the Bretton Woods system in the early 1970's and the adoption of a floating exchange rate regime posed a substantial question in the world economic research: the impact of exchange rate volatility on the international trade. Very recently, the global financial crisis, as the catalyst of the debt crises and central bank interventions in many countries especially in Europe and the United States, has increased exchange rate volatility again and brought the topic back to the discussion.

In light of these recent events, the question whether or not giving up a domestic currency and thereby eliminating exchange rate volatility with various other countries for boosting trade has become a very relevant question for many Central and Eastern European countries, including for Poland.

Furthermore, Poland represents an interesting objective of study because of its transition from a fixed exchange rate arrangement into a crawling peg and, more recently, to a free-float regime. After this, the accession to the European Union was achieved, which has also led to the plan of participating in the monetary integration. Above and beyond, the effect of exchange rate volatility on trade flows in the context of emerging market can

be seen in this example. In addition, international trade in Poland serves as a major channel of economic integration within the EU and the Euro area, because, generally, international trade tends to be a driver of the economy in countries adjacent to economies with open trade regimes, high presence of multinational companies and large volume of re-exports. The fact that this example fits to Poland can be illustrated by the increasing share of merchandise trade on Poland's GDP. The latest data of the UNCTAD shows 77,8% in 2013 as compared to 55,3% in 2003 (exports plus imports). The strong economic relations between Poland and European countries is confirmed by the fact that the EU's share in Polish exports is 74%, and in imports 57% (in 2013). The share of the Euro area countries is 51% in exports and 45% in imports. Moreover, the main trading partner in both exports and imports is still Germany. The euro is used for invoicing 63% of Poland's exports and 58% of imports.

Although the volume of Poland's international trade has been increasing since it joined the EU in 2004, it is constantly characterized by a long term negative trade balance. The reduction of Poland's negative trade balance has been largely affected by the foreign direct investment inflow, since the companies with foreign ownership account for a substantial share in Poland's exports. This situation makes Poland's economy more vulnerable to any adverse changes in other economies.

The exchange rate plays an important role in a country's export performance and currency volatility has an impact on international trade, the balance of payments and economic performance. However, views on the impact of exchange rate volatility on international trade flows are inconsistent, thus it is necessary to examine this matter further, and with knowledge of the application to small open economies.

The aim of this paper is to investigate the impact of exchange rate changes and volatility of the Polish zloty on Poland's foreign trade, especially on bilateral trade flows between Poland and the Euro area, which is its major trading partner. Data used in this study covers the period from 2004 to 2013. The empirical analysis was preceded by a theoretical basis of the problem. The paper is divided into two parts: theoretical and empirical. The theoretical part includes a description of theoretical concepts and literature review on the relationship between exchange rates and international trade, while the empirical part contains the statistical data analysis of the impact of the exchange rate level and volatility on trade in Poland.

### **Theoretical Concepts of the Relationship between Exchange Rates and International Trade**

Following the end of the Bretton-Woods system of fixed but adjustable exchange rates four decades ago, the majority of economic literature on the

relationship between exchange rates and trade deals with the effect of increased variability (volatility) of exchange rates on trade. However, since the mid-2000s the focus of the academic research has also turned towards the relationship between the level (misalignment) of exchange rates and trade.

### ***The Uncertainty Generated by Exchange Rate Risks***

Generally, it is expected that higher exchange rate volatility leads to higher transaction costs for traders and is followed by a decrease of foreign trade. Theoretical analyses of this relationship have been conducted, among others, by Hooper and Kohlhagen (Hooper & Kohlhagen, 1978), who argue that, if changes in exchange rates are unpredictable, it increases uncertainty about companies' profits and reduces the benefits of foreign trade. Even if hedging in the forward markets were possible, there are limitations and costs which are especially considerable for small firms. Per contra, De Grauwe (1988) pointed out that the dominance of income effects over substitution effects on international trade can lead to a positive relationship between trade and nominal exchange rate volatility, because an increase in exchange rate volatility raises the expected marginal utility of export revenue and, therefore, can induce increasing of exports. According to the latest studies made by Taglioni (2002) and Ozturk (2006), it can be stated that the inverse effect of exchange rate volatility on trade flows, if it exists, is not large.

Theoretical studies have shown mixed effects. While most describe negative effects for an increase of exchange rate volatility on trade due to rising levels of uncertainty (Clark, 1973), some describe possible positive or ambiguous effects (Franke, 1991; Sercu & Vanhulle, 1992). The latter may depend on the aggregate exposure to risk (Viaene & de Vries, 1992) and on the type of shocks firms are exposed to (Barkoulas, Baum, & Caglayan, 2002).

To reduce the risk of exchange rate fluctuations, in theory, firms can hedge via forward markets. But those may be not sufficiently developed (Baron, 1976) or are costly and imperfect for small firms, as they are more likely to face liquidity constraints (Baldwin & Krugman, 1989). Thus, Wei (1999) found no empirical evidence for the hypothesis that the availability of hedging instruments reduces the impact of exchange rate volatility on trade.

An interesting research was presented by P. Bacchetta and E. Van Wincoop (Bacchetta & Van Wincoop 2000). They used a general equilibrium model, in which uncertainty arises from monetary and fiscal policy, to examine the impact of volatility on the levels of trade and welfare in a context of both fixed and flexible arrangements. One interesting outcome illustrating the complexity of the exchange rate-trade relationship is that monetary

stimulus in a country that leads to the depreciation of its exchange rate may not have much effect on trade, as the depreciation of the exchange rate, on the one hand, reduces imports but, on the other hand, the increase in domestic demand linked to the monetary stimulus may boost imports in an offsetting movement. Of course, the net effect will depend on a whole set of variables, from demand elasticity for imports to supply-side factors, such as the desire or ability of domestic producers to adjust prices to the depreciation of the currency.

Findings differ across the studies, as well, for an aggregation reason. In the IMF's study (2004) on exchange rate volatility and trade flows, it can be found that there is no obvious negative relationship between aggregate exchange rate volatility and aggregate trade. When the research is turned to bilateral trade, we do find evidence that exchange rate volatility seems to affect more bilateral trade than the aggregate one. Evidence on the analyzed relationship between exchange rate volatility and trade flows is characterized as heterogeneous as the results tend to be sensitive to the choices of sample period, model specification, proxies for exchange rate volatility and countries.

#### ***The Effect of Exchange Rate Misalignment***

Since the mid-2000s, the policy and academic debate shifted away from the effects on trade of exchange volatility towards the effects of sustained exchange rate depreciation or perceived exchange rate misalignments (Auboin & Ruta, 2011). This meant emphasis fell less on the effects of variability and more on the real level of the exchange rate.

The literature on exchange rates and growth does not directly address the question of the trade effects of a currency undervaluation or overvaluation. Economic logic suggests that there are at least two opposite effects at work. An undervaluation of the currency has a direct negative effect on the exports of other economies that specialize in the production of goods that are relatively close substitutes and compete for market share in similar export markets (Rodrik, 2008). On the other hand, income growth of trading partners has an indirect positive effect on export performance.

On the issue of the level of exchange rates (misalignments), theoretical and empirical studies over the years show that the relationship between the level of a currency and trade is so multi-faceted and complex that it is hard to take a firm line in any particular direction. Economic theory suggests that, when markets are free of distortions, an exchange rate misalignment has no long-run effect on trade flows, as it does not change relative prices (Rodrik, 2008).

But long-run effects are predicted in models that assume market distortions, such as information problems or product market failures. In the short-

run, when some prices in the economy can be sticky, movements in nominal exchange rates can alter relative prices and affect international trade flows. These short-run trade effects, however, are not straightforward, as they are likely to depend on specific characteristics of the economy, including the currency in which domestic producers invoice their products and the structure of trade (for example, the prominence of global production networks). On the empirical side, the complexity of the relationship between exchange rate misalignments and trade yields mixed findings. For instance, a currency undervaluation is sometimes found to have a positive impact on exports, like a series of recent papers by Hausman, Pritchett, and Rodrik (2005), Eichengreen (2007), Rodrik (2008), and Korinek and Serven (2010), which show that a devaluation can play an important part in the growth process of developing countries. But the presence, size and persistence of these effects are not consistent across different studies.

The literature on exchange rate volatility and trade since the mid-2000s has continued to produce both theoretical and empirical papers, without changing the broad thrust of previous, relatively inconclusive analyses and evidence.

From a theoretical point of view, one of the main recent contributions comes from Broll, Wahl, and Wong (2006), who studied optimum production decisions by an international firm using portfolio theory. Their study showed that an increase in exchange rate risk (or expectation thereof) could have a negative, positive or neutral impact on trade. This impact depends upon the elasticity of risk aversion with respect to the standard deviation (or the mean) of the firm's random profit. These results tend to confirm those of Bacchetta and Van Wincoop (2000).

### **Literature Review on the Relationship between Exchange Rates and International Trade**

On the question of the effects of exchange rate volatility on trade, the considerable array of theoretical and empirical literature remains somewhat ambiguous. As argued by Taglioni (2002, pp. 228), 'it is customarily presumed that the adverse effect of exchange rate volatility (on trade flows), if it exists, is certainly not large.' This conclusion is generally shared by Ozturk (2006), which reveals a rather wide range of empirical evidence, some in favor and some against the hypothesis of a negative relationship between exchange rate volatility and trade. Coric and Pugh (2010) accurately summarized this situation arguing that: 'on average, exchange rate variability exerts a negative effect on international trade. Yet, [...] this result is highly conditional.'

A detailed literature survey on the effects of exchange rate volatility on trade is presented in Table 1.

**Table 1** Survey of Empirical Work on the Relationship between Exchange Rates and Trade

| Study                           | (1)         | (2)              | (3)   |
|---------------------------------|-------------|------------------|---|
| <i>Positive Effect</i>          |             |                  |   |
| Brada and Mendez (1988)         | 1973–1977 A | Real             | Positive effect   |
| De Grauwe and Verfaillie (1988) | 1975–1985 A | Real             | Level of trade significantly stronger within EMS than outside the EMS |
| Mann (1989)                     | 1977–1987 Q | Real             | Few significant results   |
| Medhora (1990)                  | 1976–1982 A | Nominal          | Not significant and positive effect                                   |
| Asseery and Peel (1991)         | 1972–1987 Q | Real             | Significant and positive except for UK                                |
| McKenzie and Brooks (1997)      | 1973–1992 M | Nominal          | Positive effect   |
| McKenzie (1998)                 | 1969–1995 Q | –                | Generally positive effect   |
| Kasman and Kasman (2005)        | 1982–2001 Q | Real             | Significant positive effect on export                                 |
| <i>Negative Effect</i>          |             |                  |   |
| Akhtar and Hilton (1984)        | 1974–1981 Q | Nominal          | Negative effect   |
| Belenger (1988)                 | 1976–1987 Q | –                | Significant and negative in 2 sectors                                 |
| Koray and Lastpares (1989)      | 1961–1985 M | Real             | Weak negative relationship  |
| Peree and Steinherr (1989)      | 1960–1985 A | Nominal          | Negative effect   |
| Caballero and Corbo (1989)      | –           | Real             | Significant and negative effect                                       |
| Bini-Smaghi (1991)              | 1976–1984 Q | Nominal          | Significant and negative effect                                       |
| Feenstra and Kendall (1991)     | 1975–1988 Q | –                | Negative effect   |
| Kumar and Dhawan (1991)         | 1974–1985 Q | Nominal and real | Not significant and negative effect                                   |
| Belenger (1992)                 | 1975–1987 Q | Nominal          | Significant and negative effect                                       |
| Sawides (1992)                  | 1973–1986 A | Real             | Negative effect   |
| Chowdhury (1993)                | 1973–1990 Q | Real             | Significant and negative effect                                       |
| Caporale and Dorodian (1994)    | 1974–1992 M | Real             | Significant and negative effect                                       |
| Hook and Boon (2000)            | 1985–1997 Q | Nominal and real | Negative effect on export   |
| Doganlar (2002)                 | 1980–1996 Q | Real             | Negative effect on export   |
| Vergil (2002)                   | 1990–2000 Q | Real             | Negative effect on export   |
| Das (2003)                      | 1980–2001 Q | Nominal and real | Significant negative effect on export                                 |
| Baak (2004)                     | 1980–2002 A | Real             | Significant negative effect on export                                 |
| Clark, Tamirisa and Wei (2004)  | 1975–2000 A | Nominal and real | Negative and significant effect                                       |
| Arize (2005)                    | 1973–2004 Q | Real             | Significant negative impact   |
| Lee and Saucier (2005)          | 1986–2003 Q | Nominal          | Negative effect on export   |

*Continued on the next page*



**Table 1** Continued from the previous page

| Study                             | (1)         | (2)              | (3)  |
|-----------------------------------|-------------|------------------|--|
| <i>Mixed Results Or No Effect</i> |             |                  |  |
| Gotur (1985)                      | 1974–1982 Q | Nominal          | Little to no effect  |
| Bailey, Tavlas and Ulan (1986)    | 1973–1984 Q | Nominal          | Not significant, mixed effects                               |
| Bailey, Tavlas and Ulan (1987)    | 1962–1985 Q | Nominal and real | Little to no effect  |
| Bailey and Tavlas (1988)          | 1975–1986 Q | Nominal          | Not significant  |
| Lastrapes and Koray (1990)        | 1975–1987 Q | Real             | Weak relationship  |
| Akhtar and Hilton (1991)          | 1974–1981 Q | Nominal          | Not significant, mixed effect                                |
| Kumar (1992)                      | 1962–1987 A | Real             | Mixed results  |
| Gagnon (1993)                     | Q           | Real             | Not significant  |
| Frankel and Wei (1993)            | 1980–1990 A | Nominal and real | Small and negative in 1980, positive in 1990                 |
| Kroner and Lastpares (1993)       | 1973–1990 M | Nominal          | Significant, varied signs and magnitudes                     |
| Daly (1998)                       | 1978–1992 Q | Real             | Mixed results  |
| Aristotelous (2001)               | 1989–1999 A | Real             | No effect on export  |
| Tenreyro (2004)                   | 1970–1997 A | Nominal          | Insignificant and no effect on trade                         |
| Hwang and Lee (2005)              | 1990–2000 M | Real             | Positive effect on import and insignificant effect on export |

**Notes** Column headings are as follows: (1) sample period (A – annual, Q – quarterly, M – monthly), (2) nominal or real exchange rate used, (3) main result. Adapted from Ozturk (2006, pp. 88-92).

## Empirical Analysis

### Methodology Description

To estimate the impact of exchange rate level and volatility on foreign trade, a statistical data analysis of the impact of exchange rate level and volatility on trade in Poland is used. The sample consists of Poland, the Euro area, the European Union, Hungary, Czech Republic and Poland's main trading partners. The data sources are UNCTAD, the European Central Bank and the Eurostat statistical databases. The analysis period starts in 2004 and ends in 2013.

### Exchange Rate Level and Trade in Poland

The exchange rate system in Poland was transformed from a fixed exchange rate arrangement into a crawling peg and, more recently, to a floating regime (from 2000). The ongoing process of integration, crowned by the accession of Poland to the European Union in May 2004, has increased significantly the importance of the external environment and the exchange rate for the Polish economy. Polish accession to the European Union had a significant

impact on all the variables that determine the balance of payments, including the determinants of the balance on current account (Bańbuła, Koziński, & Rubaszek, 2011). A noticeable trend was the increasing deficit on current account, which steadily declined in previous years (Table 2).

In the period 2003–2013, the value of exports of goods rose steadily from 24.3% to 38.7% of GDP, whereas the relevant import share rose from 31.0% to 39.1% (Table 2). At the same time, the geographical structure of Polish trade gradually shifted from the post-communist countries towards the EU countries. In 2013, about 51% of Polish exports were sold to the Euro area and almost 75% on EU markets (Table 3 and Table 4). As a result, the external competitiveness of Polish products is currently determined mostly by the zloty rate against the euro (Table 5).

With the increasing trade openness of the Polish economy, the use of the euro in trade settlements and invoicing also rise, and, therefore, the impact of the exchange rate on trade and on the economy are becoming more important. The use of the euro for trade invoicing is shown in Table 5, along with US dollar invoicing. For European countries (except Ukraine), EU members or not, the euro plays a significant role.

The trade channel has been important in explaining the impact of the crisis on growth. While all Central and Eastern European countries (CEE) recorded a sharp decline in exports between the third quarter of 2008 and the third quarter of 2009, the magnitude of the decline exhibited notable cross-country differences and varied between more than 16% in Lithuania, 9% in Poland and less than 4% in Romania. The reason for the decline in exports was first of all a reduction in the global economic activity, as a result of the crisis, among major Polish trade partners – especially in the first half of 2009. It should be mentioned that the primary buyer of Polish goods are the developed countries and, within this group, the EU countries (79,9% in 2009, see Table 3). A strong decline of import demand in Poland, mainly due to the significant increase in import prices expressed in the national currency, could be explained, among others, by the strong depreciation of the Polish zloty.

The impact of changes in the exchange rate of domestic currency for foreign trade was asymmetrical, since its effect was weaker on exports than on imports. This can be explained by the fact that exchange rate changes have a greater impact on the domestic entities than on foreign companies, which dominated in the export. It should be mentioned here that of all the entities participating in Poland's commodities exports, around 60% were companies with foreign capital (Mroczek, 2010). However the depreciation of the Polish zloty increased the profitability of exporters, allowing them to maintain sufficient liquidity with decreasing sales. The research of the Instytut Badań Rynku, Konsumpcji i Koniunktur shows that, without the de-

**Table 2** Poland's Exports, Imports and Merchandise Trade Balance During the Years 2003–2013 (% of GDP)

| Item  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|------|------|------|------|------|------|------|------|------|------|------|
| Total exports                                 | 24.3 | 29.2 | 29.4 | 32.1 | 32.6 | 32.5 | 31.7 | 33.4 | 36.5 | 36.7 | 38.7 |
| Total imports                                 | 31.0 | 34.9 | 33.4 | 36.8 | 38.6 | 39.8 | 34.7 | 37.1 | 40.6 | 39.1 | 39.1 |
| Trade balance with all countries of the world | -6.6 | -5.7 | -4.0 | -4.7 | -6.0 | -7.3 | -3.0 | -3.6 | -4.1 | -2.4 | -0.4 |
| Trade balance with euro area                  | -2.4 | -1.7 | -0.7 | -0.5 | -1.4 | -1.8 | 1.2  | 1.7  | 1.1  | 1.8  | 2.3  |

**Table 3** Share of EU and Euro Area in Poland's Exports and Imports During the Years 2003–2013 (in %)

| Item                       | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|----------------------------|------|------|------|------|------|------|------|------|------|------|------|
| EU share in exports        | 82.6 | 80.7 | 79.0 | 79.2 | 79.1 | 78.2 | 79.9 | 79.2 | 78.0 | 75.5 | 74.3 |
| EU share in imports        | 69.8 | 68.9 | 66.3 | 63.9 | 64.2 | 62.1 | 61.9 | 59.0 | 59.4 | 56.4 | 57.4 |
| Euro area share in exports | 61.3 | 59.4 | 57.7 | 56.4 | 55.7 | 54.9 | 57.2 | 56.2 | 54.6 | 52.2 | 51.2 |
| Euro area share in imports | 55.9 | 54.6 | 52.9 | 50.5 | 50.7 | 49.3 | 48.9 | 46.2 | 46.4 | 44.3 | 44.9 |

**Table 4** Share of Poland's Major Trading Partners

| Year   | First partner |            |      | First partner  |            |      | First partner  |            |     |  |  |
|--------|---------------|------------|------|----------------|------------|------|----------------|------------|-----|--|--|
|        | (1)           | (2)        | (3)  | (1)            | (2)        | (3)  | (1)            | (2)        | (3) |  |  |
| Export |               |            |      |                |            |      |                |            |     |  |  |
| 2004   | Germany       | 22 132.309 | 30.0 | Italy          | 4 507.834  | 6.1  | France         | 4 454.315  | 6.0 |  |  |
| 2007   | Germany       | 35 901.248 | 25.9 | Italy          | 9 151.637  | 6.6  | France         | 8 443.139  | 6.1 |  |  |
| 2010   | Germany       | 40 890.945 | 26.0 | France         | 10 730.658 | 6.8  | United Kingdom | 9 956.000  | 6.3 |  |  |
| 2013   | Germany       | 49 588.250 | 24.8 | United Kingdom | 13 001.851 | 6.5  | Czech Republic | 12 208.249 | 6.1 |  |  |
| Import |               |            |      |                |            |      |                |            |     |  |  |
| 2004   | Germany       | 21 479.241 | 24.4 | Italy          | 6 934.260  | 7.9  | Russian Fed.   | 6 390.629  | 7.2 |  |  |
| 2007   | Germany       | 39 434.621 | 24.0 | Russian Fed.   | 14 352.843 | 8.7  | China          | 11 753.417 | 7.2 |  |  |
| 2010   | Germany       | 37 784.400 | 21.7 | Russian Fed.   | 18 200.713 | 10.5 | China          | 16 514.374 | 9.5 |  |  |
| 2013   | Germany       | 42 994.484 | 21.3 | Russian Fed.   | 25 267.712 | 12.5 | China          | 19 127.398 | 9.5 |  |  |

**Notes** Column headings are as follows: (1) country, (2) million USD, (3) percentage. Based on data from UNCTAD (<http://unctadstat.unctad.org>).

