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Continued on the back inside cover

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Table of Contents

Metaphors in Political Discourse from a Cross-Cultural Perspective

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The paper focuses on various ways in which metaphors in political discourse reflect the cultural and linguistic environments from which they emerge. It discusses conceptual metaphors and their linguistic realisations in popular pre-election discourse in English, German, and three Euro-Mediterranean languages (i. e. Slovene, Italian and Croatian). One of the main aims of the paper is to present a contrastive analysis model which combines quantitative and qualitative methods on the one hand, and top-down and bottom-up approaches to metaphor research on the other. Reference will be made to the results of a case study based on the contrastive analysis of a corpus of pre-election articles related to the American elections in 2008 which has been undertaken to validate the proposed model. It will be argued that while the selected languages conceptualise elections in similar ways, there are also significant variations which have cultural implications.

Key Words: conceptual metaphors, pre-election discourse, cross-cultural differences, contrastive analysis

INTRODUCTION

The present paper is geared towards establishing ways in which metaphors reflect the linguistic and cultural environments from which they emerge. To this purpose, metaphors in political discourse were examined from a cross-cultural perspective, involving five different languages. Since the initial stage of the analysis opened a number of methodological questions, I decided to address them systematically with a contrastive analysis model which will be presented in the paper as a proposed procedure for related kinds of research. Rather than a procedure to be followed strictly, the different stages are meant as a set of guidelines substantiated with some central theoretical considerations in metaphor research. There are clear

tendencies to combine quantitative and qualitative methods on the one hand, and top-down and bottom-up approaches to metaphor research on the other. Reference will be made to the results of a case study undertaken to validate the proposed model.

[4]   The case study was focused on conceptual metaphors and their linguistic realisations in a corpus of pre-election articles related to the American elections in 2008 in English, German, and three Euro-Mediterranean languages (i. e. Slovene, Italian and Croatian). The analysis was aimed at establishing the degree of universality and/or variation in conceptual metaphors and their realisations between the five languages. The results have shown that the selected languages share many metaphorical conceptualisations of elections, such as the conceptual metaphors ELECTIONS ARE A BATTLE and ELECTIONS ARE A CONTEST. However, the results also suggest that there are variations in the use of metaphors between and within the languages analysed. Three such variations will be discussed below, variation in the degree of conventionality, variation at source domain level, and variation in the form of preferential conceptualisations. I will therefore argue that while the above languages conceptualise elections in similar ways, there are also important variations which have cultural implications.

METHODOLOGICAL CONSIDERATIONS

From a broad methodological perspective the present research is related to two theoretical traditions which are focused on metaphors as forms of organising conceptual structure, i. e. the conceptual theory of metaphor as one of the more prominent frameworks within cognitive linguistics and critical metaphor analysis as an off-spring of critical discourse analysis. It has been suggested that valuable methodological tools for researching metaphors in political discourse can be gained by combining these two traditions (Charteris-Black 2004; Goatly 2007; Cienki 2008). In this respect, a dialogue between the above mentioned frameworks can be achieved by using the methodological apparatus of the conceptual theory of metaphor (i. e. the definition and idea of conceptual metaphor, the theory of domains, etc.) while employing the reasoning of critical metaphor

analysis in the sense of the significance given to metaphors in a discourse and the role metaphors play in conceptualizing our social reality (Charteris-Black 2004; Musolff 2004).

Several researchers have argued that metaphor should be studied by taking into account its linguistic features as much as its cognitive and communicative aspects (Cameron 1999; Gibbs 2008). However, analysing metaphors contrastively by considering all these facets raises a number of methodological questions, such as which segment of language is to be considered for analysis and comparison, how to compare and contrast metaphors at both linguistic and conceptual level and what are the criteria for establishing universality or variation. The model presented below is an attempt to tackle some of these questions in a systematic fashion. It consists of seven different stages, namely (1) determining the purpose of the analysis, (2) selecting relevant sources, (3) extensive reading of texts, (4) intensive reading of texts, (5) identifying metaphor systematicity, (6) establishing universality and/or variation, and (7) the interpretation of results. Each of these stages can be related to numerous studies as well as large bodies of work in metaphor research. However, given constraints on space, I will only be able to highlight and make limited reference to some of these approaches.

CONTRASTIVE ANALYSIS MODEL

Determining the Purpose of the Analysis

Broadly speaking, the purpose of analysing metaphors in a discourse cross-linguistically can be of a twofold nature, i. e. we can either aim at universality, trying to establish whether particular conceptual metaphors can be found in discourses across languages and cultures, or at variation, looking for various degrees of variation in the use of metaphors in different languages. The question of metaphor universality, which was introduced by Lakoff and Johnson in 1980 and is still relevant today, worked around the premise that certain metaphors could be regarded as universal or near-universal and therefore independent of the time and place in which they occur. This is one of the main underlying assumptions of the cognitive view of metaphor which relates the universality of metaphor to the claim

[5]

that human experience is largely universal. In this regard, particular attention has been paid to studies of metaphors related to emotions which imply a universal form of physiological embodiement for a particular emotion, such as anger. The conceptual metaphor which is frequently analysed in this context is ANGER IS A HOT FLUID IN A CONTAINER which has been identified in a number of unrelated languages, such as English, Hungarian, Japanese, Woof and others (Kövecses 2005, 40–41). In addition, by analysing metaphors related to anger in Tunisian Arabic, Maalej (2004) has shown that there are other aspects of embodiement related to anger besides its physiological effects, such as culturally specific embodiement which takes into consideration the cultural aspects of different parts of the body. Another issue which has intrigued many cognitive linguists and psychologists is the conceptualization of time. Although it has been argued that time is conceptualised largely in the same way across languages, some studies suggest that there are important variations between languages (Boroditsky 2001).