**Table 5** Use of the Euro and the US Dollar for Invoicing in Exports and Imports (Average for 1999–2010)

| Country        | Export         |               | Import         |               |
|----------------|----------------|---------------|----------------|---------------|
|                | Euro share (%) | USD share (%) | Euro share (%) | USD share (%) |
| Poland         | 62.94          | 31.83         | 58.25          | 30.57         |
| Hungary        | 78.64          | 16.40         | 69.86          | 21.34         |
| Czech Republic | 71.64          | 13.63         | 68.21          | 19.22         |

**Notes** Adapted from Lai and Yu (2014, p. 21).

**Table 6** Change in Total Exports and the Nominal and Real Effective Exchange Rate (Percentage Changes between Q3 2008 and Q3 2009)

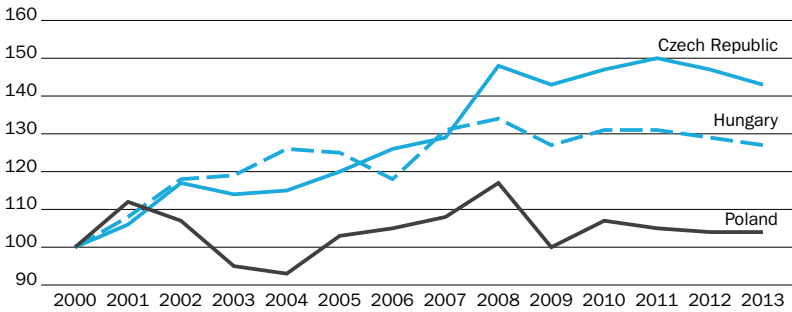
| Country        | Total exports | NEER  | REER-CPI |
|----------------|---------------|-------|----------|
| Bulgaria       | -6.7          | 1.0   | 1.8      |
| Estonia        | -9.6          | 1.8   | 0.6      |
| Latvia         | -14.7         | 2.9   | 3.8      |
| Lithuania      | -16.5         | 2.9   | 5.1      |
| Czech Republic | -7.7          | -4.7  | -4.8     |
| Hungary        | -6.9          | -12.2 | -8.0     |
| Poland         | -9.0          | -20.5 | -17.0    |
| Romania        | -3.7          | -14.4 | -10.1    |

**Notes** Total exports comprise goods and services, and are expressed in constant prices. NEER is the nominal effective exchange rate, REER-CPI is the CPI-deflated real effective exchange rate. A positive (negative) NEER or REER value implies an appreciation (depreciation) over the time period. The first four countries have fixed exchange rate regimes or currency board arrangements, while the last four countries have more flexible regimes with the central banks pursuing inflation targeting strategies. Adapted from European Central Bank (2010b, p. 90).

preciation of the zloty, the volume of exports would have fallen by about 2,5 percentage points more, and the volume of imports by about 2,5 percentage points less. The result led to the growth of revenues of Polish exporters of about 11,7 billion zlotys compared to 2008, while expenditures on imports decreased 42,3 billion zlotys, allowing to maintain profitability at a level only slightly lower than in 2008 (Przystupa, 2010).

A floating exchange rate regime and the depreciation of the zloty largely contributed to an improvement in trade competitiveness. The depreciation of the Polish zloty against the euro was of 41% in the period from August 2008 to February 2009. It had a positive impact on exports, but also led to decline in imports and to satisfy domestic needs by domestic producers (Mucha-Leszko & Kąkol, 2011, pp. 171–172). Table 6 and Figure 1 show the total exports decline rates and changes in nominal and real effective exchange rate.

The strong depreciation of the Polish zloty was intensified by a speculative attack on the domestic currency. When the zloty started to weaken



**Figure 1** Real Effective Exchange Rate (REER, CPI Based) During the Years 2000–2013 (2000 = 100; a decreasing REER value implies a depreciation over the time period; based on data from UNCTAD (<http://unctadstat.unctad.org>))

sharply, many Polish companies began reporting large losses on currency options contracts. The strong appreciation of the Polish zloty from May 2004 until July 2008 inclined domestic exporters to use currency options in management of exchange rate risk. But these strategies, advised by financial institutions, were rather speculative ones. Several exporters went bankrupt, financial situation fully deteriorated and the Polish government had to take immediate action to solve the problem of toxic options (Mitrega-Niestroj, 2011).

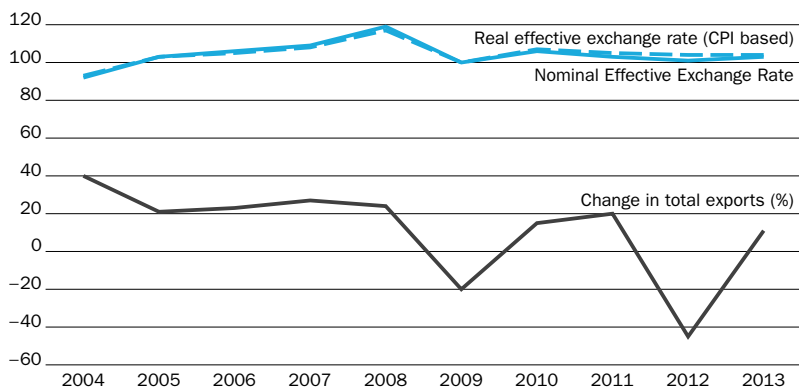
The relationship between the zloty exchange rate and trade flows is presented in Figures 2 and 3. It can be concluded that the depreciation of the zloty was followed by an improvement in the trade balance. This applies both to trade between Poland and the Euro area countries, as well as between Poland and all the countries of the world.

The International Monetary Fund pointed out that the floating exchange rate system in Poland and the ability to adjust the interest rate to the current economic conditions and changing situation during the crisis provided better economic performance, and recommended to postpone joining the monetary union (Mucha-Leszko & Kąkol, 2011, pp. 171–172).

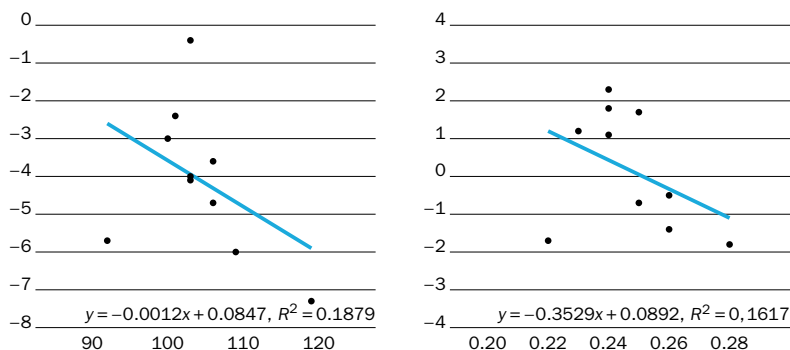
### Exchange Rate Volatility and Trade

The Polish zloty is traded under a flexible exchange rate regime. With inflation targeting and freely floating, Polish exporters have faced during the past years rather volatile exchange rates. The exchange rate of the Polish zloty against the euro showed a relatively high degree of volatility (Table 7, Table 8 and Figure 4).

Over the last ten years the Polish economy has been characterized by a high variability of foreign exchange rate, current account balance and a high level of inflation variability, especially in times of economic crisis. The



**Figure 2** Changes in Total Exports (%), NEER and REER (2000 = 100) in Poland During the Years 2004–2013 (based on data from UNCTAD (<http://unctadstat.unctad.org>))



**Figure 3** Trade Balance between Poland and All the Countries of the World (left-hand panel) and between Poland and the Euro Area (Right-Hand Panel) and the Polish Zloty Exchange Rate (Nominal Effective Exchange Rate 2000 = 100 and PLN/EUR) in the Period of 2004-2013 (based on data from UNCTAD (<http://unctadstat.unctad.org>))

**Table 7** Exchange Rate Vis-à-Vis Euro\* (Average Annual Percentage Change) During the Years 2006–2013

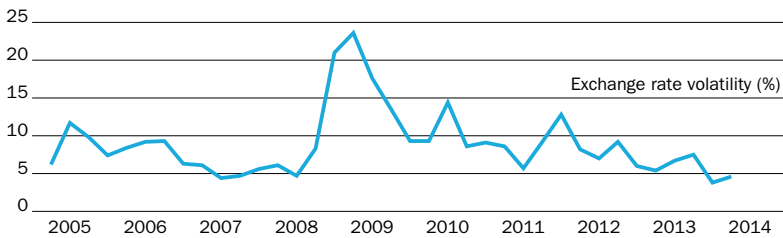
| Country    | 2006 | 2007 | 2008 | 2009  | 2010 | 2011 | 2012 | 2013 | 2014** |
|------------|------|------|------|-------|------|------|------|------|--------|
| Poland     | 3.2  | 2.9  | 7.2  | -23.2 | 7.7  | -3.2 | -1.6 | -0.3 | 0.3    |
| Hungary    | -6.5 | 4.9  | -0.1 | -11.5 | 1.7  | -1.4 | -3.5 | -2.6 | -3.6   |
| Czech Rep. | 4.8  | 2.8  | 10.2 | -6    | 4.4  | 2.7  | -2.3 | -3.3 | -5.6   |

**Notes** \* A positive number denotes an appreciation vis-à-vis the euro and a negative number a depreciation. \*\* Data for 2014 are calculated as a percentage change of the average over the period 1 January 2014–15 May 2014 compared with the average of 2013. Based on data from the European Central Bank (2008, p. 30; 2010a, p. 33; 2012, p. 37; 2014, p. 40).

**Table 8** Maximum Percentage Deviations of the Bilateral Exchange Rate against the euro from Its Average Level in Reference Date

| Period               | Poland |       | Hungary |       | Czech Republic |       |
|----------------------|--------|-------|---------|-------|----------------|-------|
|                      | (1)    | (2)   | (1)     | (2)   | (1)            | (2)   |
| 1.11.2004–31.10.2006 | 11.2   | -0.6  | 1.4     | -14.6 | 10.2           | -0.5  |
| 19.4.2006–18.4.2008  | 13.0   | -4.8  | 7.7     | -6.6  | 13.0           | 0.9   |
| 24.4.2008–23.4.2010  | 6.9    | -41.8 | 10.1    | -24.7 | 8.4            | -17.7 |
| 3.5.2010–30.4.2012   | 5.3    | -12.4 | 5.0     | 15.9  | 6.4            | -1.5  |
| 16.5.2012–15.5.2014  | 6.0    | -2.8  | 6.3     | -7.1  | 3.5            | 9.6   |

**Notes** Based on data from the European Central Bank (2006, pp. 68, 130, 162; 2008, pp. 84, 148, 164; 2010a, pp. 86, 164, 182; 2012, pp. 98, 156, 174; 2014, pp. 100, 158, 176).



**Figure 4** Exchange Rate Volatility (Average of Three-Month Period Ending in Specified Month). Annualised Monthly Standard Deviation (As a Percentage) of Daily Percentage Changes of the Exchange Rate against the Euro. Based on European Central Bank (2006, p. 162, 2008, p. 164, 2010a, p. 182, 2012, p. 174, 2014, p. 176)

analyses presented by J. Bilski indicate that the exchange rate and prices in Poland's economy played a crucial role in its adjustment processes (Bilski, 2010).

It is generally expected that higher exchange rate volatility leads to higher transaction costs for traders and it is followed by a decrease of foreign trade. Foreign trade of small economies is affected relatively more by exchange rate volatility than trade flows of large economies, and are more dependent on their sector and business partners (Hutchet-Bourdon & Korinek, 2011). Both theoretical and empirical analyses confirm this relationship.

The results of research conducted by Šimáková (2013) suggest that the nominal exchange rate volatility of Polish zloty has a significant negative effect on bilateral trade between Poland and its major trading partners. The data in Table 9 and in Figure 4 also confirm this thesis.

Exchange rate volatility is also becoming important in the context of integration into the Euro area. High variability in relation to the euro precludes Poland from joining the Euro area for many years (Bilski & Janicka, 2011,

**Table 9** Changes in Polish Export to All Countries of the World and to Euro Area Countries (Annual Percentage Change) During the Years 2004–2013

| Region    | 2004 | 2005 | 2006 | 2007 | 2008 | 2009  | 2010 | 2011 | 2012 | 2013 |
|-----------|------|------|------|------|------|-------|------|------|------|------|
| World     | 39.9 | 21.1 | 22.6 | 26.6 | 23.8 | -20.5 | 14.9 | 19.8 | -4.5 | 11.2 |
| Euro area | 35.6 | 17.6 | 19.9 | 25.1 | 22.0 | -17.2 | 13.1 | 16.3 | -8.7 | 9.1  |

**Notes** Based on data from UNCTAD (<http://unctadstat.unctad.org>).

pp. 178–180). From this point of view, before the inclusion of the Polish zloty to ERM II, some changes in the exchange rate mechanism should be introduced, in order to ensure a stability increase of the Polish currency.

## Conclusions

This analysis shows that the situation in Poland's foreign trade during the global financial crisis (2008–2009) was, *inter alia*, influenced by: a strong depreciation of the domestic currency, an export diversification and a stronger decline in imports than in exports.

Poland was the only country in the European Union that recorded a small but positive rate of economic growth in 2009. Particularly important for such a situation were Poland's foreign trade and its domestic household spending. As numerous studies have shown, Polish exports had not dipped as strongly as in other countries, mainly due to the depreciation of the zloty and by improving price competitiveness of exported goods.

During the period 2004–2013, the Polish zloty showed an unusually high variability in relation to the euro. These strong fluctuations in the Polish currency exchange rate had a negative impact on trade flows and moved away for many years the possibility of the accession of Poland to Economic and Monetary Union. On the other hand, and in the particular case of Poland, the exchange rate is an important tool for dealing with exogenous shocks. Moreover, the exchange rate is an important adjustment mechanism, thanks to which the Polish economy was able to avoid a large decline in exports and GDP during the recent financial and economic crisis. For Poland, the exchange rate is, thus, a tool for dealing with exogenous shocks. A fast adoption of the euro in Poland is, therefore, not necessary.

Nevertheless, further research would be required using econometric methods (e.g. GARCH, TAR, gravity models), since the relationship between exchange rate volatility and exports is not solved as shown in previous researches.

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# The Online Right to be Forgotten in the European Justice Evolution

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The landscape of internationally recognized rights is increasingly expanding the web and the Information technology law contributes, through the creation of new situations arising from practices identified by the doctrine, to the recognition of new digital rights. The typical path of the affirmation of a 'New right' find sudden recognition through national or international case studies that generate the actual recognition of rights that were previously only expectations and that automatically become necessities. The birth of the right to oblivion, i.e., the right to forget and to be forgotten, should be understood as the right to have memories related to a particular subject and to the processes of indexing and storage, including the ability to manage and establish them in hands of third parties. The recent case from the European Union Court of Justice in 2014 is a mirror for the right to be forgotten and censorship in the different landscape of USA and European Law. The present research is a tool for evaluation and analysis of the proposed European regulations.

*Keywords:* right to be forgotten, human right, censorship, knowledge and learning, inclusive society, participation, social accreditation

## Introduction

The landscape of internationally recognized rights is wider today as a result of recent developments in the European jurisprudence, which contributes, in this case thanks to the network, to the establishment of new universal rights derived from the Internet and that are looking for recognition and affirmation in the category of new digital rights. The European Court of Justice ruled an evident limit in the web use for search engines stating for the first time the 'Right to be forgotten.' This is a new important element in the fight between the right to information and the right to be forgotten, by establishing, for the first time, the primacy of the right to oblivion, better known as right to be forgotten, with respect to the right to information, a permanent closure for the right information and an open access to digital tattoos removal strictly tied to the online reputation and its permanent effects.

The right to oblivion, already defined as a right to forget and be forgotten, was born together with the concept and the rules related to privacy It must now be understood as the right to have online memories related to a particular subject and the procedures for filing and indexing of the same

information, the ability to manage and establish them in hands of third parties (Bianchi, 2012).

The new electronic languages are too fast and substantive law fails running at the same speed as technology, which forces us to seek the ethic of transparency as an unwritten rule. Language and forms of communication are embedded in electronics and it really seems easier but less expressive talking with only 140 characters that take advantage of the resources available. In the IT society, everything is at our disposal and is relatively at hand: everything that we need is on the Internet or, at least, we feel this way. This approach is clearly negative for people's personalities and identities (Cate, 1997). We could dare to say that we find ourselves again in the era before Copernicus, where we feel that the Universe goes around us, like in an era of self-addicted. In certain software systems, such as Snapchat, speech is timed and it disappears without any trace after a few seconds, which could itself be a practical application of the right to be forgotten way before the European Court of Justice decision.

In absence of a unique right regarding the online world, this is the first official case of recognition of the Right to be forgotten. The novelty lies in the fact that we will be able to ask the Internet providers? to forget us. While the analogical world is trying to remember and not forget, the online world has the inverse problem (Borges, 1998). There is then a new kind of capital, significantly different from real capital and human capital, the so-called reputational capital, which is not related to the word of mouth effect in the town or the information in the newspapers, but the capital constituted by the purity of our data on the net, that is, news that affect us, mainly those that are not true or partially true and are not denied or removed over time, including tattoos pinned on virtual curricula,. In essence, a virtual consciousness that denies the right of reply and removal of falsehoods.

Once it has been established that the desire to forget and be forgotten is a right, its configuration has followed twisty, hard moving first steps from the first law regarding this issue, which was adopted in California in 1013 and which established the principle of 'erase button,' or of 'oblivion button,' in force since January 2015. This law allows minors to have the power to erase all their network path, messages, photographs, selfies and information on social networks.

Starting from these issues and reflections the new case-law of the European Court of Justice that addresses the issue starting from the individual case deals with the possibility of filling a legal vacuum at the European level by creating a valid precedent with compulsory enforcement for Europe. This is unprecedented and it's not absolutely said that it will be implemented globally, especially in countries where management companies of major search engines are based. The main Court's case of the is the Mario

Costeja Gonzales vs. La Vanguardia and Google Spain case, which will open a new front for online rights and new work for reputation cleaners.

From user falsely free commercial relations to the imposition of free relations. An agreement with us is necessary for international knowledge and learning

The primary effect of the European Court of Justice's judgment has been changing the relationship between Users and Data Managers. In a first place, it was believed that these relations were free. However, reports using data from companies, often resold for commercial reasons, generated business without the acknowledgement of the owner, who ends up being 'sold' without his/her consensus.

The practical application of the right to be forgotten means that for ensuring oblivion and memory, and for respecting the integrity of the subject and the ability to consider the relations with the social-network as new reports of giving without receiving, where hold-up social network data storage without profit on someone else's memory, in a new social mutual pact, a contract without network exchange where the provision of services is offered without a counter-offer or erasable data, nor money.

A virtual environment creates an environment of trust, that is, a familiar environment that leads to mutual availability, confidential feedback and interaction and, especially, to a new virtual citizenship: a kind of *jus soli*, a form of digital accreditation and membership in the global village network, a virtual social consensus, a form of inclusion; in sum, a citizen participation that accredits to online network rights and exposes to new problems as perennial memory. One must consider the phenomenon, often frequent, that homonymy may generate important gaps with absolutely different people that, in the case of events, facts, offences in the same urban cycle are involved, at information level, in circumstances which do not concern them and who often disparages them (Emler, 1994; Lessig, 1999).

The principle established by the judgment of the European Court crystallizes the liability of the search engine with an active role whatever in its indexing and data treatment and regardless of responsibility of single sites. Private data have always been managed by public agencies and institutions and never, at least until the advent of the web, with commercial and profit purposes by private individuals. The relationship between citizens and the public sphere is much more than relationships with private companies, although it is true that the State, and more generally the public, is a direct emanation of the citizen as an expression of identity and not as a private enterprise (Lessig, 2001, 2009).

The citizen has been guaranteed, in the analogical world, data management by the State with rigor and integrity. However, in the online world, there are no guarantees that their data are treated equally for the purposes for

which they are supplied for nor used by private companies with the purpose of generating profits and revenue, ready to see the identities of others delivered in a friendly and familiar environment with false expectations.

With the mentioned case of the European Union's Court of Justice, under certain conditions, the right to ask search engines to remove links with personal information about them is created. It is not an absolute, but it is meant to be balanced against other fundamental rights, like freedom of expression. In half a year after the Court's decision, Google received over 180,000 removal requests. Of those reviewed and processed, 40.5% were granted. The percentage is very large and it could seem as a victory for the European law compared to the US law system. Naturally, as it was foreseen, in the US, the reaction has been overwhelmingly negative, where the Court's position has been perceived as a restriction to free speech and public information, rather than a victory in the name of privacy and human dignity. The debate is consistent and it needs to be implemented. It can also refer to world knowledge and learning pointing out the importance of education.

The problem with these issues is complex, inconsistent, non-linear, and can define human life virtually forever. Forcing people's behavior through is not a necessity but having different rules of knowledge and learning, different possibility to find or not information on the web means difference of knowledge, difference of information access by Continents and the end of globalization with the start of Internet *globalization* by itself. The effect of the judgment can be the differentiation of knowledge, differentiation of access to information on the net, as well as the difference of understanding between Europe and the USA, the collapse of the network as a single language and technology common to all peoples of the world who access the network content.

The advantages of the common use of the network are countless and the use of a unique technological language for the entire world could be positive for all the peoples and civilizations without restrictions. As it has been shown by academic studies on the reduction of their distances, the web and social networks can play an important role in the mutual recognition and in the overcoming of the concept of religious, linguistic and racial diversity, and represents a unique possibility to participate and take advantage of the technological world of knowledge able to create a common feeling and a sense of belonging to the web at every latitude. A non-constructive attitude of closure generated by the application of different laws, could give rise to more networks, dissimilar internets in every country with different languages and ideas, diverse knowledge and learning, and different possibilities of sharing for e-belongers separated in the technological web by new law borders.



The effect of the judgment could limit access to knowledge for new generations in their research for new information on the net, just because object of application of censorship by subject as a restriction that may affect levels of knowledge between continents and access as an expression of the right to information. The effects of the legal case can determine different regulatory approaches over time but now it is possible to image its future effects.

### The European Court Decision

The European Court decision represents a point of no return in terms of network rights, observing for the first time what doctrine has defined as the 'right to oblivion.' Before this case, the international jurisprudence had only discussed individual cases and had resolved them with different solutions, identifying the responsibility of electronic brokers who handle the information, and resolving that each search engine is a passive intermediary, which does not control data and is unable to carry out an effective control on the handled contents.

The principle enshrined in the judgment of the European Court CJ crystallizes the liability for the search engine company or the site company, independently from its indexing, data treatment, head of information or reputation, with an active role in the protection of the identity of an individual regardless of party responsibility managers of websites. Therefore, the quality of the host entity prevails over mere content indexing services done by the search engine.

The new sensitivity shown from the legal point of view by the European Court of Justice in dealing with the information has been for some time a direction expressed by law but even by European standards. Search engines, in principle established cannot be neutral and, cannot avoid responsibility nor control. In sum, it cannot attest to its neutrality in the face of gathering data that represent the core business of search engines.

Search engines cannot deprive themselves to aseptic activities liable descendant from data processing and especially abusive content on the network without triggering or monitoring mechanisms regarding the managed information (Maffe, 2007; Morozov, 2011). The ability to combine and merge selected information is suitable for the search engines programs following invasive and unfair collection of user information unknowingly Treaty and profiled.

Facilitation in content-specific search allowed by search engines and selective information capacity to improve and implement the work cannot be perceived as a silent control but becomes active when the active law of liability profiles is closely linked to such activity. The matching and aggregation capabilities of search engines are symptoms of non-activity and passivity of

the search engine's role, therefore, is not only an intermediary but handler with possibility of intervention.

The outcomes of the new case-law of the Supreme European Court are important and constitute a landmark in European law. They are, however, restricted to the continental areas, raising the possibility of forgotten data dissemination on the web in a given continent and other live data on the web in another one. This only generates a partial oblivion, which is related to the concept of partial or national reputation, as if reputations in the origin country or that referred to by the given most important both, ignoring the concept reputation for the rest of the world, which is counterproductive compared to the will of the European citizens' integration. An offence committed in European countries is stored in the criminal records of the European Common registers and does not include why shouldn't be so for processed data from across the web without territorial distinctions or boundaries whatsoever.

The response of companies that offer network services after the European judgment decision is a strategy consisting of deleting the content from the national research index. The web is theoretically infinite regarding contents although, in reality, most of the searches take place in the first three pages of the search engine. The research is encyclopedic and, in the light of the judgment, would have to detect different results of publications country by country and distorting research results and in general knowledge that is increasingly delegated to less reliable sources or not controlled.

The conflict between the right to information and the right to privacy is complicated in relation to the judgment of the Costeja Gonzalez case. The debate focuses on what can be considered of public interest and what should not, therefore, be removed, what should be deleted to protect the right to confidentiality and what should be mandatorily removed from the unwanted result.

### **Reactions to the Decision**

The Rule appears in any case inadequate where it specifies all cases where removal is required. As usual, the reconciliation of rights appears to be difficult to solve regarding the application of human rights. The enlisted stories and pieces of lives waiting for cancellation are inexhaustible and the possibility to clean up a past that always comes back to the online world seems to finally have a solution.

The sources are not actually easy or simple to delete and to delete information from the index when? is not news but false information. It also creates a spectrum effect caused by the fact that the search engine from a trace of removing some information and this could create a new discrimination in the world of removed content: knowing that a content related to a person has been removed does not make us safer unless we know

what content it is, as imagination is capable of creating far more profound and severe content than reality (Nissebaum, 1998; Ohm, 2009; Palfrey & Gasser 2008).

The problem created by the decision of the Council following the request invokes the principle of privatisation of Justice, a kind of mediation made internally by judging colleges the right to publication and removal. Private colleges, and not public institutions, and new judges of the digital arena are increasingly restricting the public field to affirm the strength and the ability of private receiving the State delegation to the private justice.

The evaluation criteria of content should be irrelevance, age, inadequacy, and the excessive nature of the publication. It will be the same search engine to judge wearing clothes of the new Court of judgment, however, and not only European considering the vastness of the field of action.

The fixing out of content from the index, in case of acceptance of the request, also generates and unavailability of content that still survives on the web. The ruling triggered an immediate reaction from Google, who decided to set up an online form through which European users will be able to ask for the removal of the result due to mechanisms of identity and recognition of legitimacy of requests as well as legitimate request subscription with electronic signature.

The main point of the Court decision is that, in its application, every request invokes the principle of privatization of Justice; a kind of mediation is made internally by judging colleges the right to publication and removal.

Technology and other mechanisms of social exchange of information are already able to determine the real right to be forgotten. For instance, the Voycee application, a software programmed with effects and consequences that already comply with the judgment of the European Court of Justice.

A social network programmed for self-destruction of its contents. Storage dynamics of this, as other, social networks, have demonstrated far more foot-dragging displayed in recognition of the right to be forgotten. In this case, regardless of the content uploaded and managed, be it videos, photos or information of any kind, the content is never stored, but just handled and destroyed, that is, deleted from every index without possibility to trace any content. A temporary administration of information, content or data does not, of course, preclude the possibility of storage and indexing data memory (Rule, 1974; Rosen, 2004).

The dynamics already used by these social networks allow abiding European Law and human rights, and guaranteeing the right to privacy and oblivion that the European Court pointed out as a result of the management practiced in the United States in terms of indexing and the use of the same. The software, in this case, behaves like a blackboard that erases the data.

Memory is an extraordinary faculty granted to humans: it stores data without knowing well the mechanism of storage nor how nor where the storage is, nor which specific memories they are nor how are they prepared and organized in their minds. Humans, however, are able to create machines capable of doing all these things but knowing how and where to store the data.

Considering that one of the most important faculties of our brains is to examine data and later eliminate or postpone them, why shouldn't it be so for the web that we have created? The ability to discern what is important from what is not, or simply is not more, can be decisive if applied to the web following the application of the right to be forgotten.

Memory has always been used to avoid forgetting what was seen because often nobody should forget; this was the reason for books and analogical publications, but not always the contents must be forgotten and not always what is published is correct, or the fact that it is just published does not mean is not worthy of removal. The analogical world is always clinging to objects and places for the memory, the network, in its immateriality, would assist the right to forget if you don't draw every bit information without deleting it or erase tracks. One thing is certain if we are our own memories with the judgment of the European Court will be no longer this way.

## **Conclusion**

The judgment of the European Court is only a first step in the path to achieve the right to oblivion and we must follow the developments of this new achievement, as well as the reactions of the main companies that manage data, search engines and sites.

It is not difficult to predict important reactions and differences in the application of the right to be forgotten between continents, as well as in the various traditions of global rights to equal or less main concepts.

No one is able to determine the evolution of the concept of right to oblivion, but the development of anti-censorship sites that collect data erased from all the other countries in their network memories brings new permanent traces of concepts whose cancellation was assumed to be done (Schonberger, 2009; Shih, 2011; Solove, 2007; Vaidhyanathan, 2012).

In an open system like the Internet, it is impossible to forget every information or feel done by the simple operation of deleting data from an index. Removing the search engine information concerns only the State to which the case relates. The information itself is indeed indexed and available, which encourages the gathering of censored information by other sites specifically developed as virtual libraries of censored content.

This sites are called 'Hidden From Facebook' in Wikipedia and include a database of censored information where anyone can report or up-

load censored content by retrieving the links and contents usable again and forgotten them and, therefore, bypassing the European jurisprudence.

The world has always tried to remember over time, but the development of technology has mortified the memory making it blurred and perennial, absolutely precise. A vague recollection not created problems of any kind and the accuracy of the path from the network that makes even the perennial error.

The new virtual blackboard does not allow digital tattoos. Does it still make sense to speak about memory in the online network, does it still will have a value the verb word censorship or forget, but especially the accuracy of information, if this even is un-correct, what kind of value can assume. No precise answer at the moment and no answer to remember, a lot of things to try to forget.

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# Entrepreneurial, Renewal and Trust Capital of Italian Firms: Insights from an Empirical Study

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The aim of the work is to analyse the relationship between entrepreneurial capital (EC), renewal capital (RC) and trust capital (TC), considered as stand-alone components of intellectual capital (IC), and firms' performances. To this end, an empirical research based on a sample of Italian companies was carried out. The survey's results show that EC, RC and TC have a positive influence on Italian medium-sized and large companies' performance. Its findings contribute to understand how EC, RC and TC affect the creation of value in organisations and enable these organisations to improve their performance through a better management of knowledge-based resources.

*Keywords:* entrepreneurial capital, renewal capital, trust capital, intellectual capital, entrepreneurship, innovation, intangible assets, medium-sized and large firms

## Introduction

In most studies, IC (Intellectual Capital) has been seen as consisting of three elements: human capital, structural capital and relational capital (Bon-tis, 2001; Guthrie, 2001). However, emerging studies (Kianto, 2007, 2008; Kianto, Hurmelinna-Laukkanen, & Ritala, 2013; Demartini & Paoloni, 2013; Inkinen, Kianto, Vanhala, & Ritala, 2014) suggest that three other elements could also be included in IC visualizing and mapping: entrepreneurial capital (EC), renewal capital (RC) and trust capital (TC). Firstly, RC reflects companies' propensity to engage in new ideas and in the development of innovative and creative initiatives. Secondly, TC synthesizes the trust embedded in companies' internal and external relationships with stakeholders. Finally, EC concerns the competence and commitment related to entrepreneurial activities in the organisation and is related to autonomy, risk taking, proac-

tiveness, and competitive aggressiveness of the company's personnel. We assume that these 'new' components recently identified in the literature represent important elements of the IC construct and act as key drivers to leverage firms' value and performances. Previous literature has not adequately nor explicitly explored the relationship among the distinctive IC components, specifically among the aforementioned new components and businesses' value creation and performance. Consequently, we decided to investigate EC, RC and TC in order to empirically verify the hypothesis of their influence on firms' performance.

Departing from these assumptions, the purpose of this paper is to show preliminary results from the Italian research unit of an international project on IC and value creation led by the Lappeenranta University of Technology – LUT (Finland). The main research question of the overall project is to understand how IC assets and their management practices interact to create value. Within the overall project, the Italian research unit focuses on EC, RC and TC in order to understand if and how do they affect firms' performance and their value creation (Cesaroni, Del Baldo, Demartini, & Paoloni, 2014). Therefore, our main research question is: Does a relationship among EC, RC and TC levels and a firm performance exist? Even if we are mainly interested in these 'new' IC elements, to answer this question we present an empirical research based on a comprehensive definition of IC that includes 'traditional' and 'new' components. We used three multi-item scales as key constructs (EC, RC and TC) adapted from Kianto et al. (2010), Garcia-Morales, Llorens-Montes, and Verdu-Jover (2006) and Hughes and Morgan (2007).

The survey results show that EC, RC and TC have a positive influence on Italian medium-sized and large companies' performance. The study underlines that, in the era of knowledge economy, EC and RC represent key resources of organisations, enabling high innovation performance and organisational growth, thus increasing their effectiveness in responding to future challenges and radical changes in the market.

The paper is structured as follows: in the second section, the main studies and theories on IC and its components that fit our research design are presented. In the third section, the research method is described. Then data analyses are presented and, finally, the main research findings are outlined, followed by conclusions.

Our research agenda will provide academics and managers with unique insights into the state of the art of corporate EC, RC and TC in Italian companies. It provides tools and guidance for the improvement of economic performance through a better management of knowledge-based resources. Furthermore, this research will set the agenda for improving EC and RC practices of Italian companies and will allow comparisons with firms from



other countries currently involved in the same project, identifying different pathways to success.

### Theoretical Framework

Intellectual capital has been defined as the companies' total stock of capital or knowledge-based equity (Dzinkowski, 2000). IC is either the final product of a knowledge transformation process or the stock of organisational knowledge itself. IC incorporates three main components, i.e., IC stocks that together form value: human capital, organisational (structural) capital, and customer (or relational) capital (Bontis, 2001; Guthrie, 2001; Nahapiet & Ghoshal, 1998).

Human capital refers to know-how, education, work-related competencies, and psychometric assessments (McGregor, Tweed, & Pech, 2004; Teece, 2000). Structural capital includes assets such as corporate culture, management processes, databases, organisational structure, patents, trademarks, and financial relations. Engstrom, Westnes, and Westnes, (2003, p. 288) suggest that structural capital 'includes all non-human storehouses of knowledge in organisations.' Finally, relational or customer capital (internal and external relational capital) refers to organisations' customers, brands, customer loyalty, and distribution channels. Customer capital also refers to consumers as repositories of information and knowledge that is valuable to organisations (Bontis, 1998).

While the majority of studies consider the aforementioned elements of IC, more recently other scholars (Kianto, 2007, 2008; Demartini & Paoloni, 2013; Inkinen et al., 2014) include three further elements into IC: 'entrepreneurial capital' (EC), concerning competence and commitment related to entrepreneurial activities in the organisation (Erikson, 2002); 'renewal capital' (RC), in terms of innovative solutions, products and services available for the firms (Kianto et al., 2010); and 'trust capital' (TC) conceived in terms of trust embedded in its internal and external relationship (Mayer, Davis, & Schoorman, 1995). Consequently, EC, RC and TC should be considered as specific and important 'new' dimensions of IC, in addition to the traditional ones (Kianto et al., 2013), that have not been generally addressed. This broader definition of IC helps us to gain a more holistic understanding of this organisations' asset (Kianto et al., 2013, p. 1476; Inkinen et al., 2014, p. 2919). Moreover 'this broad 7-partite definition of IC – taking into consideration the split between internal and external relational capital – is based upon a wide understanding of knowledge, as not only the explicit outcomes of knowledge-intensive work such as patents, formulae and actualized products, but also as the tacit potential of organisational actors to, e.g., flexibly react to unexpected situations and rapidly changing customer demands' (Inkinen et al., 2014, p. 2920). Following Kianto et al.,

2013 and Inkinen et al., 2014, we therefore hypothesise that, in addition to the three traditionally considered IC stocks, also EC, RC and TC are likely to function as important assets that increase the performance of a firm.

EC refers to competence and commitment related to entrepreneurial activities in an organisation and is connected with the entrepreneurial orientation of organisational actors (managers and employees). Entrepreneurial orientation reflects the extent to which a firm engages in product innovation and risky ventures (Miller, 1983). In other words, it reflects the extent to which a firm is innovative or competitively aggressive (Lumpkin & Dess, 1996). Entrepreneurial orientation has been described by a set of three to five behaviours, including autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness. Entrepreneurial orientation can enhance the relationship between knowledge-based resources and firm performance (Zahra, 1991; Zahra & Covin, 1995; Wiklund & Shepherd, 2003; Wu, Chang, & Chen, 2008; Rauch, Wiklund, Lumpkin, & Frese, 2009). Entrepreneurship scholars have attempted to explain a firm's performance by investigating its entrepreneurial orientation without having previously deeply analysed EC as a specific IC component (as well as RC and TC).

EC refers to entrepreneurial behaviour exerted in an organisation (Erikson, 2002). It is defined as a stock of competences and personnel attributes related to proactive, risk oriented, and aggressive decision-making and behaviour (Lumpkin & Dess, 1996).

*Proactiveness* represents a forward-looking perspective where firms actively seek to anticipate opportunities to develop and introduce new or improved products, instigate changes to current strategies and tactics, and detect future trends in the market (Lumpkin & Dess, 1996; Slater & Narver, 1995). Proactive firms, through proprietary learning and experience effects gained over time, tend to be more attuned to changes and trends in the marketplace (Hamel & Prahalad, 1991).

*Risk-taking* reflects an acceptance of uncertainty and risk inherent in any original activity. It is typically characterised by a resource commitment to uncertain outcomes and activities (Lumpkin & Dess, 1996; Covin & Slevin, 1991). Such an approach seeks to take advantage of evolving situations by capitalising on the fact that markets rarely stabilise for any length of time.

*Aggressive decision-making* is the intensity with which a firm chooses to compete and to make efforts to surpass competitors reflecting a bias towards outdoing rivals. It also includes the authority and independence given to an individual or team within the firm to develop business concepts and vision, and to carry them through to completion (Davidson, 1987). Aggressiveness can improve performance because the emphasis on out-doing and out-maneuvring competitors strengthens the firm's competitiveness at the expense of rivals (Lumpkin & Dess, 1996).

*Independence* concerns employees' ability and will to be self-directed in

the pursuit of opportunities and to exercise their creativity without being limited by organisational constraints (Hurley & Hult, 1998). Autonomy is an essential resource for the creation of new businesses (Lumpkin & Dess, 1996) and is, therefore, an important driver of firms' flexibility, as it allows them to be able to respond promptly to environmental change and market signals by quickly reconfiguring their actions and activities (Hughes & Morgan, 2007).

Concerning EC, the courage, initiative-taking and proactiveness in an organisation are likely to increase innovation performance by allowing more self-directed development activities in the firm (Hughes & Morgan, 2007; Gateory, Dess, Lumpkin, & Covin, 2010). Risk-taking, recognizing new business opportunities and the ability to make bold decisions will also help the organisation to produce and to prototype innovative ideas. An organisation with high EC will be more competitive by having employees who are willing and empowered to make fast decisions and who show initiative in solving problems (Inkinen et al., 2014, p. 2922).

Even if innovativeness is commonly considered as one of the main entrepreneurial postures, in the following pages we introduce the concept of RC as a specific construct that refers to the ability of an organisation to continuously develop itself through learning and innovation.