[6]

While the question of metaphor universality is still subject to some debate, the fact that there is cultural and linguistic variation involved in metaphors is usually taken for granted. Since according to the cognitive view, metaphors do not function merely at the linguistic level but also on the conceptual, physical (bodily), and sociocultural level, it should not come as a surprise that they are subject to variation across and within languages. On the other hand, universality and variation can be seen as two sides of the same coin as, in the majority of cases, they presuppose each other, so we can always expect to find degrees of both in our research. In the case study presented here, the purpose of the analysis was to establish both cross-linguistic variation and universality in the use of metaphors in pre-election political discourse.

Selecting Relevant Sources

The selection of relevant sources has been the topic of lively discussions in metaphor research. In the past, the conceptual theory of metaphor has often been criticised for basing its conclusions on linguistic data gained exclusively through introspection. Today, vari-

ous corpora, which are undoubtedly superior in terms of data coverage and processing, are seen as a much more reliable source of linguistic metaphors. Most commonly, corpora are used quantitatively to extract information on frequency, although they can also be used to identify metaphorical patterns in a language sample, which [7] was convincingly argued by Stefanowitsch (2006) with metaphorical pattern analysis. However, despite numerous methodological benefits, there are still two major obstacles to corpus research. First, linguistic metaphors are usually accessed through pre-selected lexical items, while many linguistic metaphors are not easily connected with a particular source domain or the corresponding conceptual metaphor on the lexical level and cannot be retrieved automatically. Another obstacle is the limited access to metaphor productivity offered by corpus research. By analysing a list of pre-selected lexical items related to a particular conceptual metaphor, we may leave out potentially relevant data. In the case study, the conceptual metaphor ELECTIONS ARE A CONTEST proved to have great generative power as it yielded numerous and diverse linguistic metaphors extending the source domain to unpredictable regions. I would like to argue that in order to account for this variability, it is worth analysing metaphors on the level of text or a collection of texts (mini corpora) which are more manageable and can be analysed both in terms of frequency of key lexical items and in terms of metaphor productivity. Cienki (2008) discusses the issue of using large corpora for metaphor research and following Mussolf (2004) and Cameron and Deignan (2003) argues in favour of using a representative small corpus in the first stage of the analysis and only then analysing a larger corpus for frequency and patterning of occurrence of particular aspects identified in the smaller corpus.

Another important factor when deciding on the relevant sources of metaphors in a discourse to be analysed contrastively is to select sources which lend themselves to comparison, such as using parallel texts in different languages related to the same topic. In this respect, the main reason for choosing the American elections was the assumption that the event would receive wide media coverage in the selected languages. The sources of the articles were two major

[8]

TABLE 1   Corpus Structure

Language (publications)	(1)	(2)	(3)
English (*New York Times, Washington Post*)	31	1278	42,723
Slovenian (*Delo, Dnevnik*)	29	766	22,202
German (*Süddeutsche Zeitung, Frankfurter Allgemeine*)	32	785	25,135
Croatian (*Večernji list, Jutarnji list*)	26	369	9,619
Italian (*Repubblica, Corriere della sera*)	22	797	17,541
Total	140		117,220

NOTES   Column headings are as follows: (1) number of articles, (2) average article length in words, (3) number of words.

daily newspapers from countries where the selected languages are spoken. Besides circulation (all the newspapers are among the publications with the highest circulation in the respective countries), the selection was based on two main criteria. The first was the assumption that the newspapers would follow the election activities closely and at some length since they are all high-quality publications with a strong emphasis on daily news, as well as political and social issues in general. Secondly, the main reason for the selection of two rather than a single newspaper is related to the attempt to account for a balance in terms of general editorial stance. The articles, which were collected over a period of ten days before and the first day after the elections, were chosen according to their relevance to the topic in question. The majority of the articles selected for analysis have focused directly on the election activities of the parties and the presidential candidates involved. The discrepancy in the size of the corpora can be seen to reflect the amount of attention the newspapers paid to the election activities in the USA (and hence also the size of the English corpus). Table 1 shows the corpus size for each language, including the publications and the number of articles reporting on the event.

Extensive Reading

The third stage allows us to get a broad understanding of the content and a general idea of the conceptual domains which pervade the text. By acquiring this first information about the predomi-

nant metaphorical concepts, we can become more susceptible to particular instances of linguistic metaphors at the intensive reading stage and all the possible metaphorical entailments. For example, the analysis of the English corpus revealed six major metaphorical conceptualisations of elections, i. e. elections as contest, fighting, journey, gambling, show, and sea voyage. Of these, the domains of contest and battle were realised on the linguistic level in the highest number of different linguistic metaphors, 118 for battle and 76 for contest (compared to 21 occurrences for journey, 14 for gambling, and 6 for show and sea voyage each). However, as we shall see below, the linguistic realisations of particular conceptual metaphors are not always easy to identify. In such cases, being aware of the overriding metaphorical themes can considerably narrow down the possible domains.

[9]

(1) *Take off seven points* for hidden racial animus. *Subtract another five* for polling error. *It is down to two points …*

Example (1) conceptualises the performance of the election candidates in terms of collecting or subtracting points. The source domain could be linked to various domains, for example school tests, but the information about the predominant metaphors clearly points to the domain of contest.