RC refers to the ability of an organisation to continuously develop itself through learning and innovation (Kianto et al., 2010). It is intended in terms of innovative solutions, products and services available for the firm (Kianto, 2008). An organisation with high RC, sometimes also called innovation capital (Chen, Zhu, & Xie, 2004), is able to build on previous knowledge and to generate new knowledge (Madininos, Šević, & Tsairidis, 2010), as well as to develop new products, services and innovative ideas on a continuous basis (Tseng & Goo, 2005; Inkinen et al., 2014, p. 2922). Innovativeness means that firms not only generate new ideas, but also actively implement new ideas, products or processes (Hurley & Hult, 1998; Subramaniam & Youndt, 2005). Calantone, Çavuşgil, and Zhao (2002) establish that firms' innovativeness has a positive impact on performance and contributes to develop competitive advantages by facilitating creative thinking within a firm's learning activities. Innovativeness also improves the application of market intelligence acquired through market orientation activities, which can benefit performance (Han, Kim, & Srivastava, 1998; Hurley & Hult, 1998). RC as an intangible resource can be characterised as the firms' actualised learning capability. The ability of a firm to learn and acquire new knowledge is strongly related with several aspects of firm performance (Nonaka & Takeuchi, 1995; Andreeva & Kianto, 2011, 2012) and competitiveness (Edvinsson, 2002; Wiklund & Shepherd, 2003; Wu, Lin & Hsu, 2007; Wu et al., 2008; Wang & Chen, 2013). The ability of a firm to update and modify its knowledge and capabilities is important for sustaining competitiveness,

especially in conditions of turbulent and hyper-competitive market environments (Teece, Pisano, & Schuen, 1997; Eisenhardt & Martin, 2000). Renewal capital has become the most important facet of IC for companies' survival in turbulent environments and their capacity to face turbulently and unexpectedly changing environments (Edvinsson, 2002).

Finally, TC is represented by trust embedded in the firm's internal and external relationships. Among literature, different contributions underline that TC has powerful explanatory power over organisational performance. Trust contributes to organisational cooperation and collaboration (Mayer et al., 1995). A high level of trust among colleagues generates an environment that supports calculated risk-taking and entrepreneurial orientation (Costigan, Ilter, & Berman, 1998). Furthermore, Zeffane and Connell (2003) stated that organisational efficiency is possible only when the actors work together in a climate of positive trust. Trust increases the efficiency and effectiveness of communication and knowledge-creation processes (Blomqvist, 2002). Trust adds to the efficiency, effectiveness and innovation performance of organisations, which rely heavily on their interpersonal and intra-organisational collaboration (Ellonen, Blomqvist, & Puumalainen, 2008). Moreover, trust improves resource exchange and production innovation (Chen & Hung 2010; Inkinen, 2014, p. 2923).

Kianto et al., 2013 assume that the trust capital's effects on performance will be stronger when knowledge management-related human resources practices are used, because, when personnel recruitment and selection are utilised properly, also TC will be leveraged more effectively due to the right kind of personnel (Kianto et al., 2013, p. 1478). In addition, they assumed that these practices will affect organisational performance through improved TC or that the effect of strategic knowledge management practices on performance is mediated by human capital (Kianto et al., 2013, p. 1479).

In the light of this brief literature review, we hypothesise that EC, RC and TC represent critical intangible assets that can contribute to the firm's process of value creation, especially in periods of turbulence and economic crisis. To verify this hypothesis, and after having conceptualized EC, RC and TC in the following sections, we first operationalise EC, RC and TC constructs and we then examine empirically their influence on the performance of Italian companies.

## **Research Method**

### **Sample**

In order to verify the existence of a relationship between EC, RC, TC and a firm performance, an empirical research has been carried out, by means of a structured questionnaire, using key-informant technique.

The target population comprised a cross-industry sample of Italian companies that included all firms with at least 100 employees. To select the sample, the AIDA database was used. This database covers 1 million Italian companies and it contains comprehensive information about them, including financial statements, business description (registered office, legal form, size, industry, ownership and management) and financial ratios.

A total of 2.000 companies were selected from this database, in order to respect industry, size and geographical stratification existing in the Italian population. This means that companies were randomly chosen within a fixed percentage based on a geographical area (North, Centre and South Italy), industry (primary sector, secondary sector and services) and size (100–499 employees; 500–999 employees; 1000 and more employees).

Out of the 2.000 companies, 105 completed our questionnaires, representing a response rate of 5,25 per cent. After deleting unobtainable or unavailable firms and questionnaires with missing data, the final dataset included 100 feasible questionnaires.

### **Survey Data Collection**

Questionnaires were submitted to a key informant of each firm included in the sample. First of all, the CEO was involved. When the CEO could not be realistically reached, other high-level directors/managers were contacted (in order of preference): Chief Operating Officer, General director, HR / KM Director; other director or manager.

The data have been collected from October 2013 until March 2014. A hybrid approach to gather data was followed. First of all, the research team carried out an Internet-survey using an Internet-administered survey questionnaire (Google questionnaire). In this phase, a link to the questionnaire was sent to each respondent. This also allowed for follow-ups and reminders. To increase the number of completed questionnaires, key-informants of the remaining firms were contacted via telephone and each question was asked and filled in by the research team. Finally, face-to-face interviews were carried out.

In order to make respondents comfortable and willing to fill in the questionnaire, information about the survey's purpose and the use of data was provided, as well as instructions to answer the questions (how to answer, deadline). Furthermore, confidentiality in analysing data was emphasised and a summary of the results was promised to the respondents.

### **Measures**

Questionnaire submitted to sample firms was divided into different sections aiming at grasping data on: basic company information; IC stocks; companies' performance.

*Intellectual capital stocks.* In order to analyse the relationship between the firms' performance and EC, RC and TC, we had to operationalise these concepts. In social sciences, operationalising variables involves defining a concept in order to measure it. In this research, EC, RC and TC were measured by scales developed mostly by the international research group (Inkinen et al., 2014) (see Table 1).

It must be noted that, even if innovativeness is commonly considered as one of the main entrepreneurial postures, in this analysis we considered innovativeness as a stand-alone construct. In fact, RC refers to the ability of organisations to continuously develop itself through learning and innovation (Kianto, 2008; Kianto et al., 2010). The scale for RC includes four items related to learning and inventiveness of the organisation (Inkinen et al., 2014). EC refers to human resources competences and abilities concerning proactivity, risk-orientation, and aggressiveness in decision-making and in behaviours. The scale for EC includes six items related to risk-taking, proactiveness and aggressive decision-making among firms' personnel (Hughes & Morgan, 2007; Inkinen et al., 2014). TC refers to trust embedded in intra- and inter-organisational relationships. Statements in the questionnaire are oriented to understand if the company's image, reputation and competences inspire confidence in its external stakeholders, if the company respects its commitment towards stakeholders and if the company has a climate of trust. The scale for TC includes five items related to the trust embedded in firms' internal and external relationships (Mayer et al., 1995; Inkinen et al., 2014).

Even if this paper focuses the relationship between EC, RC and TC and firm performance, in our analysis, we used a comprehensive model that enshrines all the components of IC, including the 'traditional' ones: human capital, structural capital and relational capital. Following Inkinen et al. (2014), relational capital is split into 'internal' and 'external' categories, because they refer to relationships with different stakeholders. In this way, we can separate relationships with external parties and intra-organisational relationships.

Scales and statements included in the questionnaire and used to measure these IC components are shown in Table 1. All of the measures were based on a five-point Likert scale. So we assigned a value of '1' if respondents completely disagree with the statement, up to a '5' if they completely agree with the statement.

Questionnaire statements were originally written in English. Each international partner took care in translating it into his own language, with the help of professional language experts. Additionally, the Italian research team finally checked the questions, to ensure that respondents could answer them correctly. The core message of each item should remain the same to en-

**Table 1** Questionnaire statements: IC stocks

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*To what extent do the following statements on the entrepreneurial orientation apply to your company?*

ENTCAP1 Risk-taking is regarded as a positive personal quality in our company.

ENTCAP2 Our employees take deliberate risks related to new ideas.

ENTCAP3 Our employees are excellent at identifying new business opportunities.

ENTCAP4 Our employees show initiative.

ENTCAP5 The operations of our company are defined by independence and freedom in performing duties.

ENTCAP6 Our employees have the courage to make bold and difficult decisions.

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*To what extent do the following statements on renewal apply to your company?*

RENCAP1 Our company has acquired a great deal of new and important knowledge

RENCAP2 Our employees have acquired a great deal of important skills and abilities

RENCAP3 Our company can be described as a learning organisation.

RENCAP4 The operations of our company can be described as creative and inventive.

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*To what extent do the following statements on trust apply to your company?*

TRUSCAP1 The way our company operates is characterized by an atmosphere of trust.

TRUSCAP2 We keep our promises and agreements.

TRUSCAP3 Our company seeks to take the interests of its stakeholders into account in its operations.

TRUSCAP4 The expertise of our company inspires trust in stakeholders.

TRUSCAP5 The image and reputation of our company inspire trust in stakeholders.

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*Continued on the next page*

sure standardisation and applicability of the measures across countries. The survey was conducted in exactly the same format in all countries. This means using all of the items in the survey, in the same order and with the same scales.

*Companies performance.* The following corporate performance measures were obtained from AIDA database: Return on Assets (ROA); Return on Investments (ROE); EBITDA (Earnings before Interests, Taxes, Depreciation and Amortization).

Data collected were analysed through principal component analysis and multiple linear regression.

**Data Analysis**

To verify that EC, RC and TC can positively and significantly affect a firm performance, a model of multiple linear regression was developed. Findings from this analysis are useful to understand if IC stocks are able to affect organisations’ value creation. Moreover, this information can help in identifying effective management practices enhancing value creation processes in different business environments.

Linear regression was preceded by a principal component analysis (PCA),

**Table 1** *Continued from the previous page*


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*To what extent do the following statements on employee competence apply to your company?*

HUMCAP1 Our employees are highly skilled at their jobs.

HUMCAP2 Our employees are highly motivated in their work.

HUMCAP3 Our employees have a high level of expertise.

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*To what extent do the following statements on internal structures apply to your company?*

STRUCAP1 Our company has efficient and relevant information systems to support business operations.

STRUCAP2 Our company has tools and facilities to support cooperation between employees.

STRUCAP3 Our company has a great deal of useful knowledge in documents and databases.

STRUCAP4 Existing documents and solutions are easily accessible.

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*To what extent do the following statements on internal cooperation apply to your company?*

INTREL1 Different units and functions within our company – such as R&D, marketing and production – understand each other well.

INTREL2 Our employees frequently collaborate to solve problems.

INTREL3 Internal cooperation in our company runs smoothly.

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*To what extent do the following statements on external cooperation apply to your company?*

EXTREL1 Our company and its external stakeholders – such as customers, suppliers and partners – understand each other well.

EXTREL2 Our company and its external stakeholders frequently collaborate to solve problems.

EXTREL3 Cooperation between our company and its external stakeholders runs smoothly.

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**Notes** 1 – completely disagree, 5 – completely agree.

carried out in order to reduce the variables corresponding to the different components of IC and to turn them into a smaller set of artificial variables.

PCA is a multivariate statistical method. It helps reducing a variables set in a less numerous set. In particular, given an  $X$  matrix with  $n$  statistical units and  $k$  quantitative variables, PCA synthetises data in order to reduce  $X$  matrix' columns, by defining a number  $q < k$  of artificial variables. The latter are a linear combination of observed variables and have the following characteristics: (i) they are mutually correlated; (ii) each has a maximum variance in order to disperse the least amount of information. From a geometrical perspective, an  $X$  matrix can be represented by  $n$  points in space  $R^k$ . This means projecting the  $n$  points in a subspace  $R^q$  so that the cloud of  $n$  points in  $R^k$  is deformed as little as possible. The starting matrix used for this analysis was an  $M \times N$  matrix, with  $M = 100$  and  $N = 28$ . It was derived from assessments provided by 100 companies' replies to questionnaire statements about 28 items correspondents to IC stocks. So PCA was aimed to reduce  $X$  matrix columns, defining a number  $q < 28$  of artificial vari-



**Table 2** Principal Component Analysis

| Principal components for each IC component | (1)    |
|--|--------|
| Human Capital                              | 60.40% |
| Structural Capital                         | 72.60% |
| Internal Relational Capital                | 70.50% |
| External Relational Capital                | 69.90% |
| Renewal Capital                            | 70.80% |
| Entrepreneurial Capital                    | 79.70% |
| Trust Capital                              | 75.90% |

**Notes** (1) Percentage of variance explained by the first component in each IC component.

ables able to produce a maximum of information. For each IC stocks an ACP was carried out in the variance-covariance matrix. To reduce the dimensionality of percentage of explained variance was used. Each first component – for each IC element – explains at least 60% of the variance; accordingly, the first component for each category of IC was considered (Table 2).

In the second phase of the analysis, we developed a multiple linear regression model, in which:

- *independent variables*: IC components, reduced using PCA;
- *dependent variables*: EBITDA, ROI, ROA, referred to 2011, 2012 and 2013;
- *control variables*: personnel involved in R&D, sales; percentage of employees with high degree education;
- *dummy variables*: employees, location and industry.

**Findings**

On the basis of the listed variables, three different multiple regression models were developed, one for each performance indicator as a dependent variable (EBITDA, ROI, ROA). Each regression model is presented as follows:

**First Model: EBITDA**

This model is represented by the following equation:

$$\begin{aligned}
 EBITDA_i = & \beta_0 + \beta_1humancapital_i + \beta_2structuralcapital_i \\
 & + \beta_3intrelationalcapital + \beta_4extrelationalcapital \\
 & + \beta_5entrepreneurialcapital + \beta_6trustcapital \\
 & + \beta_7renewalcapital + \beta_8R\&Dshare + \beta_9sales \\
 & + \beta_9highedu + \beta_{10}dummysector \\
 & + \beta_{11}dummylocation + \beta_{12}dummyemployees + \beta_i \quad (1)
 \end{aligned}$$

**Table 3** Regression Analysis: EBITDA

| Predictor | Coef.      | SE Coef.  | T      | P     |
|-----------|------------|-----------|--------|-------|
| Constant  | 16358.000  | 7937.000  | 2.060  | 0.042 |
| R&DShare  | -0.068     | 0.069     | -0.990 | 0.335 |
| Sales     | -0.310     | 0.296     | -1.050 | 0.297 |
| HighEdu   | -0.000     | 0.0382    | -0.020 | 0.100 |
| HumCap    | -0.781     | 1261.000  | -0.620 | 0.538 |
| IntRelCap | -1742.000  | 1119.000  | -1.560 | 0.677 |
| RenCap    | 0.166      | 1027.000  | 0.160  | 0.872 |
| ExtRelCap | 0.432      | 1036.000  | 0.420  | 0.123 |
| StruCap   | -1042.000  | 1214.000  | -0.860 | 0.393 |
| TrusCap   | 1221.000   | 1237.000  | 0.990  | 0.327 |
| EntrCap   | 12943.000  | 0.739     | 1.750  | 0.044 |
| DummySec  | -19692.000 | 3876.000  | -5.090 | 0.034 |
| DummyLoc  | -33305.000 | 50027.000 | -0.670 | 0.507 |
| DummyEmpl | 60149.000  | 50753.000 | 1.190  | 0.239 |

**Notes**  $S = 10.2082$ ,  $R^2 = 31.6\%$ ,  $R^2$  (adj.) = 17.6%.

**Table 4** Regression Analysis: EBITDA (Selected Variables)

| Predictor | Coef.   | SE Coef. | T      | P     |
|-----------|---------|----------|--------|-------|
| Constant  | 13.927  | 5.777    | 2.410  | 0.018 |
| R&DShare  | -1.585  | 1.224    | -1.300 | 0.199 |
| Sales     | -0.370  | 0.277    | -1.340 | 0.185 |
| ExtRelCap | 17.896  | 0.947    | 1.890  | 0.052 |
| TrusCap   | 1.441   | 1.242    | 1.160  | 0.249 |
| StruCap   | -1.534  | 1.224    | -1.250 | 0.114 |
| EntrCap   | 11.148  | 0.574    | 1.940  | 0.042 |
| DummySect | -19.554 | 3.715    | -5.270 | 0.024 |
| DummyEmpl | 5.475   | 2.242    | 2.440  | 0.017 |

**Notes**  $S = 9.93720$ ,  $R^2 = 29.7\%$ ,  $R^2$  (adj.) = 26.6%.

This model (Table 3) has an  $R^2 = 31.6\%$  and an Adjusted  $R^2 = 17.6\%$ . The low value of the Adjusted  $R^2$  is due to the large number of explanatory variables used in the model. The analysis of the  $p$ -value highlights a statistically significant relationship between EBITDA and EC.

In order to obtain a best model in terms of adaptability, only the explanatory variables that, in the previous model, had the lowest levels in the  $p$ -value have been subsequently considered. In this way a new model was obtained (Table 4).

This model reveals that both EC and external relational capital have a statistically significant positive relationship with EBITDA.

The positive relation between EBITDA and EC shows that, in this turbulent

**Table 5** Regression Analysis: ROI

| Predictor | Coef.   | SE Coef. | T        | P     |
|-----------|---------|----------|----------|-------|
| Constant  | 2.150   | 6.132    | 0.350    | 0.727 |
| HumCap    | 2.948   | 1.060    | 2.780    | 0.007 |
| RenCap    | 19.360  | 0.836    | 2.320    | 0.023 |
| ExtRelCap | -0.066  | 0.842    | -0.080   | 0.938 |
| IntRelCap | -0.879  | 0.928    | -0.950   | 0.346 |
| StruCap   | -10.960 | 0.989    | -1.110   | 0.271 |
| TruCap    | 12.328  | 0.987    | 1.250    | 0.215 |
| EntrCap   | -0.006  | 0.621    | -0.010   | 0.992 |
| R&DShare  | 0.104   | 0.063    | 1.630    | 0.106 |
| Sales     | -0.292  | 0.243    | -1.200   | 0.234 |
| HighEdu   | 0.010   | 0.025    | 0.380    | 0.702 |
| DummyLoc  | 0.453   | 1.422    | 0.330    | 0.752 |
| DummyEmpl | -3.082  | 1.458    | -2.110   | 0.039 |
| DummySect | -6.026  | 3.096    | -195.000 | 0.056 |

**Notes** S = 8.33251, R<sup>2</sup> = 26.6%, R<sup>2</sup> (adj.) = 16.6%.

and unpredictable context, businesses have to be prone to risk, proactive, innovative and aggressive in decision-making and behaviour to be competitive and survive. The same model also states that EBITDA is positively conditioned by external relational capital, that is, by the business’ ability to promote and manage good relationships with its stakeholders. In particular, the presence of good relationships with customers would increase efficacy and efficiency in sales management. Moreover, the ability to collaborate with suppliers would have a positive impact on supplies management, with positive consequences for the business’ profitability.

**Second Model: ROA**

This model is represented by the following equation:

$$\begin{aligned}
 ROA_i = & \lambda_0 + \lambda_1 \text{humancapital}_i + \lambda_2 \text{structuralcapital}_i \\
 & + \lambda_3 \text{intrelationalcapital} + \lambda_4 \text{extrelationalcapital} \\
 & + \lambda_5 \text{entrepreneurialcapital} + \lambda_6 \text{trustcapital} \\
 & + \lambda_7 \text{renewalcapital} + \lambda_8 \text{R\&Dshare} + \lambda_9 \text{sales} \\
 & + \lambda_9 \text{highedu} + \lambda_{10} \text{dummysector} \\
 & + \lambda_{11} \text{dummylocation} + \lambda_{12} \text{dummyemployees} + \lambda_i \quad (2)
 \end{aligned}$$

Also in this case all the explanatory variables selected were initially included in the regression model (Table 5).

The model shows, in this case, an R<sup>2</sup> = 26.6% and an adjusted R<sup>2</sup> = 16.6%. By building a new model including only the explanatory variables with

**Table 6** Regression Analysis: ROA (Selected Variables)

| Predictor | Coef.  | SE Coef. | T      | P     |
|-----------|--------|----------|--------|-------|
| Constant  | 0.658  | 5.807    | 0.110  | 0.610 |
| HumCap    | 2.903  | 1.031    | 2.820  | 0.006 |
| RenCap    | -2.084 | 0.748    | -2.790 | 0.007 |
| IntRelCap | -1.097 | 0.759    | -1.440 | 0.152 |
| StruCap   | -1.338 | 0.946    | -1.410 | 0.161 |
| TrusCap   | 1.098  | 0.918    | 1.200  | 0.135 |
| R&Dshare  | 0.109  | 0.059    | 1.840  | 0.070 |
| Sales     | -0.284 | 0.238    | -1.190 | 0.237 |
| DummyEmpl | -3.144 | 1.497    | -2.100 | 0.039 |
| DummySect | -6.686 | 2.979    | -2.240 | 0.027 |

**Notes** S = 8.23428,  $R^2 = 28.6\%$ ,  $R^2$  (adj.) = 26.1%.

the lower  $p$ -value, we obtained a model with  $R^2 = 28.6\%$  and an adjusted  $R^2 = 26.1\%$  (Table 6).

This model allows identifying a statistically significant positive relationship between ROA and human capital and between the ROA and RC.

The first relation shows that firms with qualified, experienced and motivated employees are more competitive and obtain better performances. In fact, they would be more effective in managing business processes, with positive consequences in terms of profitability.

The same model also shows a statistically significant positive relationship between ROA and RC. This relationship confirms the hypothesis that RC is 'the new bottom line' (Kianto et al., 2010) of IC. Today organisations face a very turbulent context and have to continuously develop and renovate their competences to keep up with the market and not to be overtaken by competitors. Organisations have to be innovative and able to continuously learn, in order to propose new products and services and to innovate their processes.

### **Third Model: ROI**

This model is represented by the following equation:

$$\begin{aligned}
 ROA_i = & \alpha_0 + \alpha_1 \text{humancapital}_i + \alpha_2 \text{structuralcapital}_i \\
 & + \alpha_3 \text{intrelationalcapital}_i + \alpha_4 \text{extrelationalcapital}_i \\
 & + \alpha_5 \text{entrepreneurialcapital}_i + \alpha_6 \text{trustcapital}_i \\
 & + \alpha_7 \text{renewalcapital}_i + \alpha_8 \text{R\&Dshare}_i + \alpha_9 \text{sales}_i \\
 & + \alpha_9 \text{highedu}_i + \alpha_{10} \text{dummysector}_i \\
 & + \alpha_{11} \text{dummylocation}_i + \alpha_{12} \text{dummyemployees}_i + \alpha_i \quad (3)
 \end{aligned}$$

This model (Table 7) shows a  $R^2 = 33.3\%$  and an adjusted  $R^2 = 20.8\%$ .

**Table 7** Regression Analysis: ROI

| Predictor | Coef.   | SE Coef. | T      | P     |
|-----------|---------|----------|--------|-------|
| Constant  | 9.744   | 6.109    | 1.600  | 0.115 |
| HumCap    | 0.137   | 1.063    | 0.130  | 0.898 |
| IntRelCap | 0.447   | 0.897    | 0.500  | 0.620 |
| RenCap    | 2.241   | 0.835    | 2.680  | 0.009 |
| ExtRelCap | -0.904  | 0.761    | -1.190 | 0.239 |
| StruCap   | 0.428   | 1.181    | 0.360  | 0.718 |
| TruCap    | 0.735   | 1.027    | 0.720  | 0.477 |
| EntrCap   | 1.160   | 0.541    | 2.150  | 0.035 |
| R&Dshare  | -0.046  | 0.054    | -0.850 | 0.398 |
| Sales     | -0.457  | 0.221    | -2.070 | 0.042 |
| Highedu   | 0.015   | 0.030    | 0.500  | 0.621 |
| Dummyloc  | 1.803   | 1.616    | 1.120  | 0.268 |
| Dummyempl | -3.511  | 1.718    | -2.040 | 0.045 |
| Dummysect | -11.668 | 2.888    | -4.040 | 0.028 |

**Notes**  $S = 6.90828$ ,  $R^2 = 33.3\%$ ,  $R^2$  (adj.) = 20.8%.

**Table 8** Regression Analysis: ROI (Selected Variables)

| Predictor | Coef.  | SE Coef. | T      | P     |
|-----------|--------|----------|--------|-------|
| Constant  | 11.950 | 4.772    | 2.500  | 0.015 |
| R&DShare  | -0.043 | 0.050    | -0.880 | 0.285 |
| Sales     | -0.419 | 0.209    | -2.010 | 0.048 |
| RenCap    | -2.017 | 0.712    | -2.850 | 0.006 |
| ExtRelCap | -0.800 | 0.714    | -1.130 | 0.266 |
| TrusCap   | 1.082  | 0.644    | 1.680  | 0.097 |
| EntrCap   | 1.190  | 0.517    | 2.300  | 0.024 |
| DummyLoc  | 1.751  | 1.564    | 1.120  | 0.166 |
| DummyEmpl | -3.672 | 1.531    | -2.400 | 0.019 |
| DummySect | -1.117 | 2.743    | -4.080 | 0.033 |

**Notes**  $S = 6.74916$ ,  $R^2 = 32.7\%$ ,  $R^2$  (adj.) = 26.4%.

Also in this case a simplified model was developed, by eliminating variables with a too high  $p$ -value. The new model (Table 8) has an  $R^2 = 32.7\%$  and an adjusted  $R^2 = 26.4\%$ .

Analysing the  $p$ -value, statistically significant positive relationships between ROI and RC and between ROI and EC can be identified.

These results confirm that EC can affect business performance, also when they are expressed in terms of return on investments. The impact of RC on business profitability is also confirmed.

In addition, a significant positive relationship can be observed between ROI and TC. This means that TC, embedded in internal and external rela-

tionships, can act as a key factor for business success in a context where firms are involved in wide networks with a variety of stakeholders. When a business is considered reliable by their customers, its reputation and reliability grow, customers are more prone to buy its products or services and to suggest them to other people, access to financing is simpler, relationships with private and public institutions are easier, and business face less difficulties in dealing with downturn and recession.

### **Discussion**

This analysis confirms the hypothesis that EC, RC and, to a minor extent, TC can affect the performance of a firm and its value creation.

The significant positive relationship between EC and ROI and EBITDA stresses the importance of EC, which constitutes a key intangible resource to enhance corporate value (Inkinen et al., 2014).

In a changing environment it is crucial to develop EC, both at the structural level (corporate culture) and in terms of skills and entrepreneurial behaviour. Risk appetite and speed in strategic choices affect profitability because they encourage companies to embrace uncertainty and seize new business opportunities. Aggressiveness in decision-making, considered in terms of aggressive price competition, entry into new markets and run-of rivals, improves business performance, as it helps undermine competitors' ability to anticipate or react to the company's strategies (Lumpkin & Dess, 1996). Moreover, business performance is affected by independence and autonomy, understood as the employees' ability and willingness to support the company in responding quickly to market changes and in perceiving new market needs (Hughes & Morgan, 2007).

The analysis also shows the existence of a statistically significant positive relationship between RC and firm performance in terms of ROA and ROI. These results confirm the hypothesis that RC is 'the new bottom line' of IC (Edvinsson, 2002; Andreeva & Kianto, 2011, 2012). In fact, increasing competition requires companies to continuously develop and renew their knowledge and capability for sustaining competitiveness, especially in conditions of turbulent market environment (Teece et al., 1997; Eisenhardt & Martin, 2000; Inkinen et al., 2014). Innovativeness is positively related to performance and value creation, and positively impacts on companies' profitability, as it allows companies to quickly and effectively respond to new customer needs and, therefore, increase their competitive advantages (Calantone et al., 2002; Rauch et al., 2009).

Finally, data from our analysis confirm that TC is a business' important asset, which is rare and not easily imitable by its competitors. TC is important as it helps business in establishing strong and lasting cooperative relationships with stakeholders, it increases customers' loyalty and, as a

result, it is a relevant source of competitive advantage that enhances business profitability. Moreover, firms encouraging the creation of a trust climate inside their organisations obtain greater involvement and commitment from their employees, and this helps in creating a better relationship with business' customers and in offering better products/services at higher prices, resulting in a higher profitability.

## Conclusion

This paper addressed an important issue, which has been relatively overlooked in the literature on IC so far. It focuses on intangible assets and confirms their ability to contribute in creating value and increasing performance. Findings show that in the era of knowledge economy EC, RC and TC represent key resources for an organisations, enabling high innovation performance and organisational growth, and increasing their effectiveness in responding to future challenges and radical market changes.

This study contributes to the theoretical discussion in this field by demonstrating that IC stocks, and especially EC, RC and TC, can contribute to enhance firm performance. So it shows new possibilities for gaining a better overall perspective on the intangible aspects of organisations. Furthermore, by adding three additional intellectual capital stocks – EC, RC and TC – to the 'traditional' IC composition – human, structural and relational capital – it proposes a much more fine-grained perspective of IC.

We are not aware of any previous studies explicitly referring neither to these 'new' IC components nor to their influence on firm performance. This paper therefore contributes to the literature on knowledge-based issues in organisations at large, and potentially offers a theoretical grounding for many empirical and theoretical future studies.

From a practical perspective, the paper underlined that, in order to improve their overall performance, firms should invest in intangible resources, and in particular EC, RC and TC.

The key limitation of the paper is its focus on Italian firms. Results from this study in fact represent a first research step. The key future research path arising from these findings is the need to involve a larger number of companies located in other countries. Moreover, an international comparative analysis will be carried out, in order to understand if environmental variables affect the relationship between IC and corporate performance.

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# The Impact of the Relationships between Buyers and Suppliers Based on Their Financial, Social and Structural Bonds

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This study examined a sample of Taiwanese companies and investigated the impacts of the relationships between buyers and suppliers with regard to financial, social, and structural bonds. The results show that firms share the knowledge with regard to supplier selection and supplier management based on *guanxi* (relationships), and that this can reduce transaction costs and increase investment, trust, and performance. Firms carry out the supplier selection and management based on *guanxi*, which can reduce transaction costs, while increasing investment, trust, and performance. Taiwanese firms use *guanxi* from their relatives, friends, and neighbors to their business. The key point is that buyer's and supplier's *guanxi* comes from both sides and is very important for Taiwanese firms, especially in their buyer and supplier collaboration.

**Keywords:** *guanxi*, supplier relationships, supplier management, knowledge sharing

## Introduction

Chinese business culture emphasizes the concept of '*guanxi*,' which can be loosely translated as relationships or connections (Leung, Chang, Lai, & Ngai, 2011). Such relationships can be seen as a kind of knowledge transfer within Chinese communities; as noted by Lohikoski and Haapasalo (2013): 'Communication and knowledge transfer are closely linked; effective communication enhances knowledge transfer and vice versa.' In its research, this study uses a sample of Taiwanese companies as case studies. This sample is chosen based on the following reasoning from Barnes, Yen, and Zhou (2011): 'Taiwan is chosen as the research context namely because of its economic strength, Chinese cultural background, and its strategic position for western firms, as a significant market in its own right

and as springboard for China.’ However, while many academics and practitioners consider the economic situation in China, much less attention is paid to Taiwan. Moreover, as stated by Barnes et al. (2011): ‘In particular, when resources are limited, guanxi can become a rescue strategy and a survival practice that offers firms an extra protective mechanism.’

Chiu, Hsieh, Li, & Lee (2005) noted that ‘As existing literature suggests, business can build customer relationships by initiating one or several types of bonds, including financial, social and structural bonds.’ With regard to the relationships with suppliers, this study will discuss the following three types of bonds: financial, social, and structural. Barnes et al. (2011) pointed out that structural and social bonds are divided in western contexts. They stated that structural bonds are based on contracts related to investments in products, property, and technology. In contrast, the social bonds between buyers and suppliers are similar to those seen in a friendship, and thus to those associated with guanxi. Yang and Wang (2011) thus stated that: ‘First, social networking theory can be employed to illustrate the development and the key functions of a Guanxi network.’ For example, firms can share knowledge with regard to supplier selection and supplier management based on guanxi and this can then reduce transaction costs while increasing investment, trust, and performance. Chinese firms use guanxi from their employees’ relatives, friends and neighbors when doing business, such as negotiating, outsourcing and selecting suppliers.

## **Literature Review**

### **Social Bonds**

Taiwanese firms use guanxi in order to build relationships with suppliers and customers (Chiu et al., 2005). Wang (2007) pointed out that such relationships can serve to increase trust and commitment between firms and other players, as well as enable companies to better realize their customers’ wants and needs. In the wider Chinese culture, people like to give gifts to family and friends on special days, such as Chinese New Year. Such social exchanges help to build guanxi, the strength of which can sometimes determine the value of the gifts given.

Guanxi is related to the following concepts: renqing (favor) and mianzi (honor). In this case, renqing refers to the favors one receives from others, and vice versa. The concept of mianzi (honor) is related to the idea of giving ‘face’ to the other party in a guanxi relationship (Zhuang, Xi, & Tsang, 2010). The use of renqing, mianzi, and guanxi allows firms to focus on the cooperation with their customers or suppliers, and can help them in their negotiation in case of a disagreement (Cai, Jun, & Yang, 2010).

Gao (2010) stated that guanxi, which exists within a business network, enables firms to share their resources, such as technology and informa-

tion. Chinese managers trust the information that comes from their guanxi networks, because they know who they are dealing with. Consequently, the guanxi networks can work to finance and develop markets together.

Chinese firms usually give gifts on special days, such as Chinese New Year, to their important customers, suppliers, and others, as these can help to develop guanxi, honor, and respect (Leung et al., 2011).

### **Financial Bonds**

Guanxi means that transaction costs can be more flexible in a Chinese business context. When firms face problems, they may be helped by their business partners, due to having good guanxi (Parnell, 2005). As noted above, guanxi enables the business partners, such as suppliers and their buyers, to trust each other.

Walter et al. (2001) pointed out that the collaboration, which exists within guanxi networks, requires all the partners, from suppliers to customers, to recognize the value that is created from these relationships. For example, customers can obtain profits from their suppliers, while suppliers gain opportunities for long-term collaboration, thus creating a win-win situation.

When a buyer and a supplier have good guanxi, this can consequently reduce their transaction costs (Dyer, 2000), which includes the costs related to searching for information, sales phone calls, transportation, and anything else involving communication fees. Yang and Wang (2011) stated that 'In contrast to Guanxi-based governance, market-based governance is another feasible option according to transaction cost economics.' They pointed out three main points of transaction cost economics (TCE), namely market uncertainty, transaction frequency, and investments. Furthermore, firms tend to make investments based on guanxi, with businessmen and women working more often with people they know, such as friends, relatives, classmates, and colleagues. Since they know each other well, this can lead to better collaboration (Parnell, 2005).

All in all, in addition to the exchange of the benefits and reduction of the transaction costs, the guanxi is important in the negotiation, namely with the business firms who have guanxi. Nevertheless, the guanxi partners work to create new products and markets together.

### **Structural Bonds**

Chinese firms pay considerable attention to building and maintaining guanxi with their partners (Qiu, 2007; Pressey and Qiu, 2007). They also like to share information within their guanxi networks using various technologies, such as electronic data interchange (EDI), database information exchange (data warehouse and data mining), and websites (Min et al., 2005).

Firms in which the buyers and suppliers collaborate, need to be able to predict future demands in order to satisfy them (Sahay, 2003). In addition, collaborative partners need to solve any supply chain problems that arise together (Min, 2005). Kaewchur, Anussornnitisarn, and Pastuszak (2013) also noted: 'Moreover, to improve products, services, or organizational performance, multiple knowledge sources are required. The integration of knowledge can be accrued based on the sharing of individual knowledge.' Knowledge sharing is a process that can enable greater innovation and can have significant effects on the supply chain collaboration. The value of any collaboration is based on trust, commitment, the achievement of goals and satisfaction (Jonsson and Zineldin 2003).

The key point here is that co-ordination is needed within the supply chains in order to create value (Chandra and Kumar, 2000). Additionally, the relationships that exist among the suppliers are very important within the supply chain channels (Choi, Wu, Ellram, & Koka 2002), as relationships between the suppliers can help in the development of new materials and products. This is a win-win situation that can create more value from the supply chain collaboration (Bititci, Martinex, Albores, & Parung, 2004).

### **Methodology**

Taiwanese companies are known for their good technological skills, high level of innovation, and high added value. Many Taiwanese firms are global enterprises and more of their revenue comes from overseas than local business, thus enabling them to share the risk coming from economic fluctuations in one part of the world.

How can businesses be first-class suppliers all over the world? What kind of second-class suppliers do they work for? How can their collaborative relationships be sustained? These issues are related to *guanxi* within Chinese firms. Based on a literature review, this study examines the social, financial, and structural bonds, as displayed in Table 1. The *guanxi* that exists with suppliers is based on activities, such as giving favors or gifts, taking people out to dinner or other entertainment. In addition to this, the partnerships between buyers and suppliers can build up trust and commitment, thus increasing social density. Financial bonds refer to the suppliers' financial links with their partners based on *guanxi*; consequently, these can make transactions more convenient and valuable. Business transactions are actions such as negotiating good prices, flexible delivery and payment dates or methods, as well as firms making investments in their suppliers. Information systems can reduce the transaction costs in order to maintain *guanxi*, while supply chain collaboration can integrate firms with their powerful suppliers. The value of financial bonds arises from the coordination with suppliers, which can lead to promotional offers for customers or creating



**Table 1** Suppliers' Connections Based on Guanxi

| Suppliers' connections based on guanxi |                                      | The elements related to guanxi   |
|--|--------------------------------------|--|
| Social bonds                           | Activities                           | Chinese business model, 'mianxi' (favor)   |
|  | Social density                       | Trust and commitment   |
| Financial bonds                        | Business transactions are convenient | Negotiating a good price, flexible delivery and payment dates or methods, and making investments |
|  | Making things more convenient        | Reduce the transaction costs   |
|  | Values                               | Coordination to build and maintain guanxi  |
| Structural bonds                       | Supplier support structure           | Suppliers' satisfaction, technological support, and information sharing.                         |

new markets. This helps suppliers' to build and maintain guanxi with their partners within the supply chain. The third bond are the suppliers' structural links, and in this case guanxi focuses on the support structure that exists among the suppliers. Structural bounds are related to supplier satisfaction, technological support, and information sharing.

This study developed a questionnaire to examine whether Taiwanese companies are satisfied with their suppliers. The fieldwork was completed in the middle and south of Taiwan with the students of the National Chung Hsing University and the Southern Taiwan University of Science and Technology's EMBA (Executive Master of Business Administration). These students are all working and have many years of professional experience in their firms. They answered the questionnaire and also sent it to their suppliers in 2012. Over a period of six months, 192 samples were collected.

## Findings

The questionnaires were completed by the EMBA students with many years of work experience in Taiwan. The EMBA students must have more than five years of work experience and must be at least executive managers, and thus they were good respondents for the current study.

The questionnaire asked the respondents about the foreign and local suppliers who collaborate with them. The results show that the respondents were more satisfied with their Taiwanese suppliers than their foreign ones. Of the 192 responses that were received, only four were not usable or 2.1 percent, leaving 188 effective questionnaires. Most of the respondents came from the purchasing and marketing departments of their firms (Table 2).

The reason for the high response rate from the purchasing and marketing department managers is that they frequently contact their suppliers and

**Table 2** The Respondents' Departments

| Department                      | (1) | (2)   | (3)   | (4)   |
|---------------------------------|-----|-------|-------|-------|
| Purchasing department           | 49  | 25.5  | 27.8  | 27.8  |
| Sales and marketing department  | 45  | 23.4  | 25.6  | 53.4  |
| Manufacturing department        | 9   | 4.7   | 5.1   | 58.5  |
| Quality control department      | 4   | 2.1   | 2.3   | 60.8  |
| Accounting department           | 17  | 8.9   | 9.7   | 70.5  |
| Management department           | 26  | 13.5  | 14.8  | 85.2  |
| Research development department | 10  | 5.2   | 5.7   | 90.9  |
| Others                          | 16  | 8.3   | 9.1   | 100.0 |
| Total                           | 176 | 91.7  | 100.0 |       |
| Missing data                    | 16  | 8.3   |       |       |
| Total                           | 192 | 100.0 |       |       |

**Notes** Column headings are as follows: (1) the number of respondents, (2) percentage, (3) effective percentage, (4) accumulated percentage.

thus collaborate with their suppliers more than the respondents from other departments. A total of 83.6 percent of the respondents were basic and middle level employees who work with their suppliers.

In the case of a total of 24.5 percent of the respondents, their companies are more than 25 years old, while 17.7 percent of the companies are between 5–10 years old, and 17.6 percent are 15–20 years old. In addition, more than 50 percent of the respondents stated that their firms had been in buyer and supplier relationships that had lasted for more than 15 years. A total of 35.9 percent of the respondents' companies have more than 150 employees; therefore, most of them are small and medium-sized enterprises. Around 39.6 percent of the companies have more than NT\$60,000,000 in capital, with 25.5 percent having between NT\$1,000,000 and NT\$10,000,000. One can see that most of the respondent companies have steady financial attributes and have been in business for around 15 years. In other words, one can say most of the respondent companies have good relationships with their suppliers, because they have worked with them for a long time.

Around 58.9 percent of the respondent companies are business-to-business (B2B) firms, with most being wholesale and retailers. The majority of respondent companies focus on Original Brand Manufacturing (OBM) and exports. We can thus conclude that Taiwanese businesses do global marketing and know how to raise their benchmarks to compete internationally, consequently, this has helped them to grow their markets all over the world.