Intensive Reading

At the intensive reading stage we scrutinize the whole corpus of texts manually with the aim of extracting all the possible linguistic realisations of a potential conceptual metaphor. However, if we aim to analyse the productivity of a particular metaphor, we need to consider that conceptual metaphors can be realised in a language in many different ways. The most important question at this point is which stretch of language to analyse as a linguistic metaphor. Examples (2) and (3) below point to the limitations of restricting the extent of linguistic metaphors to a particular segment of language (e. g. a word, phrase or clause) which could be isolated and analysed as a recurrent structure:

(2) McCain's *allies.*

(3) This once-red state is now a *raging battleground,* along with a few others where Mr. Obama has sought to *expand his electoral map.*

[10]   In (2), it is the noun phrase alone which contains enough information about both the source and target domains (i. e. elections and battle) to enable us to recognise it as a metaphor, while in the case of (3), the metaphor is spread over the whole sentence. By breaking it down into smaller units (for example, we could analyse just *Obama has sought to expand his electoral map*) we would lose the connection between the fighting (*raging battleground*) and the outcome (*expand his electoral map*). At the intensive reading stage we continuously need to make choices on the lexical level. While it would be too ambitious to try to account for all such instances with a single strategy or definition, a working approach suggested is to consider the minimal context necessary for identifying the source and the target domain and the cross-domain mappings involved as, for example, in (2), while at the same time retaining the full extent of the metaphor as in (3).

The question of precise identification of specific linguistic terms related to conceptual metaphors has long been at the very heart of the criticism aimed at the conceptual theory of metaphor. Calls for a more scientific and methodologically sound approach to identifying metaphorically used language resulted in the proposal of a special identification procedure, first developed by the Pragglejaz Group (2007), and later refined by Steen et al. (2010). The metaphor identification procedure (MIP) is an explicit and systematic tool which consists of five steps (see Cienki 2008 for an overview) and is used to establish whether particular lexical items are used metaphorically or not. It can be seen as a useful strategy in resolving instances of uncertainty about particular lexical units. The primary goal of the MIP procedure is to establish the contrast between the contextual and a more basic sense of the lexical item analysed. The role of context is laid out in the third step of the MIP procedure: 'For each lexical unit in the text, establish its meaning in context, i. e. how it applies to an entity, relation or attribute in the situation evoked by the text

(contextual meaning). Take into account what comes before and after the lexical unit.' (Cienki 2008, 247–8). In example (4) the use of the word 'aides' might be seen as ambiguous in the sense that its basic meaning ('aide-de-camp,' a military officer assisting his superior) can be related to the domain of battle, which is reinforced by the lexical unit 'ground troops' in the same sentence. Broadly following the MIP guidelines, we can see that the contextual meaning (here reflected by Mr. Obama in the role of presidential candidate) clearly contrasts with the basic meaning of the word, thus indicating that the meaning of the word is metaphorical.

[11]

(4) Mr. Obama's *aides* said that he would be hesitant to commit American *ground troops,* who are in short supply because of the demands of Iraq and Afghanistan.

While the MIP can be seen as a useful and transparent strategy for identifying more ambiguous cases of metaphorically used meanings of particular lexical items and their underlying conceptual structures, its application has several practical limitations. First of all, applying MIP on a larger scale (to whole texts) would be extremely time-consuming. Moreover, by focusing on particular lexical items, the procedure fails to account for the variety and complexity of different instantantions of metaphors which are realised above the word level (such as in example 3 above). This also presupposes a much wider and more complex definition of context. In the case of the expression 'aides' in (4) above the context is not only evoked by the situation or what comes before and after the lexical unit but also by one of the major metaphorical themes permeating the corpus.

Identifying Metaphor Systematicity

Having recorded all the linguistic metaphors, the next stage is to look for recurring patterns leading to different degrees of systematicity. Systematicity in the form of recurring metaphorical patterns can be seen at various levels. Cameron (1999, 16) has identified three such levels, i.e. local, global and discourse systematicity. Local systematicity refers to the development and realisation of a

conceptual metaphor within a particular text, while global systematicity reflects systems and layers of metaphors from a range of discourse types. Discourse systematicity, which is focused on specific discourses, can be placed between these two. The data collected from the case study of American elections show clear systematicity of the metaphor ELECTIONS ARE A BATTLE both at the local level and discourse level. In individual articles analysed as texts, several aspects of the source domain of battle are developed systematically and this is reflected also at the corpus level. In addition to this, various degrees of systematicity were identified at specific levels of metaphors, such as the lower-level instantiation ELECTIONS ARE CONQUERING LAND discussed below which is congruent with the higher-level metaphor.

[12]

At this stage, the related conceptual domains and the cross-domain mappings are identified and, finally, conceptual metaphors are established. However, as data collected in this way are rarely neat and easily analysable, simple conclusions about their nature are often difficult to arrive at, such as associating a particular lexical item with a corresponding domain. In the case study, this was particularly difficult to establish with expressions related to the two predominant domains of BATTLE and CONTEST, as they share a number of lexical items. For example, where does the lexical item 'win' belong? Which definition of 'win' do we take as the basic meaning: 'achieve a victory' or 'finish first in a competition'? The case study showed that the distinction between the domains of battle and contest are more often than not blurred. Goatly (2007, 78–87) touches upon this issue in his discussion of the adversarial system. He suggests that the adversarial system has developed in Western societies as a basic schema of force dynamics. In this context, we can see the two conceptual metaphors, ELECTIONS AS BATTLE or CONTEST, as specific-level metaphors of a generic adversarial schema.

For the purposes of the case study presented here, it was nevertheless important to make a distinction between the two domains. One of the aims of the study was to find out whether elections were conceptualised more as a battle or as a contest. The method used was to examine a larger portion of context, looking for contextual clues or the prevailing conceptual metaphor in the text analysed.

Establishing Universality and/or Variation

The contrastive analysis stage is carried out both at the linguistic and conceptual level. Although different aspects of metaphor can be subject to variation, it is the source domain which is the most productive supply of variation and likely to contain cultural content. The cultural embeddedness of metaphors is expected particularly at the specific level of metaphors, while the generic-level metaphors are more likely to be good candidates for universal or near-universal metaphors. On the other hand, there are several distinct kinds of conceptualizations across languages which are not confined to specific-level metaphors.

[13]

A useful set of criteria is proposed by Kövecses (2005, 67–86) who discusses three possibilities of cultural variation, i. e. congruent, alternative and preferential metaphors. Congruent metaphors are metaphors which are in congruence with the generic schema but may lead to unique cultural content at lower levels, for example the anger-related expressions in Japanese which are grouped around the concept *hara* (lit. 'belly') (p. 68). Secondly, there are several distinct kinds of alternative conceptualizations across languages, such as the alternative to the common conceptualisation of time, according to which the future is 'in front' and the past 'behind us,' in some languages (such as Maori) in which the past is conceptualized as being 'in front' and the future 'behind' (p. 71). And thirdly, while in many cases two or more languages may share some conceptual metaphors, the speakers of a language may show preference for a particular conceptual metaphor. Kövecses (2005, 84–5) gives as an example the results of a survey in which a group of American and Hungarian students were asked to select common source domains for the target concept LIFE. The findings revealed that although the participants generally shared the source domains, there were differences in the preference for particular domains, with Hungarians showing preference for the conceptualisation of life as a struggle and the Americans for the perception of life as a precious possession.

There is another aspect of variation which could be added to the above three, namely different languages may share the same conceptual metaphor but may differ with respect to the degree of conventionality. This aspect needs to be addressed with particular sensitiv-

[14] ity especially when metaphorically generated terms are translated, i. e. when metaphors are transferred across language and cultural barriers (Kocbek 2013, 34). An eloquent example of such variation is the ubiquity of metaphorically motivated jargon and terminology related to the metaphor ELECTIONS ARE A BATTLE, which was recognized in the American pre-election discourse. While expressions such as 'battleground state,' 'camp,' 'column,' 'stronghold,' 'allies,' and 'blitz' all clearly belong to the domain of battle, their role and importance in the context of elections varies considerably. This is also evident from the following examples of metaphors from the case study:

(5a) … presidential *campaign* …
(5b) … McCain's *camp* …
(5c) … *long march* on the White House …

Today *campaign* clearly belongs to election terminology, referring to organised pre-election activities. This means we hardly see it as a metaphor in the first place, its etymology (from Italian *campagna* meaning 'field' or 'military operation') largely forgotten. From a diachronic perspective we can argue that as it is a dead metaphor, it has acquired terminological status. On the other hand, the word *camp* in (5a) in the context of elections has not lost all its metaphorical power as we can still recognise it as a metaphor. Yet this expression is frequently used for organisation units of a political party during elections, which means that its meaning has become conventionalised. In this case, we could argue that *camp* belongs to metaphorically motivated pre-election jargon. However, the expression *long march* in (5c) is clearly a live or active metaphor as its interpretation requires a wider context. Analysing metaphors in business discourse in which the military domain also appears to be dominant, Koller (2006, 247) argues that:

While the lexemes in question are certainly not consciously employed by all speakers in every single instance, their presence is still significant as it ties in perfectly with that of other lemmas from the war domain that are perceived as more metaphoric, for example *blitz* or *troops*.

Table 2 shows a number of key lexical items which belong to the BATTLE domain and their systematic use in the pre-election context. The figure in brackets refers to the number of their occurrences in the corpus. While several of these lexical items were identified in all the languages analysed, such as the word 'battle' and its transla- [15] tion equivalents in the other four languages, it is also clear that the English set is the largest and, most importantly, the most systematically organised.[1] Bearing in mind the number of occurrences of the key lexical items in question I would like to argue that this aspect can be accounted for despite the admittedly larger size of the English corpus.

This claim is reinforced by the fact that in the Slovenian, German and Croatian corpora, a number of key lexical items from the domain of BATTLE were used in inverted commas (6a–d), pointing to the conclusion that their meanings were regarded as unconventional in the respective languages.[2] Here we also need to consider that translation was undoubtedly a strong element in reporting on the American elections.

(6a) … nekatera republikanska *'ozemlja'* …
      '… some Republican *"territories"* …'
(6b) … je Obami čestital ob njegovem *'triumfu'* …
      '… he congratulated Obama on his *"triumph"* …'
(6c) … krenuti na *'neprijateljski'* teritorij …
      '… go to the territory of the *"enemy"* …'
(6d) … *'Schlachtfeldstaat'* Ohio …
      '… *"battleground state"* Ohio …'

The second aspect of variation identified in the case study of American elections is related to the specific level of metaphors,

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[1] It is also worth noting here that the majority of occurrences (40) of the nominal use of 'kampf' were found in the compound 'Wahlkampf,' which is a metaphorically motivated pre-election term for pre-election activities.

[2] Italian is an exception in this case as in this language it is common practice to use words from other languages where there are no direct Italian equivalents. Several metaphorically motivated English terms, such as *running mate* or *swing states* were thus left in English.