### Social Bonds

Social bonds can enable companies to have a very high degree of trust in their suppliers, making it easier to commit to collaborative relationships

based on renqing (favor). The results of the standard deviation analysis show that the item with the highest value is that a company offers preferential treatment to people who are friends or family members. The social activities include suppliers inviting their buyers to dine together, as well as giving gifts. In general, the suppliers engage in recreational activities to help build good social bonds.

Joseph, William, Barry, and Rolph (2010) stated that 'Factor loadings: Correlation between the original variables and the factors, and the key to understanding the nature of a particular factor. Squared factor loadings indicate what percentage of the variance in an original variable is explained by a factor.' Kaiser (1958) noted that the criteria for factor analysis are as follows: the factor loadings should be over 0.5 and the eigenvalues above 1. Furthermore, the social bond link guanxi's (relationship) factor analysis divided as follows: build up and maintaining of the Chinese business model, partnerships, trust, and mianzi (honor). This result can be seen from the Chinese business model where approximately 0.875 of the suppliers engage in recreational activities to build guanxi. The second and third scores are just below this, at 0.766 and 0.761. The suppliers invite the buyers to dinner, and also give gifts. On the other hand, the buyer offers preferential treatment to suppliers who are relatives and friends.

Joseph et al. (2010) stated that eigenvalues are the 'column sum of squared loadings for a factor; also referred to as the latent root. It represents the amount of variance accounted for by a factor.' The Chinese business model's highest eigenvalue is 3.942, and the key factors are normal Chinese social activities, such as dining and enjoying recreational activities. This is seen in the way that staff at Chinese companies often provides special treatment to suppliers, who are relatives and friends, thus developing guanxi. However, the cumulative explained variance of these factors is the lowest; therefore, they are stable. This is because the traditional Chinese business model has a long-term orientation due to the effects of the Chinese culture.

### *Reliability Analysis*

Nunnally (1978) states that a reliability value of above 0.7 means the data are dependable. The suppliers' social links guanxi has two elements, which aim to build up and maintain the Chinese business model and partnerships, and the Cronbach's  $\alpha$  of these are 0.827 and 0.761, both above 0.7, which means they have high dependability. The other two elements are trust and mianzi, which have Cronbach's  $\alpha$  of 0.666 and 0.599, respectively.

In addition, the service strategy of customisation is an important method of enterprise management. The two factors of trust and mianzi are used by firms to assess their suppliers' strategic collaboration. Based on the results, companies have different strategies from their suppliers, and their

suppliers have different ways of strategic collaboration. This is the reason why the two factors of trust and mianzi have such low Cronbach's  $\alpha$  values. However, these two factors are very important for the Chinese businesses.

According to Cuieford (1965), a Cronbach's  $\alpha$  over 0.7 indicates high reliability, a score between 0.7 and 0.35 is acceptable, and items with scores of less than 0.35 should be rejected. The item-to-total correlations show that the suppliers engaging in recreational activities have the highest score. This means the buyer company would like their suppliers to do activities with them in order to establish and maintain the Chinese business model. The second most important item is that their supplier companies solve customer problems in a spirit of friendship, which has an item-to-total correlation of around 0.665. This means the buyer companies would like their suppliers to work to solve their problem together and then to have a better partnership. On the other hand, the buyer companies performing renqing (favor) for the supplier has an item-to-total correlation of around 0.49. Furthermore, the same scores were reached for the company that gives mianzi to the supplier in order to maintain cooperation and the company that gives mianzi to the supplier in order to provide extra value, with both having item-to-total correlations of 0.427. This shows that mianzi is a kind of guanxi that helps the suppliers' social relationships.

### **Financial Bonds**

The respondent companies hope to maintain smooth business transactions over the long term, while they would also like their suppliers to provide preferential pricing and flexible delivery dates. The financial bonds focus on getting a good price and negotiating delivery times in a simple manner. Furthermore, the firms examined in this work hope their suppliers can operate in coordination with new promotional projects based on the customer requirements. The companies also want their suppliers to work on new products based on customer wants. For example, suppliers can provide ideas or new materials for their buyers in order to manufacture new products for their customers. For this reason, the companies would like to integrate collaboration with suppliers into their normal processes. However, a collaborative supply chain be established with suppliers of many dissimilar materials. This can lead to collaboration based on friendship links between buyers and suppliers. In addition, the companies stated that their suppliers provide flexible payment methods and that a powerful supplier affects supply chain collaboration. This shows that the stronger and more renowned suppliers can handle the entire supply chain collaboration process.

The results of the standard deviation analysis show that the companies invest in their suppliers, and also that suppliers provide price discounts.

**Table 3** Factor Analysis (Aspect: Social Bonds)

| Factor   | Item   | (1)   | (2)   | (3)    |
|--|--|-------|-------|--------|
| Build up and maintain the Chinese business model | Our suppliers engage in recreational activities.   | 0.875 | 3.942 | 30.326 |
|  | Our suppliers invite us to dine together.  | 0.766 |       |        |
|  | Our suppliers give us gifts.   | 0.761 |       |        |
|  | Our company offers preferential treatment to suppliers who are relatives.                    | 0.597 |       |        |
|  | Our company offers preferential treatment to suppliers who are friends.                      | 0.573 |       |        |
| Partnership                                      | Our suppliers solve customer problems in a spirit of friendship.                             | 0.821 | 2.442 | 49.109 |
|  | Our suppliers solve customer problems in a business-like manner, rather than a friendly one. | 0.782 |       |        |
|  | Our suppliers wish to build friendships with us.   | 0.745 |       |        |
| Trust  | Our company trusts this supplier.  | 0.732 | 1.241 | 58.659 |
|  | Our company is committed to this supplier.   | 0.720 |       |        |
|  | Our company performs renqing for the supplier.   | 0.705 |       |        |
| Mianzi (honor)                                   | Our company gives mianzi to the supplier to provide extra value.                             | 0.681 | 1.003 | 66.373 |
|  | Our company gives mianzi to the supplier to maintain the cooperation.                        | 0.659 |       |        |

**Notes** Column headings are as follows: (1) factor loading, (2) eigenvalue, (3) cumulative explained variance.

The findings also show that the suppliers can operate in the coordination of new promotional projects based on the market.

The highest factor loading is for ‘the suppliers provide preferential pricing’ option, which reached a score of 0.891. The price is the key point in the buyer and suppliers’ guanxi. A second finding is that the suppliers can operate in coordination with new promotional projects based on the requirements of their customers. This is due to the buyer and supplier’s guanxi, which develops from their collaboration. The third highest score is related to the expectation of the buyer companies that their suppliers can operate in coordination with new promotional projects based on the market.

The suppliers’ financial bonds include negotiation and compromises, transaction costs, exchange of power, maintaining and building up guanxi. The highest eigenvalue is for negotiation and compromises, with a score of 4.87. This shows that the buyer and supplier’s collaboration focuses on negotiation and compromises. The second highest eigenvalue of 1.586 reached the item ‘buyer companies collaborate with suppliers, which can reduce transaction costs.’ This shows that the buyer companies expect such collaborations can reduce transaction costs.

The maximum value for the cumulative explained variance reached the

**Table 4** Reliability Analysis (Aspect: Social Bonds)

| Factor   | Item   | (1)   | (2)   |
|--|--|-------|-------|
| Build up and maintain the Chinese business model | Our suppliers engage in recreational activities.   | 0.652 | 0.827 |
|  | Our suppliers invite us to dine together.  | 0.595 |       |
|  | Our suppliers give us gifts.   | 0.590 |       |
|  | Our company offers preferential treatment to suppliers who are relatives.                    | 0.644 |       |
|  | Our company offers preferential treatment to suppliers who are friends.                      | 0.629 |       |
| Partnership                                      | Our suppliers solve customer problems in a spirit of friendship.                             | 0.665 | 0.761 |
|  | Our suppliers solve customer problems in a business-like manner, rather than a friendly one. | 0.568 |       |
|  | Our suppliers wish to build friendships with us.   | 0.549 |       |
| Trust  | Our company trusts this supplier.  | 0.482 | 0.666 |
|  | Our company is committed to this supplier.   | 0.463 |       |
|  | Our company performs renqing for the supplier.   | 0.490 |       |
| Mianzi (honor)                                   | Our company gives mianzi to the supplier to provide extra value.                             | 0.427 | 0.599 |
|  | Our company gives mianzi to the supplier to maintain the cooperation.                        | 0.427 |       |

**Notes** Column headings are as follows: (1) item-to-total correlations, (2) Cronbach's  $\alpha$ .

item related to the supplier providing price discounts and the buyer company investing in the supplier to build up their guanxi. The second highest score reached the item related to the suppliers providing preferential prices and flexible delivery dates in order to maintain guanxi. That links the guanxi from the suppliers' financial bonds to the development of guanxi.

### Reliability Analysis

The Cronbach's  $\alpha$  is 0.84 for negotiation and compromises, and 0.814 for the transaction costs. According to Cuieford (1965), only the Cronbach's  $\alpha$  of build up guanxi, at 0.354, is close to the standard for rejection. The highest score for the item-to-total correlation is when the suppliers can operate in coordination with new promotional projects based on the market. The second highest reached is related to the suppliers that can operate in coordination with new promotional projects based on the requirements of the customers. This shows that the buyer companies would like their suppliers to work with them based on the requirements of their customers in order to develop new products or markets. On the other hand, the lowest item-to-total correlation of 0.215 is for building up the guanxi from financial bonds, which can probably be removed from the analysis, as this factor does not affect the whole financial bond measure. The reason for this result is that

**Table 5** Factor Analysis (Aspect: Financial Bonds)

| Factor                      | Item  | (1)   | (2)   | (3)    |
|-----------------------------|---|-------|-------|--------|
| Negotiation and compromises | The supplier provides convenient delivery dates.  | 0.854 | 4.870 | 34.786 |
|                             | The supplier provides flexible payment methods.   | 0.839 |       |        |
|                             | The supplier provides convenient payment methods.   | 0.778 |       |        |
| Transaction costs           | Our suppliers can operate in coordination with new promotional projects based on the requirements of the customers. | 0.875 |       |        |
|                             | Our supplier can operate in coordination with new promotional projects based on the market                          | 0.857 |       |        |
|                             | Collaboration between suppliers can reduce the transaction costs.   | 0.630 | 1.586 | 46.118 |
| Exchange of power           | Our company thinks that a powerful supplier affects the supply chain collaboration.                                 | 0.781 | 1.198 | 54.675 |
|                             | Our company uses information systems to reduce the transaction costs with the supplier.                             | 0.695 |       |        |
|                             | Our company integrates collaboration among suppliers.   | 0.666 |       |        |
| Maintain guanxi             | The supplier provides preferential pricing.   | 0.891 | 1.048 | 62.160 |
|                             | The supplier provides flexible delivery dates.  | 0.760 |       |        |
| Building up the guanxi      | Our company invests in the supplier.  | 0.734 | 1.004 | 69.329 |
|                             | The supplier provides price discounts.  | 0.641 |       |        |

**Notes** Column headings are as follows: (1) factor loading, (2) eigenvalue, (3) cumulative explained variance.

'our company invests in suppliers' determines the companies' behaviour,' and 'the supplier provides prices discounts' explains the suppliers' way of doing things. Besides, 'our company invests in the suppliers' explains how the company invests in its suppliers, with a deep collaborative relationship that may be considered as part of a structural bond in future research. Additionally, 'the supplier provides price discounts' is about the discounts from the suppliers, and it is the result of maintaining guanxi.

### Structural Bonds

From the suppliers' structural bond links, the highest scores are for the items 'the suppliers deal with the company's questions immediately' and 'they deal with complaints immediately.' That means that the suppliers respect their buyer companies very much and would like to solve their problems directly. The third highest score is for 'the company communicates with the suppliers based on the customer comments.' Consequently, the buyer company and their suppliers thus obtain more knowledge about their customers in order to create new products or markets together. In addition, the buyer company also wants their suppliers to carry out good pre-sales

**Table 6** Reliability Analysis (Aspect: Financial Bonds)

| Factor                      | Item  | (1)   | (2)   |
|-----------------------------|---|-------|-------|
| Negotiation and compromises | The supplier provides convenient delivery dates.  | 0.683 | 0.840 |
|                             | The supplier provides flexible payment methods.   | 0.739 |       |
|                             | The supplier provides convenient payment methods.   | 0.686 |       |
| Transaction costs           | Our suppliers can operate in coordination with new promotional projects based on the requirements of the customers. | 0.721 | 0.814 |
|                             | Our supplier can operate in coordination with new promotional projects based on the market                          | 0.781 |       |
|                             | Collaboration between suppliers can reduce the transaction costs.   | 0.523 |       |
| Exchange of power           | Our company thinks that a powerful supplier affects the supply chain collaboration.                                 | 0.510 | 0.643 |
|                             | Our company uses information systems to reduce the transaction costs with the supplier.                             | 0.401 |       |
|                             | Our company integrates collaboration among the suppliers.   | 0.445 |       |
| Maintain guanxi             | The supplier provides preferential pricing.   | 0.629 | 0.772 |
|                             | The supplier provides flexible delivery dates.  | 0.629 |       |
| Building up the guanxi      | Our company invests in the supplier.  | 0.215 | 0.354 |
|                             | The supplier provides price discounts.  | 0.215 |       |

**Notes** Column headings are as follows: (1) item-to-total correlations, (2) Cronbach's  $\alpha$ .

services for them. The buyer companies think their suppliers should collaborate in order to obtain more benefits and thus increase competitiveness. One can say that the suppliers' collaboration can be an advantage for their buyer companies.

The highest standard deviation for the suppliers' structural bond link item 'the company uses an ERP (Enterprise Resource Planning) system to contact suppliers' is 1.029. The second highest is 1.004, for 'the company provides customer information to the supplier.' One can see that information sharing is very important in the relationship between buyers and suppliers; therefore, the companies depend on the technology of the supplier. This is because the companies expect their suppliers to provide more information, so that they can generate more ideas and this can increase their guanxi due to the sharing of information and staying in close contact with each other.

The suppliers' structural bond link of guanxi's factor loading for 'the company depends on the skills of the supplier' has the highest score of 0.87. The second highest score, at 0.865, is for 'the company depends on the technology of the supplier.' The next two items have the same score of 0.823, namely 'the supplier deals with their buyers' questions immediately'



and ‘the company can collaborate with suppliers to obtain more benefits, and thus increase competitiveness.’

The suppliers’ structural bonds have three crucial parts, which are: supplier satisfaction, technology, and information sharing. Customer satisfaction has the top eigenvalue, technology the second, and information sharing has the lowest eigenvalue. However, the maximum cumulative explained variance is for information sharing, followed by technology and then customer satisfaction with the lowest cumulative explained variance. One can thus see that supplier satisfaction is the key factor in the suppliers’ structural bond links.

### *Reliability Analysis*

The highest Cronbach’s  $\alpha$  of 0.905 is for customer satisfaction; consequently, it is very important. Furthermore, since this result is over 0.7, it has high reliability. In addition, technology’s Cronbach’s  $\alpha$  is 0.773 and information sharing’s 0.512, which is below the threshold, but still acceptable.

The highest item-to-total correlation is for ‘the suppliers deal with their buyer companies’ questions immediately,’ with a score of 0.811. The second is for ‘the suppliers deal with their buyer companies’ complaints immediately.’ The third is for ‘the company can collaborate with suppliers to obtain more benefits, thus increasing competitiveness.’ These items all relate to customer satisfaction. Supplier satisfaction is thus very important if there is to be good guanxi between buyers and suppliers.

### **Conclusions**

Many previous studies examine social, financial, and structural bonds and their effects on the customer relationships, while this work employs them to discuss the guanxi between the buyers and suppliers. The main finding is that the buyer and supplier’s guanxi comes from both sides, and this allows the suppliers to become acquainted with their buyers.

The social bond links focus on how the buyers and suppliers participate in mutual activities, such as dining and exchanging gifts. In addition, buyer companies usually offer preferential treatment to suppliers who are relatives and friends. This means the buyer company would like their suppliers to do activities with them in order to establish and maintain the Chinese business model, which is based on guanxi.

The results of this study show that the transaction costs are the key point in financial bonds, and this is because companies on average hope to maintain stable business transactions. The financial bonds focus on good prices and negotiations about delivery times. Finally, the ability to deal with complaints immediately is important with regard to the structural bonds, as

**Table 7** Factor Analysis (Aspect: Structural Bonds)

| Factor                | Item   | (1)   | (2)   | (3)    |
|-----------------------|--|-------|-------|--------|
| Supplier satisfaction | Our company can collaborate with suppliers to obtain more benefits, thus increasing competitiveness. | 0.823 | 5.505 | 42.349 |
|                       | Our suppliers deal with our questions immediately.   | 0.823 |       |        |
|                       | Our suppliers deal with our complaints immediately.  | 0.795 |       |        |
|                       | Our supplier provides good pre-sales service.  | 0.778 |       |        |
|                       | Our supplier helps coordinate smooth supply chain operations.  | 0.741 |       |        |
|                       | Our company can increase its business relationships following collaboration with suppliers.          | 0.736 |       |        |
|                       | Our company communicates with suppliers based on customer comments.                                  | 0.696 |       |        |
|                       | Suppliers need to collaborate.   | 0.695 |       |        |
| Technology            | Our company depends on the skills of its suppliers.  | 0.870 | 1.837 | 56.480 |
|                       | Our company depends on the technology of its suppliers.  | 0.865 |       |        |
| Information sharing   | Our company can easily obtain customer information.  | 0.703 | 1.060 | 64.635 |
|                       | Our company provides customer information to its suppliers.  | 0.680 |       |        |
|                       | Our suppliers stay in touch.   | 0.537 |       |        |

**Notes** Column headings are as follows: (1) factor loading, (2) eigenvalue, (3) cumulative explained variance.

this means that suppliers respect their buyers, and would like to solve their problems directly.

Guanxi is very important for Chinese firms, and especially for the buyer and supplier collaboration. Guanxi is a factor in social bonds in this research, and is used to give mianzi (honour) to each party in a relationship, making it easier to negotiate prices, date of delivery, and payment methods. Guanxi relates to the financial and structural bonds and can be used to perform good relationship marketing and enable firms and their suppliers to collaborate, as well as add to their competitive abilities. Chinese businesses thus make use of guanxi to carry out global marketing in order to increase sales, reputation, competitive advantage, and profits.

The research focuses on the Chinese business firms that operate in Taiwan and China. We suggest future research to use financial, social, and structural bonds to examine the buyer and supplier relationships in other

**Table 8** Reliability Analysis (Aspect: Structural Bonds)

| Factor                | Item   | (1)   | (2)   |
|-----------------------|--|-------|-------|
| Supplier satisfaction | Our company can collaborate with suppliers to obtain more benefits, thus increasing competitiveness. | 0.727 | 0.905 |
|                       | Our suppliers deal with our questions immediately.   | 0.811 |       |
|                       | Our suppliers deal with our complaints immediately.  | 0.782 |       |
|                       | Our supplier provides good pre-sales service.  | 0.586 |       |
|                       | Our supplier helps coordinate smooth supply chain operations.  | 0.568 |       |
|                       | Our company can increase its business relationships following collaboration with suppliers.          | 0.615 |       |
|                       | Our company communicates with suppliers based on customer comments.                                  | 0.529 |       |
|                       | Suppliers need to collaborate.   | 0.578 |       |
| Technology            | Our company depends on the skills of its suppliers.  | 0.630 | 0.773 |
|                       | Our company depends on the technology of its suppliers.  | 0.630 |       |
| Information sharing   | Our company can easily obtain customer information.  | 0.392 | 0.512 |
|                       | Our company provides customer information to its suppliers.  | 0.277 |       |
|                       | Our suppliers stay in touch.   | 0.303 |       |

**Notes** Column headings are as follows: (1) item-to-total correlations, (2) Cronbach's  $\alpha$ .

countries. In addition, the business model is different in Western and Asian firms. For example, Western firms establish relationships following the performance of some transactions, while Asian firms seek guanxi before they do business, namely they can always can collaborate with each other after they have guanxi. We hope that future research will examine these issues in other countries, so that more is learned about the development of the buyer and supplier relationships.