TABLE 2   Cross-Domain Mappings in the Metaphor ELECTIONS ARE A BATTLE in Different Languages

Election domain	English	Slovenian	German	Italian	Croatian
Pre-election activities	battle (11) fight (21)	boj (11) bitka (2)	Kampf (49)	battaglia (2)	bitka (2)
An increased intensity of the pre-election activities	attack (10)	napad (2) napadati (3)	Angriff (2)	attacco (3) attaccare (6)	napadati (5)
A group of people supporting the same candidate	camp (7)	tabor (7)	Lager (11)	campo (9)	tabor (2)
Supporter	ally (8)	*zaveznik	*Alliierte	*alleato	*zaveznik
Assistant	aide (14)	*pribočnik, *adjutant	*Adjutant	*aiutante	*adutant, pobočnik
Group of voters	column (5)	*kolona	*Kolonne	*colonna	*kolona
Place with a high number of supporters	stronghold (4)	*oporišče	*Stützpunkt, *Festung	*fortezza, roccaforte (1)	uporište (1)
Intensive pre-election activity	blitz (4)	*blitzkrieg	*Blitzkrieg	blitz (4)	*blitzkrieg
State where both candidates try to win the majority	battleground (18)	*bojišče	'Schlacht feldstaat'(6)	*campo di battaglia	bojište (4)
A specific pre-election activity	operation (5)	*operacija	Operation (2)	*operazione	*operacija
Exposed pre-election activities	front line (1) line of attack (4)	*bojna linija	*die vorderste Kampflinie	linea d'attacco (1)	*crta bojišnice

NOTES   *Translation equivalents which were not identified in the corpus of articles.

whereby languages varied with respect to the choice of source domain. An eloquent example are the equivalents in the selected languages for the metaphorically motivated term 'running mate,' commonly used for the vice presidential candidates. With reference to the female vice presidential candidate, Sarah Palin, examples of metaphors were found in the other languages related to different source domains than that of contest, i. e. JOURNEY in Slovene (*sopotnica,* 'fellow traveller'), PERSONAL RELATIONSHIPS in Croatian (*partnerica,* 'partner') and BATTLE in German (*Kampfgefährtin,* 'fellow fighter,' 'comrade in arms').

[17]

A separate analysis for each of the five corpora revealed that they were largely characterised by the same major source domains, i. e. the domains of BATTLE and CONTEST. Variations were expected at the specific levels of metaphors. For example, I expected to find extensive culture-specific variations in the distinct manifestations of CONTEST, such as different types of sports activities typical of a particular culture. In other words, I assumed the American corpus would uncover metaphors related to typical American sports, such as baseball or American football. Instead, the results revealed that the metaphor ELECTIONS ARE A CONTEST did not reflect cross-cultural variation in terms of culture-specific types of sports as only two such examples were identified, both in the English corpus. In one case, the pre-election activity is seen as 'an aggressive ground game,' which is a reference to American football (although it can be used also in relation to some other sports). The expression has entered pre-election jargon to refer to activities at the precinct levels. Another example is an analogy drawn between Barack Obama and 'a football player strutting towards the end zone, only to be tackled out of nowhere at the 1-yard zone, causing a humiliating fumble,' again evoking an activity associated with American football.

At the specific-level, conceptualisations of elections referred to various sports activities in all languages. For the majority of metaphors identified, it was impossible to determine specifically which sport was referred to although there was apparent emphasis on contests in which individuals rather than teams compete. While sports, such as running, car racing, horse racing and others were im-

plied, there were only a few clear references to them, i. e. running[3] (5 different occurrences in the English corpus, 2 in the Slovene corpus, 1 in the Italian corpus, 2 in the German corpus), horse races (1 occurrence in the English corpus, 1 in the German corpus) and car races. There were also a few references to other types of sport, such as boxing (1 in the Italian corpus), fencing (1 occurrence in the Italian corpus), and sailing (1 occurrence in the English corpus).

[18]

Similarly, the results revealed that most variation in the form of fighting was not culture-specific. The linguistic realisations of metaphors identified suggest a prototypical battle rather than some specific form or type of fighting. However, numerous unconventional metaphorical entailments were identified across languages, suggesting explicit forms or styles of fighting, for example a duel as in (7a), the Wild West in (7b) feudal fights in (7c) and several others.

(7a) … das letzte *Fernsehduell* der Präsidentschaftskandidaten …
'… the last *TV duel* of the presidential candidates …'
(7b) … il candidato democratico ed il suo rivale repubblicano John McCain hanno trascorso l'intero week-end alla *conquista del Vecchio West* …
'… the Democratic candidate and his Republican rival John McCain spent the whole weekend *conquering the Wild West* …'
(7c) … una volta *feudi* repubblicani …
'… once Republican *feuds* …'

Variation was identified in the systematic use of certain aspects of the source domain of BATTLE. The lower-level conceptual metaphor ELECTIONS ARE CONQUERING LAND, systematically developed in Examples (8a–f), was found mainly in the American corpus.

(8a) … *conceding* Pennsylvania two weeks before the election …
(8b) … we have *ground* to make up, but we believe we can make it up …
(8c) … the shrinking *electoral map* …

[3] The domain of running was also perpetuated in the English corpus with the pre-election term 'running mate,' which occurred 28 times.

TABLE 3   Productivity of the Metaphor ELECTIONS ARE A BATTLE by the Number of Different Realisations

Language	(1)	(2)	(3)
English	42,723	118	2.8
Slovenian	22,202	51	2.3
German	25,135	91	3.6
Italian	17,541	55	3.1
Croatian	9,619	27	2.8

[19]

NOTES   Column headings are as follows: (1) corpus size in words, (2) raw frequency of different realisations of the metaphor ELECTIONS ARE A BATTLE, (3) frequency of different realisations of the metaphor ELECTIONS ARE A BATTLE (in per thousand).

(8d) ... Obama in position to *grab* Colorado ...
(8e) ... *incursions* into Republican *territory* ...
(8f) ... Obama also is making a vigorous *push* in Florida ...

The third aspect of variation, i.e. variation in terms of preferential conceptualisations, was identified by examining the productivity of individual conceptual metaphors as well as by analysing the frequency of selected lexical items. In the case of the metaphor ELECTIONS ARE A BATTLE, for example, German showed the highest metaphor productivity for linguistic metaphor with the largest percentage of different realisations (table 3).

The examples of linguistic metaphors in (9) reflect the generative power of the metaphor in German.

(9a) ... *ganze Heere* aus Maryland ... *in Marsch zu setzen* ...
　　　'... to send whole armies from Maryland ... on the march ...'
(9b) ... *Leihsöldner* im demokratischen *Bodenkrieg* ...
　　　'... mercenaries in the democratic war for territory ...'
(9c) ... *Fußsoldaten* für Obama ...
　　　'... foot soldiers [infantry] for Obama ...'

Interpretation

At the interpretation stage we draw together the results of the contrastive study and compare our findings with conclusions from related studies. The case study of American elections has shown that

while there is a certain degree of universality in terms of the two pre-dominant conceptual metaphors, i. e. ELECTIONS ARE A BAT-TLE and ELECTIONS ARE A CONTEST, there are also impor-tant variations between the languages which might have cultural

implications. One possible interpretation for the systematicity and higher degree of conventionality of the domain of BATTLE in the English corpus with respect to the other languages, can be found in the differences between the respective election systems as well as the political environment in general. If we understand discourse from the perspective of critical discourse analysis as 'an element of social life which is closely interconnected with other elements' (Fair-clough 2003, 3), then we can assume that the social, in our case po-litical, context will also influence the choice of metaphor.

Let us take as an example the Slovenian and American political systems where three differences are worth mentioning, namely the number of major political parties, the role of the president of the State and the presidential elections. The political party system in the United States is a traditional two-party system with the Democrats and Republicans as dominant parties, while present-day Slovenia is characterized by a multi-party system in which parties usually form a coalition before or after the elections. We can assume that this will be reflected in pre-election discourse and in the way people con-ceptualize elections. In a related case study (Bratož 2010) in which the discourse of American elections was compared to the discourse of Slovene elections (which incidentally also took place in 2008), the differences between the two systems were also evident from the metaphors used; for example, in the Slovene corpus the conceptual-isation of elections as sports activities suggested also team sports, while the source domains used with reference to American elections were mostly related to typical individual sports (e. g. running, horse races or car races).

Secondly, in Slovenia the President of State who is elected by pop-ular vote has a mainly advisory and ceremonial function, while the executive and administrative authority is in the hands of the Prime Minister. In the USA, the role of President is much more crucial as s/he is head of both State and government. The significance of the

presidential function is reflected in a number of national symbols related to this position. One of them is the very residence of the President, the White House, as a symbol of the USA. Election metaphors, such as *long march on the White House* and *conquer the White House* make perfect sense in the American context, while they would sound rather bizarre with reference to elections in Slovenia where the residence of the President of State is a flat in an apartment block. The differences in the role of the President of State are related to the election system and the importance of the presidential elections in the USA. The systematicity of metaphor use identified in the American corpus is a clear reflection of the election system, in which *battleground states* have to be *conquered* in order for the candidate to win the elections.

[21]

CONCLUSION

Metaphors come in all shapes and sizes. Trying to account for the diversity and variability of metaphors in natural language usage, especially if more than one language is considered, we are bound to come upon more questions than answers. The proposed model has dealt with some central methodological questions encountered in analysing conceptual and linguistic metaphors at discourse level cross-linguistically. Several of the issues discussed above have been dealt with at length in metaphor literature and would certainly deserve more thorough consideration. I have argued for a combination of different approaches, trying to show ways of combining qualitative and quantitative research. The model, which was validated on the basis of a case study focusing on pre-election discourse across languages, is intended as a set of guidelines and strategies for similar kinds of research.

The case study of the American elections has shown variations between the languages analysed which have cultural implications. The question remains whether the variations identified reflect different conceptions of this social phenomenon in the minds of the speakers of different languages. I am well aware that this research can only be seen as a starting point for claims about the conceptualisation of political discourse in different languages and cultures,

for which more extensive data would have to be analysed. A conclusion that can be drawn from the case study presented above is that while the source domains related to the conceptualisation of elections largely overlap, the fact that languages differ in the degree of conventionalisation of metaphors used or that there are degrees of preferences for a certain conceptual domain indicates that there are differences in the way speakers of the languages analysed perceive elections.

[22]

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[23]

Is the Socio-Economic Justice Still the Aim or Already the Result of the Cooperation Between Business and Society in Developing Synergy? The Case of Lithuania

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Today's business philosophy promotes social responsibility, social self-development and other significant concepts for aspiration of cooperation between business and society in developing synergy; therefore this determines changes in the production, exchange and innovation logic. Socially responsible businesses voluntarily assume obligations in order to meet the interests and needs of society, and take the responsibility for the impact of their activities for all stakeholders. Society understands socio-economic justice as the access to the goods and services, participation in decision-making process, equal employment opportunities, fair wages and other. The results of the national representative survey of Lithuanian residents had shown where major social and economic tensions remain in the country. The respondents critically evaluate the oasis of social responsibility where the principles of corruption, exercising 'proper prevailing circumstances' and other interferences are still present.

Key Words: socio-economic justice, corporate social responsibility, cooperation, synergy

INTRODUCTION

Nowadays the problem of the socio-economic justice is in the centre of attention of the industry, science and policy makers in almost every country. The scientific research relevance of this problem arises

from the changes in business and other organizational philosophical dispositions; from the resulted perception that the companies have to become a public 'exemplary residents' – it means that companies must take greater responsibility for the sustainable business development, social welfare development and so on. This problem is analysed by economists and communication specialists, sociologists and managers, lawyers and politicians in order to ensure sustainable future.

[26]

The corporate social responsibility (CSR, also called socially responsible business, corporate citizenship, corporate social opportunity and so on) means the voluntary assumed obligation of companies to meet the interests and needs of society, and to take the responsibility for the impact of their activities for all stakeholders (shareholders, suppliers, employees, customers, communities, government, environment and others). This obligation shows that the organizations must not only implement the local and international legislation but also take the particular initiatives to improve the welfare of their employees and their families as well as for the local community and society at large. It is equally important to improve the psychological climate, to foster the moral values and awareness of human life needs.