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# Knowledge Management for Knowledge Society and Intergenerational Education

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The impact of globalization on contemporary post-modern society in the light of an aging population requires methods and techniques of education that are appropriate for young people and reflect (or accommodate) intergenerational learning. The purpose of this paper is to analyse, through empirical research and study of literature, the context of the elderly who are too often marginalized and to show the impact of the knowledge of society based on the use of modern information and communication technologies, on intergenerational learning. The authors analyse some of the consequences of the demographic changes and highlight the role and importance of intergenerational learning and collaboration for sustainability, especially in the Slovenian ageing society. We identify the role and importance of intergenerational learning for coexistence of generations. In the analysis of the empirical data of the conducted research, we conclude that the effectiveness of the knowledge society is influenced by both: the globalization processes and the intergenerational integration, as well as (and in particular) the cultural capital of younger generations and, last, but not least, the willingness of all generations to participate in the transmission and acquisition of knowledge.

*Keywords:* elderly, (social) integration, intergenerational learning, education, lifelong learning, knowledge society

## Introduction

At the end of the 20th century and the ageing demographic compounds, together with other economic and political factors, optimal knowledge became only possible through the development of greater integration of all generations and increased solidarity among them. Above all, intergenerational learning strengthens the conditions supporting health, pension, and social security systems. Furthermore, through intergenerational learning, we create conditions to enhance the survival of health, pension, and social systems, while fostering the adoption of national strategies that will allow the survival and development of a society with an increasingly high proportion of old people.

The demographic indicators show how the world population is aging, emphasizing the increased importance of why modern society will be increasingly dependent on higher levels of intergenerational cooperation. Optimal medical care has resulted in longer life, and thereby in the increased share of the third and (already) fourth generation. At the same time, the birth rate has been declining as potential parents opt to delay or make more conscious and planned decisions for having children. This changing demographic is resulting in increased numbers of older people and defining differences between older and younger workforce. Above all, it is necessary to establish an environment in which each generation will overcome their respective intergenerational differences in order to improve their cooperation resulting in mutual benefit. Intergenerational learning is facing a problem due to the disruptive context of an increasing number of families with only (overworked) parents, more and more single-parent families and fewer extended families, which reduce the natural process of knowledge transfer between generations. Also, there is an increasing gap of intolerance between younger and older people, because today's fast pace of life inhibits contacts and interaction between generations.

The 21st century is a period that can be referred to as the rise of the intergenerational gap, which is mainly due to the demographic changes and the authority of knowledge. Hargreaves (2006, in Šverc & Rustja, 2007, p. 50) draws attention to the important dimensions of contemporary post-modern society, which stresses the importance of:

- Width – access to education, inclusive politics, ability to work with others;
- Long-term – learning as a lifelong process;
- Depth – quality learning, conditions for the development of children, pupils' potential;
- Fairness-equality of opportunity, positive discrimination;
- Diversity – respect for and appreciation of diversity, opening up different options;
- Ability to mobilize various resources (human, material), and
- Keeping and upgrading the sound of what has emerged in practice as well.

In such situations, intergenerational learning is even more important as it helps to balance the discrepancies between the generations, because it can overcome social segregation, as well as contribute to a better understanding and respect between generations. Furthermore, this contributes to the competence of an individual and his development opportunities, while enabling a more inclusive society.



## The Characteristics of a Generation

A generation is commonly described as people who were born in a certain time period. In today's society, we commonly talk about three generations: the young, middle-aged, and older. However, a more detailed sociological analysis concludes that within such an important demographic definition of a generation, the time of birth in a given time period is common. Therefore, according to some authors (e.g., Lancaster & Stillman, 2002; Rojc, 2009, p. 1) age groups are divided into:

- Veterans' generation (from 1900 to 1943). In this case, morality, tradition, hard work, order, and rules play an important role.
- Post-war generation (including the generation of child welfare or 'Baby Boomers,' born between 1944 and 1960) – they are the first to take care of education, then a career and a family.
- Generation X (born between 1961 and 1980 in the period of economic uncertainty, economic recession, high unemployment, and inflation). At that time, the country was experiencing social and economic development with almost unwavering opportunities for education, employment, and personal development. High workload dictates their private lives, which contain increasingly less free time and more work in order to build a career. This generation is characterized by some flexibility and willingness to face changes, as the generation grew up in the time of great technological development.
- Generation Y (born between 1981 and 1994, the younger generation in the labor market). Despite the highest level of education and quality of consumer knowledge, they are faced with unemployment. Furthermore, despite higher level of their education and occupational functional competence, they are dealing with acute environmental problems. We have been witnessing the information revolution and the growth of the Internet and other information technology.
- Generation Z (the generation of their children, 1994–2004). Also called the 'e-generation,' 'silent generation,' 'iGeneration,' 'net generation,' etc. It is very active in the educational process and it successfully utilizes all types of information technology. Despite all this, the quality of their verbal communication and direct contact is poor.

Different societies define in different ways which individuals belong to the elderly population. In most cases, the transition is determined on the basis of changes in the status and roles. Hooyman and Asuman (2009, p. 53) emphasize how society in general distinguishes between three types of elderly population, which:

**Table 1** Crude Age Group and Population Aging Index, Slovenia

| Age   | 1948 | 1953 | 1961 | 1971 | 1981 | 1991 | 2002 | 2009 | 2020 | 2040 |
|-------|------|------|------|------|------|------|------|------|------|------|
| 0–14  | 28.4 | 27.6 | 27.3 | 24.1 | 23.0 | 20.8 | 15.3 | 14.0 | 14.2 | 12.1 |
| 15–64 | 64.4 | 64.8 | 64.8 | 65.9 | 65.7 | 68.0 | 70.0 | 69.5 | 65.4 | 58.9 |
| 65+   | 7.3  | 7.6  | 7.8  | 9.8  | 11.1 | 11.2 | 14.7 | 16.5 | 20.4 | 29.1 |

**Notes** Based on data from the Statistical Office of the Republic of Slovenia ([www.stat.si](http://www.stat.si)) and Eurostat ([ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)).

- is no longer economically fully productive, but is physically and mentally capable of performing daily tasks,
- is completely dependent, needs care, is marked as a social burden, and
- actively participates in social and economic system by engaging in farming, caring for grandchildren, doing household chores, while the parents are at work.

During the modernization period, wisdom and experience lost their significance as they became an increasingly irrelevant factor in gaining access to and control over important social resources. Consequently, this led to a reduction in the authority and undermining the importance of the status of the elderly. As Leo Simmons points out, modernization results in the loss of both political and social power and influence, which the older generation once had. A side effect is the generational separation, which is social, moral, and intellectual. Also, it occurs as the glorification of youth, as the embodiment of progress and success (Hooyman & Asuman, 2009, p. 48). The result of these changes was that the elderly were relegated to the ‘status of dependent social category’ as a part of a functionally differentiated system allowing the underestimation of the working abilities of the elderly and their consequent exclusion. The society started to introduce pension insurance schemes, which separated older people from the economically active population (Hojnik-Zupanc, 1999, p. 48).

While we know learning and retention changes with age, we cannot assume a single transition for all people. According to recent studies, healthy people at 90 years of age, when learning a meaningful material, are equivalent to younger people. If they are less successful, this is often because they are not used to teaching styles typical of schooling largely due to a lack of practice. Learning methods must be tailored to a particular age group (Požarnik, 1981, p. 18–37).

### **The Role of Inter-Generational Learning for the Elderly**

The elderly population is increasing, which makes it essential to ensure that the attitudes towards this population are changed on a global level,

a change which can be achieved through education. Kump and Jelenc-Krašovec (2009) indicate that both learning and aging are somewhat socially constructed and that this cultural definition of age can play an important role in promoting or limiting human aspirations.

Inter-generational learning, as a lifelong understanding and as a generic term, means the entire process of human learning cultivation. It encompasses all forms of skills development, as well as the views of all generations to lifelong basis. In short, we might as well mark this as 'Learning for sustainability!' It can be experienced as such by the (otherwise different) generations in institutionalized circumstances or as a natural learning in life. In this way, the older generation does not only experience learning 'from birth to death' ('life-long'), but also as all-encompassing ('life-wide'), since education and learning are not limited to the selection of content, but encompass all desired learning content.

Learning and education are the same across generations through related activities; however, there are differences between them. Learning is a broad term, while education includes activities, which are included in a dedicated, pre-planned, directed, and usually linear educational structure. If learning is mainly organized by an individual himself, it is called (organized) self-directed learning; if it takes place with organized assistance from others, it is referred to as (organized) self-directed learning with the help of others (Jelenc, 2007, p. 6). A contemporary post-modern society requires a recognition that people of all ages should benefit from education, so it is necessary to consider the non-formal and informal forms of education regardless of the age group or generation. For this reason, more attention is paid to *lifelong learning*, even in old age.

In the implementation of many of the programs and researches that embody a stronger structuralization of education and learning of older people, education is increasingly seen as a need of the elderly. The focus is on the opportunities for 'successful' and 'active' aging in formal, non-formal, and informal contexts (English, 2005). The concept of learning is a consistent principle associated with the ad hoc context in which the acquisition of knowledge and skills is derived from everyday life. An individual acquires this kind of knowledge in occasional, independent, and sometimes subconscious learning. Informal inter-generational education provides a framework for the implementation of systematic and organized activities, which take place outside of the formal educational system. In a general sense, formal education represents a very structured, chronologically hierarchical education, and perhaps also an assessment of different levels of knowledge.

The elderly gain the most from the recognition of the non-formal system of knowledge and learning. In many organizations, the recognition of qualifications has been replaced by the recognition of work experience. This has

led to the underestimation of the praxis learning typical of the labor market and consequently to large discrepancies between actual and required formal employee education. There is also evidence of the lack of trust in the recognition of non-formal learning (Ivančič et al., 2007, pp. 15–18). Employees in institutions for the elderly should be incorporated into a wider range of additional qualifications and training to upgrade their current skills. This is the so-called narrow qualification, which defines the content of vocational qualifications. In this way, they would be included in the system of verification and certification of informal skills. Additional training improves their knowledge and develops their skills for life and work, as well as occupational mobility.

### **Inter-Generational Education: Taboos and Stigma**

The control that assigns uniform roles to individuals regardless of their age, fails to recognize the individuality of each person. All individuals who reach a certain age are attributed the same characteristics. In this way, some stereotypes regarding the elderly population are increased among young people.

Role, identity, and self-esteem have a significant impact on the individual. Rosow (in Hazel & Schofield, 1999, p. 39) points out how the irrevocable loss of status upon retirement leads to the erosion of social identity and positive self-image. The elderly population thus faces some of the following problems:

- Loss of deposits excludes older people from significant social participation and devalues their contribution.
- Aging is the first stage of life with a systematic loss of status for the entire group.
- Individuals in our society are socialized to cope with aging.
- No specific roles for older people, consequently their lives become unstructured.

Categorizing and allocating roles contributes to the creation and consolidation of the belief that all members of a particular age group are the same. Uniform understanding of all age groups and representatives contributes to the maintenance and reinforcement of stereotypes and myths. If the society does not provide alternative roles for the lost roles, the situation for the elderly worsens. A lack of understanding of aging and age can be the basis for the creation of negative attitudes towards aging – gerontofobia – because we have a negative/stereotype image of the elderly population (Pečjak, 2007, p. 81). However, Ward (1978, p. 104) highlights the importance of activity in the form of continuing social activities. Some optimally

aging individuals stay active and resist the shrinking of their social world. Since self-esteem is associated with the elderly's multiple roles, dealing with the loss is also important. Further deposits are less traumatic as to prevent complete degradation of applications and replacing them with similar roles. In this way individuals retain their positive self-image, which was under threat due to the loss of roles, and because they are the centre of inter-generational education.

The collectivization of the age taboo has made it difficult for the older generation to recognize and accept aging as a natural phase of life. They deprive themselves of the special possibilities of life in old age. The younger generation pushes them to the margins of society. It is an anthropological root of marginalization of older people in the industrial-consumer society, where the elderly are more vulnerable to social isolation and marginalization. All three generations contribute to the maintenance of social pathology with fairly rigid patterns of life. By enforcing consumer values, the older generation caused the tabuization of age, while the younger and the middle generation have in this way enforced the tabuization of the old age and, by doing this, made it impossible for people to prepare for their own old age.

Social learning in intergenerational programs for quality aging enables the demolition of taboos through exercise. An experiential learning can be effective in small groups dominated by personal communication. For quality aging and inter-generational relations, it is necessary to establish such an intergenerational transmission of knowledge that covers both intellectual and emotional aspects.

The age taboo also influences communication between generations. Social learning in inter-generational programs for quality ageing enables the de-tabuization through an exercise where individuals reflect on their personal experience with an older person towards whom they have a positive attitude. This is *experiential learning*, which can be effective in small groups where personal communication prevails. To achieve quality aging and inter-generational coexistence (harmony), we must establish such an inter-generational transfer of knowledge that would encompass both intellectual and emotional learning – joined in a holistic experiential learning of all. Interactions between generations in a family are mostly set up spontaneously on the basis of living together. Whereas a new acquaintance helps the personality and attitudes of the individual's 'desire' to get acquainted with new people. Group activities, such as self-help groups, certainly help towards better interaction.

Young principles are grown quite ambivalent as a relationship to inter-generational learning. It critically evaluates the ability of their (elderly) family member in the transfer of knowledge to younger people. It is therefore important that the participants' intergenerational transfer of knowledge and

skills takes place in constant communication and conversation to share their views and also come up with solutions. However, for each generation it can be difficult to establish such relationships to suit everyone. The problem occurs (or is evident) mostly in the middle generation, due to workload demands, which force them to streamline their private life. The distance between generations can also be established due to intergenerational differences. It is more than obvious that such knowledge transfer, without adequate approach, leads to a cold, rational attitude.

In the process of intergenerational education, the elderly are exposed to prejudice and stigma which is, in part, due to the vulnerability of their social position. The age taboo still exists and does not allow for the possibility of exceeding the determination of the social status of the elderly. Therefore, the elderly, as individuals, must take care of their inner balance while helping those young who love and appreciate them and to whom they wish to transfer their knowledge and skills. Their quality of life largely depends on this, since the 'new' emotional support, which they experience in such interactions, has a significant impact on the personal space of elderly people, as well as on their physical condition. Individual diversity increases the breadth and quality of the contacts made in the process of creating intergenerational learning. This effectively reduces the identification of an individual to their environment.

### **The Role of Intergenerational Education**

Through learning, individuals develop their social involvement in the community. Schuller, Preston, Hammond, Brassett-Grundy, and Bynner (2004, pp. 24–26) notes how the impact of learning can be seen at the individual level, as well as collective or community level. Intergenerational learning activities, which are related to the maintenance of social activity, can take place in many areas. They can act as key factory in maintaining clean environment, cultural life, the preservation of the community's mental health, values and understanding of the other, communication between citizens, etc. The autobiographies of people of different generations are formed through their learning experiences. This type of learning has significant importance for humans, as it is directly linked with their life experience. However, intergenerational education must include a dialogic process. All players are equal; it is a sharing experience. Learning in this way represents a dynamic collaborative relationship. It is active, collaborative, and reflective (Jarvis, 1994, pp. 6–20). Jarvis (1994) distinguishes three types of learning of elderly:

- *Wise men*, making the need to learn, they take advantage of any opportunity to engage in education, mostly in the process of transferring their knowledge to the younger.

- *Active men* that focus on developing their skills in various fields (e.g. art creation, gardening, sports, travel, etc.).
- *Men seeking harmony*, seeking to live according to the circumstances in a safe and peaceful environment to achieve inner peace. Therefore, they avoid new opportunities for learning, which is not in accordance with their self-esteem. These are mostly older adults who seek Erikson 'integrity' in their life and harmony with the rest of the world. This integrity includes the integrity 'of settling accounts with others,' the adaptation to victories and disappointments of life (Erikson, 1976, p. 117).

Performance strategies for empowering older people in educational activities are dependent on multiple factors. Still, there is a dominant view of learning as a precondition for acceptance and social inclusion, which includes good material and spiritual background that the elderly do not always have. The findings of numerous studies have confirmed the positive impact of education on health, social activity of the elderly, and their chances of gaining and maintaining power and influence (Cusack & Thompson 1998, pp. 307–317; Cusack, 1999, pp. 21–37).

More educated elderly are more empowered (or have greater self-efficiency) in communicating with health services. They are more emotionally resilient and are therefore more successful in enhancing their mental and physical health. They are also able to reduce their levels of morbidity of depression, have better self-esteem, greater independence, self-confidence as they are less prone to the vicious cycle of helplessness. The elderly have unique needs, which any treatment process needs to hold as a focus. The elderly are a wealth of life experience and acquired knowledge and can have a significant impact on the younger generation, especially as mentors. The importance of the elderly seems obvious in the following context of intergenerational education:

- '*Vertical integration*,' which is to continue learning throughout life and in all stages of development. Learning in this segment is as important for older adults as for other age groups.
- '*Horizontal integration*,' which involves the recognition of equal status, learning, no matter whether from formal, non-formal or informal contexts (life-wide).
- The third component called '*the democratization of the education system*' relates to equal opportunities to engage in education, regardless of gender, age, ethnic or religious affiliation (Kump and Jelenc-Krašovec, 2010, p. 7).

Discriminatory treatment of older people is reflected in the behaviour and

actual practice. According to the findings of psychology, learning ability does not deteriorate even with memory deterioration. The decline of memory functions occurs mainly in individuals with dementia. Crystallized intelligence and wisdom can grow. Wisdom refers to emotional maturity, ability to empathize, relativistic and dialectical thinking. However, these components have not provided any adequate social mechanisms for their realization. Key barriers are often 'age, malaise, forgetfulness.' These barriers are apparently internalized by the elderly and give them a seal of reality. Above all, it should be noted that today, the concept of learning is among the most emphasized intellectual importance factors. In fact, this is a gradual liberation from social learning frameworks and requirements as individuals increase the importance of individualization. It's about learning; the development of individual personality is limited to personal needs and interests (Illeris, 2004, p. 223). For older people, knowledge and skills are the means of taking ownership and control over their lives and of support in their social roles (Walker & Warren, 1996).

To overcome the age taboo, specific actions are required on the level of the individual. Older people must personally and consciously accept their age in an appropriate manner, as a process of personal learning and a natural function of life. The learning process for accepting one's age contains intellectual and emotional components, which together form an integrated experiential learning. Demolishing taboos can also be reached at the societal level with the possibility of people stepping on the path of social learning, thereby improving the quality of the aging process and the coexistence of generations (Ramovš, 2003, pp. 53–60).

Hojnik-Zupanc (1997, p. 49) mentioned a few starting points needed for the transformation from social marginalization of older people to greater social integration. If the educational level of the older population is constantly increasing, then individual responsibility for individual life requires greater familiarity with age-related changes. In particular, changes in the relations between generations influence the different role of kinship and societal engagement.

Many experts note that elderly are unjustly relegated from social events. The loss of engagement is detrimental to the health of the elderly. Their rights in terms of participation are often overlooked. This is considered as a risk to the social security system and as a factor that causes the growth of the cost of health and social services.

Improving social ties also improves the cognitive function of the elderly. Involvement in educational activities can be a source of well-being and can produce a sense of inclusion. An important feature of social support in illness is also a reciprocity exchange. It is one of the fundamental forms of a social bond. The elderly should also have the opportunity to take advantage



of the support mechanisms, social structures, and social recognition of their informal and unpaid participation (Pahor, Domanjko, & Hlebec, 2009, pp. 221–229).

Particularly important is the 'latent support,' which gives a feeling of security and belonging, for example support in health. Murphy (1982, pp. 135–142) notes that emotional support mitigates the destructive effects of stressful life events and the risk of depression. Namely, the risk of depression increases particularly in the elderly who are socially isolated. Emotional support is a necessary, but not sufficient condition for the well-being of older people. Thoits (1985) says that an important aspect of the quality of relationships is the one in which support changes. Social roles provide a range of identities, give us a sense of security, and protect us from feelings of fear and uncertainty. A key feature of emotional support, in his opinion, is a sense of belonging. Interpersonal relationships are closely linked with the social expectations and, in case of disregard, can become a source of stress and conflict. Since man is essentially a social being, interpersonal relationship is almost as essential as the basic physiological needs. It is important that the people protect their intimacy in material and personal lives, as well as in the field of human relations.

The third critical element represents communication, which is important in the implementation of social networking site programs such as self-help groups or professionally guided therapeutic groups. Communication in self-help groups takes place in a circle of confidentiality where human personal knowledge is related to its main life values.