Socially responsible business is investing more into intellectual capital, ensuring safe and healthy working conditions for employees, and seeking for more important tasks (Ruževičius and Serafinas 2007). It should be stressed, that it is essential not only to guarantee safe and healthy working conditions for the workforce, possibilities to study and improve themselves, to use the energy sources and materials for the production efficiently, but also to carry out socially responsible marketing, not abusing the weaknesses of different social groups. In such way the organizations comply with the principles of sustainable development in their activities. Implementing socially responsible activities have a positive impact on the employment and loyalty of the staff, operational efficiency, the organization's reputation and sales, which provide more competitive advantages, not only in domestic but also in foreign markets.

According to J. Elkington, the corporate social responsibility is

attained by integration of objectives of three bottom lines (Birch 2003):

- economic prosperity,
- environmental quality and
- social justice.

This article focuses on ensuring socio-economic justice by the co-operation between socially responsible business and society. The recent data of representative social survey (done in Lithuania on 10–14 April, 2013) showed that the society faces challenges of social and economic justice, which have a major impact on the development of public relations. The scientific research project 'Socio-Economic Justice Perception for Citizens and Customers Formation Guidelines' revealed that the relationship between business stakeholders is quite strained.

The matter of socio-economic justice is still complicated. The questions remain: How does the society assess the socio-economic justice? Why should and how could the responsible organizations ensure the socio-economic justice? What barriers appear in ensuring and developing the socio-economic justice? Is the socio-economic justice still the aim or already the result of cooperation between business and society in developing synergy? Due to the limited scope of the article, one of the main aspects of the socio-economic justice is analysed – the concept of equitable redistribution of public goods. However, a need to explore the situation deeply in order to find out solutions and set recommendations, which could be taken into real actions, still remains.

The goal of this article is to reveal the impact of cooperation between responsible organizations and society in order to ensure socio-economic justice. In this research the following research methods were used: review of scientific literature, comparative analysis of statistical data, generalization of the results of the representative survey of Lithuanian residents, formulation of conclusions and proposals. The article is organized as follows: in the first section, the scientific literature review is described, highlighting the role of cooperation between socially responsible organizations and

society and discussion of the main measures of responsible organizations to ensure the socio-economic justice in labour market is represented; in the second section, short methodology of the research is given; in the third section, the Lithuanian situation in ensuring socio-economic justice and the barriers are explored; and finally, main conclusions are listed.

[28]

REVIEW OF SCIENTIFIC LITERATURE

In the context of economic globalization it is important not to violate the core values of freedom, social and economic justice, security and safety in order to ensure sustainable socio-economic development and efficiency in each country. The specific expression of socio-economic justice in each country depends on the economic situation, living standards, political ideology, traditions and other social and economic causes.

Socio-economic justice is comprehensible as assurance of material goods, which rightfully belong to humans according to fulfilment of its functions and results. Legally, it is treated as a guarantee of certain rights and opportunities arising from a democratic framework (Guogis and Gruževskis 2010). In general, justice is the main social value of society. A variety of social relations causes the identities of interests and their conflicts which are specific for particular societies. Society tends to agree on the advantages that enable everyone to live better than relying solely on their own strength. On the other hand, everyone has their own goals and prefers a larger portion rather than a smaller one. Nowadays the social relations are getting more complex. Justice faces challenges of economic globalization and democratic principles in protecting the public and private interests (Laurinavičius 2013).

It is important to highlight that sometimes the problems of socio-economic justice appear not far in the future, but right away – after one or another political and economic decision or action. However, many issues associated with social justice accentuate in a very long period (Guogis and Gruževskis 2010).

Economic justice is a component of social justice and tackles the individual person, so this term could be defined as an opportunity

for employment and meaningful work, fair wages for productiveness, exchange of goods and services with others and otherwise produces an independent material foundation (The International Forum for Social Development 2006; Center for Economic and Social Justice n. d.). A Theory of Justice tries to tackle the problem of distributive justice by minimizing the possibility to take advantage of the familiar connections in awarding social contracts (Rawls 1999), especially in labour market. The situation in labour market and the problems in distributing public goods in a society will be outlined in the next session discussing the results of national survey.

[29]

Each country must develop its own model of socio-economic justice. Corporate social responsibility is defined as a form of socio-economic justice, which occurs at the workplace as well as in case of withdrawal from the labour market and becoming the recipient of social benefits and the user of social services (Guogis 2006). Socially responsible organizations are beneficial to society's socio-economic development: creating new workplaces, improving working conditions, paying fair wages, developing scientific and technological innovations, and other. It is because, as M. Kitzmueller and J. Shimshack (2012) had stated, the corporate social responsibility stimulates the cooperation between employers and employees. Even D. J. Wood in 1999 stated that the basic idea of CSR is that business and society are interwoven rather than distinct entities (Breitbarth, Harris, and Aitken 2009).

The social contracts express the relationship between society and business. Business regulates its activities within society and, in reply, society expects business to prove responsibility for aspects of its activities. According to the contract, society admits organisations as market players, particularly in the view of the legislation, and authorises them to use environment, natural resources and offer employment. From the business point of view, they improve the quality of life and welfare for the society (Bichta 2003). Consequently, the initiatives of CSR should not be only the campaign of public relations or 'empty business.' To sum up, the business organizations should cooperate with society – voluntarily take part in social initiatives – in developing socio-economic justice, otherwise

they will be recognized as unreliable or even precarious in the public.