Creating new social networks for generations can contribute to a higher quality of aging resulting in both greater personal freedom and autonomy for each individual within these respective generations. It is a conscious decision to engage in intergenerational friendship and cooperation. Intergenerational communication skills are based on the principles of social learning. New forms of coexistence of generations are formed. Younger seniors participate in the courses of social learning, while informal networks are set for satisfying the non-material personal needs in their old age, such as: organizations, clubs, pensioners groups, University of the Third Age, help and care for people living at home, and day centers for the elderly. Mutual exchange of life experiences is the connecting aspect of interpersonal relationships, cooperation, and solidarity. The property treasure accumulated with historical and cultural experiences of humanity and culture grows with each person and each generation. A human being constantly balances between fruitful personal intimacy in solitude and beneficial integration in the social network. Here, a close harmony in micro social groups represents the link between the two poles and combines the quality of both (Ramovš, 2003, pp. 104–200).

Knowledge can be gained through formal or informal aspects of learning or education. Learning is much broader than education. Education takes place consciously and deliberately; however, learning can take place randomly, at different opportunities and lasts throughout the entire life (Kokot, 2010). Kump and Jelenc-Krašovec (2010, p. 13) noted that learning is most often associated with ad-hoc contexts, it is about the acquisition of knowledge and skills derived from everyday life, which are acquired by random, independent, and sometimes unconscious learning.

### **The Findings of the Empirical Part**

The purpose of this study was to determine the influence of contemporary post-modern 'Knowledge society' on intergenerational cooperation, as well as the level of cooperation between generations. Also, we wanted to highlight the importance of intergenerational cooperation in all stages of life.

### ***Our Approach as Method and Methodology***

The study was based on an analytical study of purposefully selected domestic and foreign scientific and professional literature in the field of education, which relates to the problem of intergenerational coexistence that has been recognized as a global aim and socially desirable phenomenon. We used the following research strategy:

- Qualitative research characteristics of intergenerational cooperation.
- Comparative research diversity, which is reflected by comparing some of the obtained results.
- Quantitative research – relationship between two or more variables.

The following methods were used for the research: descriptive method, classification method, method of compilation, method of abstraction and concretization, and specialization method. For complete conceptualization of the research problem and the preparation of hypothetical research platforms, the methods of analysis and synthesis were used to evaluate all the relevant features of the research subject.

In order to obtain the desired empirical data, we used the survey method in the form of a semi-structured questionnaire. The questionnaire, which contained 38 questions divided into two parts, was sent to 250 randomly selected respondents in Slovenia. The questionnaire was distributed in an electronic format with the use of a special website. All age groups (15 and 65+) were included in the survey. 208 completed questionnaires were returned. The first part of the questionnaire contained general questions about the respondents and the second part contained problem-related issues.

### Research Hypotheses

For the purposes of our empirical work, we set five basic research hypotheses, as we:

- H1 *Assumed that intergenerational cooperation and lifelong learning contribute to reduced tensions between generations;*
- H2 *Assumed that because of their negative views on the elderly, members of the younger generation are not willing to provide support to the elderly in their acquisition of information and communication technology, as this does not comply with the prevailing paradigm in the society that older people do not need this kind of knowledge;*
- H3 *Believed that in the Slovenian post-modern society and the changed role of generations, the role of an individual is no longer clearly defined in each life period, which results in the need for education for sustainable development;*
- H4 *Assumed that the quality of life of older people depends, to a large extent, on the incentives for engaging in active aging, and the availability of lifelong learning;*
- H5 *Assumed that in Slovenia, there is not enough public awareness regarding intergenerational programs and lifelong learning.*

### Data Analysis

208 respondents took part in the survey of which 42 were men and 166 women. The average age of the respondents was 38.5 years. 20 respondents completed vocational and 28 secondary schools, 42 tertiary education, 6 unfinished college education, 88 respondents higher education degree, 14 respondents completed master's degree, and 10 respondents stated 'other.'

87.5 percent of the respondents stated that they were familiar with the term 'intergenerational cooperation.' For them, the term intergenerational learning means the transfer of knowledge between generations in families, businesses, as well as educational cooperation between two different generations in which case they assist each other.

There is a transfer of knowledge, cooperation among adults and adolescents. Based on the empirical data, we found that 50 percent of the respondents estimated that young people positively experience the third and fourth generation, while for 49 percent of the respondents, this experience is negative. 90.4 percent of the respondents estimated that they received a lot of useful knowledge from the older generation and 92.3 percent of the respondents answered that their knowledge was transferred to the younger generation through conversation.

47.1 percent of the respondents stated that they are happy to pass their experience and are proud to be able to transfer their knowledge to the younger generation, depending on the situation.

83.7 percent of the respondents believed that the young are willing to receive instructions from the older generation, but they must be attracted by both – the content and the method of instruction. 46 percent of the respondents believed that lifelong learning is essential for survival in the contemporary post-modern society. This only confirms our assumption that intergenerational learning is a need that has to enter into our lives.

51 percent of the respondents also estimated that, in the contemporary post-modern society, the roles of individuals are not as clearly defined as they used to be (education, employment, retirement) and, therefore, individuals in all stages of life and education are also active after they retirement.

According to 40.4 percent of the respondents, the people in Slovenia are under-informed about the importance of intergenerational education, while at the same time 31 percent of the respondents rejected this claim, which leads us to the conclusion that more intergenerational education will have to receive greater emphasis in the future. Especially, due to the fact that 69.2 percent of the respondents considered today's society to be termed as the 'knowledge society.' It is not insignificant that 66.3 percent of the respondents stated that the elderly are now more included in the lives of their grandchildren, which is undoubtedly a consequence of the way of living of both generations, as well as the age of grandchildren; namely, 94.2 percent of the respondents believe that in the past, generations were more connected, which was mainly due to a different lifestyle. 80.8 percent of the respondents also believe that (today) the third generation contributes most to the harmony and mutual understanding between generations and that the retired generation contributes more than the young.

30.8 percent of the respondents believe that the quality of interpersonal relations contributes to good intergeneration dialogue; 26 percent think that harmony is the result of a good intergeneration relationship, and 21.2 percent believe that the result of a good intergeneration relationship is, above all, easier and better life of all generations.

At the same time, 29.8 percent of the respondents highlight that young people and the elderly are not of the same opinion regarding what is best for the society; namely, 41.3 percent of them point out that the media are too exposed to the risk of conflict between generations as they mainly advertise youthful appearance and various products that would stop the aging process, which in turn creates a fear of aging and age taboo. A surprising finding is that 39.4 percent of the respondents disagree that companies, which mostly employ young people, do better business than companies, which employ people of different ages. Furthermore, 51.9 percent of the

respondents believe that local communities are entities, which should promote intergenerational learning in various ways. At the same time, they are enabling positive relationships between young and older people, as 56.7 percent of the respondents strongly agree that all life stages are equally important. It is therefore not surprising that 49 percent of the respondents estimated the level of public awareness regarding intergenerational programs and lifelong learning as rather low, and, therefore, highlight the need for more investment in intergenerational programs and lifelong learning programs, especially at the local level.

54 percent of the respondents emphasize the importance of mass media in representing the importance of the elderly in the Slovene society. 45.2 percent of the respondents also believe that younger people have an overly stereotypical view of the older people: they see them as weak, inactive, and forgetful – due to the fact that society emphasizes their weakness and attempts to apply the standards of other age groups to them. For this reason 65.4 percent of the respondents suggest that more attention should be given to the preparation of workshops on the topic of intergenerational learning for all generations. This is also because 49 percent of the respondents believe that the time a young person spends in the company with elderly is up to one hour per week, which is too little for intergenerational learning. Furthermore, 53.8 percent of the respondents perceive that the elderly spend together more than 3 hours per week. Therefore, 46.2 percent of the respondents believe that children in pre-school education should learn about the importance of intergenerational learning, the topics that they can learn from older people, and how important it is for the elderly to be able to learn from the young, especially in regard to ICT.

48.1 percent of the respondents believe that in post-modern Slovenian Society, all generations should be stimulated towards lifelong learning in order to become competitive. And, not lastly, 42.3 percent of the respondents agree and 40.4 percent greatly agree that the quality of our lives depends on whether we are prepared to learn on a continuous basis.

## Conclusion

Therefore, if the environment is supportive and includes favorable motivational strategies to educate older people, it will affect their motivation and self-actualization. At the same time, it will encourage them to participate in various programs, activities, workshops, etc. An important reason for the current low level of participation of the elderly in education and learning lies in the cultural patterns of the dominant conception of age. Through education, these patterns could gradually be changed.

In Slovene post-modern society, a traditional concept of age still prevails, which could be described as a deficitary discourse in which the 'gray society'

is defined as a dramatic state of loss, and is therefore understood, above all, if not exclusively, as a problem. The elderly need to be informed about the possibilities and combinations of activities that suit them best and in this way attend to their real needs.

More should be done regarding the reconceptualization of aging and the elderly. The knowledge about older people should be disseminated as an important source of learning and community wealth. Meanwhile, the elderly are still subject of social constructs and prejudices about aging as a dysfunctional segment of social progress. It is also the responsibility of public policy makers to provide a framework for the promotion of active aging of older citizens. It would be necessary to strengthen the role of older people as important vectors of culture for the younger generation. With their knowledge, the elderly contribute to the growth of social capital in the community. Furthermore, with their knowledge and experience, we could create a shift in the social policy regarding aging, as well as overcome the obstacles to achieve optimal potential. Education undoubtedly enhances the number of the sources of social support, which is immanent in nature.

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## Abstracts in Slovene

### **Determinante pripravljenosti plačati za urbana zelena področja: Anketa kontingenčnega vrednotenja študentov**

*Maria Bonaventura Forleo, Nicola Gagliardi in Luca Romagnoli*

Cilj študije je določitev faktorjev, ki vplivajo na pripravljenost mladih, da plačajo (WTP) za ohranjanje urbanih zelenih področij. Anketa z vprašalnikom, ki je bil osnovan na metodi kontingenčnega vrednotenja, je bila izvedena na vzorcu študentov Univerze Molise (Italija). Preučili smo determinante pripravljenosti mladih, da plačajo (WTP) vezano na vrednosti uporabe in neuporabe, profile obiskovalcev, družbenoekonomske značilnosti in odnos do okolja. Faktorje, ki vplivajo na odločitve WTP smo določili preko analize logistične regresije. Spremenljivke, ki vplivajo na WTP so se razlikovale tako od okoljskih vrednot, kakor tudi glede na doživljanje obiska; družbenoekonomske značilnosti nimajo pomembnega vpliva; glaven vzrok za nične ponudbe je povezan s percepcijo zelenih področij kot javne dobrine. Naši rezultati prikazujejo povečevanje tendenc mlajših generacij k bolj trajnostni ozaveščenosti, kar menimo, da bi moralo biti skrbno negovano preko primernih političnih instrumentov s ciljem izboljšanja kvalitete urbanega življenja.

*Ključne besede:* okoljska vrednost, vrednost uporabe, vrednost neuporabe, WTP, pro-okoljsko vedenje, univerzitetni študenti, urbana zelena področja, trajnost, okoljski management, logit

IJMKL, 4(1), 7–25

### **Dobavne verige v oblačilni industriji: Ali transnacionalne iniciative za družbeno trajnost izboljšajo položaj delavcev?**

*Claude Meier*

Nedržavne transnacionalne iniciative za družbeno trajnost (TISS) se vedno bolj poskušajo posvetiti družbenim temam kot sta delovno pravo in globalne dobavne verige. Razlog za takšno dejavnost je ozemeljska omejitev državnih zakonov. Toda, ali lahko TISS pripomorejo k učinkovitim rešitvam zadev na katere so se osredotočili? Članek predstavlja teoretično ogrodje preko katerega je razložena učinkovitost TISS. Za namen empirične študije primera sta bili izbrani Business Social Compliance Initiative (BSCI) in Fair Wear Foundation (FWF). Podatki so bili pridobljeni iz strokovnih intervjujev in dokumentov. Rezultati so pokazali, da so pristopi, ki vključujejo ključne deležnike, primerni za nadaljnjo podporo družbene trajnosti.

*Ključne besede:* transnacionalne iniciative, globalizacija, družbena trajnost, oblačilna industrija, deležnik, pravice delavcev

IJMKL, 4(1), 27–40

### Vpliv menjalnega tečaja na poljski trgovalni tok

Katarzyna Twarowska

Cilj članka je raziskati vpliv menjalnega tečaja na poljsko zunanje trgovanje s poudarkom na bilateralnih trgovalnih tokovih med Poljsko in evro območjem, ki predstavlja glavnega trgovalnega partnerja. Raziskava preverja teoretične koncepte, ki razlagajo vpliv menjalnega tečaja na trgovalni promet. Empirična analiza je osnovana na teoretičnih osnovah problematike. Podatki uporabljeni v študiji se nanašajo na obdobje od leta 2004 do leta 2013. Teoretična in empirična analiza sta potrdili, da menjalni tečaj predstavlja pomemben faktor, ki vpliva na bilateralni trgovalni promet med Poljsko in njenimi glavnimi trgovalnimi partnerji. Depreciacija poljskega zlota je razlog za rast poljskega izvoza. V primeru uvozov pa je depreciacija poljskega zlota povzročila zmanjšanje vrednosti poljskih uvozov. Menjalni tečaj prav tako predstavlja pomemben prilagoditveni mehanizem, zaradi katerega se je poljska ekonomija lahko izognila večjemu znižanju tako količine izvoza kot tudi BDP v času nedavne finančne in ekonomske krize.

*Ključne besede:* ekonomija, mednarodne finance, menjalni tečaj, zunanje trgovanje, trgovalna konkurenčnost

IJMKL, 4(1), 41–57

### Pravica do pozabe na spletu v okviru evolucije evropskega pravosodja

Augusto Sebastio

Obseg mednarodno priznanih pravic neprenehoma širi svojo mrežo k čemur prispeva tudi pravo na področju informacijskih tehnologij preko oblikovanja novih situacij, ki nastajajo na podlagi praks katere identificira doktrina, pa vse do priznavanja novih digitalnih pravic. Tipična pot do potrditve »nove pravice« je v nenadnem priznanju preko nacionalnih in mednarodnih študij primerov, ki oblikujejo dejansko priznanje pravic, katere so bile predhodno zgolj pričakovanja in so avtomatično postale nuja. Rojstvo pravice do pozabe, kar pomeni pravica pozabiti in biti pozabljen, bi morali razumeti kot pravico imeti spomine vezane na določeno temo in na procese indeksacije in hranjenja, kar vključuje možnost njihovega upravljanja in vzpostavljanja in rokah tretje osebe. Nedavni primer, ki ga je v letu 2014 obravnavalo Sodišče Evropske Unije, je odraz pravice do pozabe in cenzure v drugačnem obsegu ameriškega in evropskega prava. Predstavljena raziskava je orodje za evalvacijo in analizo predlaganih evropskih regulativ.

*Ključne besede:* pravica do pozabe, človekova pravica, cenzura, znanje in učenje, vključujoča družba, participacija, družbena akreditacija

IJMKL, 4(1), 59–68

### Podjetniški kapital, obnovitveni kapital in socialni kapital italijanskih podjetij: Vpogledi empirične študije

*Francesca Maria Cesaroni, Mara Del Baldo, Paola Demartini in Paola Paoloni*

Cilj prispevka je analizirati povezavo med podjetniškim kapitalom (EC), obnovitvenim kapitalom (RC) in socialnim kapitalom (TC), ki predstavljajo posamične komponente intelektualnega kapitala (IC), ter delovanjem podjetja. V ta namen je bila izvedena empirična raziskava na vzorcu italijanskih podjetij. Rezultati ankete so pokazali, da imajo EC, RC in TC pozitiven vpliv na delovanje srednje velikih in velikih italijanskih podjetij. Ugotovitve prispevajo k razumevanju kako EC, RC in TC vplivajo na ustvarjanje vrednosti v organizaciji ter omogočajo organizacijam, da, z boljšim upravljanjem na znanju temelječih virov, izboljšajo njihovo delovaje.

*Gljučne besede:* podjetniški kapital, obnovitveni kapital, socialni kapital, intelektualni kapital, podjetništvo, inovacija, neopredmetena sredstva, srednje velika in velika podjetja

IJMKL, 4(1), 69–89

### Vpliv odnosov med kupci in dobavitelji na podlagi njihovih finančnih, socialnih in strukturnih vezi

*Ya Ling Tsai, Kun-Shou Shih in Tzong-Ru (Jiun-Shen) Lee*

V okviru študije je bil preučen vzorec tajvanskih podjetij ter preučeni vplivi odnosov med kupci in dobavitelji glede na finančne, socialne in strukturne vezi. Rezultati so pokazali, da podjetja delijo znanje glede izbire dobaviteljev in upravljanja dobaviteljev na osnovi tako imenovanega guanxi (odnosi/povezave), kar lahko zmanjša transakcijske stroške ter poveča investicije, zaupanje in uspešnost delovanja. Podjetja torej izbirajo in upravljajo z dobavitelji na podlagi guanxi, kar lahko zmanjša transakcijske stroške ter hkrati poveča investicije, zaupanje in uspešnost delovanja. Tajvanska podjetja pri poslovanju uporabljajo guanxi svojih sorodnikov, prijateljev in sosedov. Ključnega pomena je dejstvo, da je guanxi kupcev in dobaviteljev obojestranski ter je izrednega pomena za tajvanska podjetja, še zlasti na področju sodelovanja kupcev in dobaviteljev.

*Gljučne besede:* guanxi, odnosi z dobavitelji, upravljanje dobaviteljev, deljenje znanja

IJMKL, 4(1), 91–107

### Upravljanje znanja za družbo znanja in medgeneracijsko izobraževanje

Jana Goriup in Vilma Alina Šoba

Vpliv globalizacije na sodobno post-moderno družbo z vidika starajoče se populacije zahteva izobraževalne metode in tehnike, ki so primerne za mlade ter odražajo (ali omogočajo) medgeneracijsko učenje. Namen prispevka je, preko empirične raziskave in preučevanja literature, analizirati kontekst starejših, ki so prepogosto odrinjeni na rob družbe, ter prikazati vpliv znanja družbe, temelječe na uporabi sodobnih informacijsko komunikacijskih tehnologij, na medgeneracijsko učenje. Avtorici analizirata nekatere posledice demografskih sprememb ter izpostavita vlogo in pomen medgeneracijskega učenja in sodelovanja za trajnost s poudarkom na slovenski starajoči se družbi. Opredeljena je vloga in pomen medgeneracijskega učenja za sobivanje generacij. V okviru analize empiričnih podatkov izvedene raziskave je bil ugotovljen vpliv na učinkovitost družbe znanja tako z vidika procesov globalizacije in medgeneracijske integracije, kakor tudi (natančneje) kulturnega kapitala mlajših generacij ter nenazadnje tudi pripravljenosti vseh generacij za sodelovanje pri prenosu in pridobivanju znanja.

*Ključne besede:* starejši, (socialna) integracija, medgeneracijsko učenje, izobraževanje, vseživljenjsko učenje, družba znanja

IJMKL, 4(1), 109–126

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- International School for Social and Business Studies, Celje, Slovenia, and
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# MakeLearn 2016

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## **Managing Innovation and Diversity in Knowledge Society Through Turbulent Time**

MakeLearn and TIIM Joint International Conference  
25–27 May 2016 · Timisoara, Romania

International School for Social and Business Studies, Celje, Slovenia and Politehnica University of Timisoara, Romania with co-organizers Kasetsart University, Thailand and Maria Curie-Sklodowska University, Lublin, Poland would like to cordially invite you to participate at the MakeLearn and TIIM Joint International Conference 2016. Academics, scientists, professionals, managers and editors from all over the world will have the opportunity to share experiences, bring new ideas, debate issues, and introduce their latest developments in the largely multidisciplinary field embraced by the MakeLearn and TIIM scientific communities, from the social, organizational and technological perspectives.

Traditionally, the conference programme features two Keynote Addresses, Rectors Forum, Editors' Panel, Research-Education-Practice Forum, Exhibition of Journals and high-quality research paper presentations in concurrent sessions. Conference delegates will have an opportunity to meet editors of several academic journals. Conference also presents Best Paper Award.

MakeLearn and TIIM conference enables scholars and researchers to participate with full paper, published in the conference proceedings or selected sponsored scientific journals. All submitted papers will be double-blind reviewed.

Registration opens: 1 September 2015

Abstract submission due: 1 January 2016

Full paper submission due: 1 February 2016

Notification of paper acceptance: 29 February 2016

Final (revised) paper submission due: 1 April 2016

Conference dates: 25–27 May 2016

Social event: 27 May 2016

Post-conference programme: 27–28 May 2016

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Management,  
Knowledge and Learning  
Joint International Conference 2016  
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