The labour market may summon some extra costs for corporate social responsibility. Job-seekers express preferences for organizations with better public images and values similar to their own (Kitzmueller and Shimshack 2012). There are highlighted few socially responsible actions of companies:

[30]

- improving working conditions (security and safety at workplace);
- ensuring fair wages (no 'envelope wages');
- educating unqualified staff and ensuring possibilities for long-life-learning;
- cooperation with the staff in decision-making process and so on.

Working conditions, occupational safety and social security are the main aspects of CSR. The development of installation of the international standards of Social responsibility ISO 26000, Social Accountability SA 8000 and Occupational Health and Safety Management OHSAS 18001 at the organizations demonstrates that companies are increasingly seeking to provide their employees with a comprehensive job security, and develop a sense of social security too ('Įmonių socialinės atsakomybės pažangos Lietuvoje šalies lygmeniu 2011 m. vertinimo ataskaita' 2012). The installed international standards ISO 26000 (iso.org), SA 8000 (www.sa-intl.org) and OHSAS 18001 (www.ohsas-18001-occupational-health-and-safety.com) at the organization ensure:

1 activeness of employees (initiative, the efficiency and effectiveness, non-standard solutions, constructive solutions in error and problem-solving process, wish to learn and work in teams);
2 satisfaction of employees (proper work conditions and results, safe measures and healthy workplace, positive social and psychological climate);
3 organizations investments to:
   - building capacity of employees,

- motivational working environment,
- measures and infrastructure,
- organizational culture and social welfare.

Moreover, the Human rights perspective must be constructed [31] in every organization (International Labour Organization 2012). Though, there are cases when the responsibility for enterprises in some situations goes beyond respect for human rights (United Nations 2012).

Ensuring fair wages, which are comparable to the industry, general training facilities, and other is a way to retain talented and loyal staff and to establish a cooperative relationship with the workforce, which can lead to higher productivity and higher profit of the organization (Ganuza 2012). 'Envelope wages' are a specific aspect of the supply of undeclared work. This dimension is relevant especially for dependent employees. Receiving 'envelope wages' means that the employer pays part or all of the regular salary and/or the compensation for extra work on a cash-in-hand basis, without declaring the amount to the relevant authorities (European Commission 2007).

According to the results of Eurobarometer survey No. 284 in 2007, on the average 5 percent of all dependent employees in the EU-27 received part of or even the whole salary as 'envelope wages' within the past 12 months. Incidences vary considerably between all member countries: the lowest percentage for about 1 percent of getting 'envelope wages' are in Germany, France, Luxembourg, Malta and the United Kingdom, the highest – 23 percent – is in Romania. High shares are also reported in Latvia (17 percent), Bulgaria (14 percent), Poland and Lithuania (11 percent each). In this situation both parties – the employer as well as the employee – might profit: the employers evade the payment of social security contributions for the all or part of salary; and the employees usually get a salary that is higher than the net salary the person could receive in the case of a formal payment. However, in some cases employees have no choice – either they accept the 'envelope wage' or they do not get the job (European Commission 2007). Unfortunately, this situation might be beneficial to employee only in the short term. This means that

the person claims to lower pension benefits in the future. Moreover, employers are always at a criminal liability risk.

[32] Young and unqualified persons should be educated by the supervisors at practice places or by the first employers. But in this case, especially the first employer does not agree to pay all the costs, arguing that the future employers will reap the benefits for free. This viewpoint may discourage employers from paying the cost to educate their workforce (United Nations Development Programme 1999). It should be noted that in case organizations decide to educate and/or train their staff periodically, it frequently occurs that they pay them lower wages. The United Nations Development Programme (1999) stated that in this situation a solution is that organizations should unite resources to jointly finance education and training for the staff.

Talking about restructuration (especially change of status or relationship of employment) at socially responsible organizations, the following main aspects should be stressed (Blažienė and Gruževskis 2010):

- consultations between employers and employees before starting, during the process and after the restructuration;
- creating favourable conditions for employees affected by restructuration, in order to ensure the continuity of their professional career;
- non-discrimination (age, sex, membership to work union, and so on) policies and practices.

Sometimes the relationship between employees and the company may reflect conflicts of interest related to effort, training, cooperation with other workers, etc. Some of these conflicts can be resolved with incentives and mechanisms for promotion, but imperfectly, because it is quite complicated to measure productivity, especially when working in teams. The fact that the relationship between the employees and the organization is repeated, helps to solve problems without resorting to high-cost controls. The idea is simple: an employee, who perceives that person has better working conditions than those he/she could have in another company of the sector, has

an incentive to behave cooperatively in order to preserve his long-term relationship with the company (Ganuza 2012).

Unfortunately, the mentioned and other measures to ensure socio-economic justice in labour market are well-known in society, but still remain unexploited, as it was shown in the results of the social survey, which are explored in the next section of this article. To sum up, the companies, especially socially responsible ones, should use proper measures in order to ensure the socio-economic justice, as only socially responsible organizations can take advantages of their favourable status and strengthen their attractiveness as a magnetic employer.

[33]

METHODOLOGY OF THE RESEARCH

To reveal the situation of socio-economic justice in Lithuania the results of representative survey of Lithuanian residents, done from 10–14 April, 2013, are used. The survey was done by Market and Opinion Research Centre 'Vilmorus Ltd.' under the order of the Mykolas Romeris University's scientific group of the scientific research project 'Socio-Economic Justice Perception for Residents and Customers Formation Guidelines.' The survey was conducted implementing the national Research Programme 'Social Challenges for National Security,' SIN-12005, supported by the Research Council of Lithuania.

Multi-stage sampling method was used, and then the selection of respondents was prepared, so that each resident of Lithuania had equal chance to be interviewed. In twenty cities and thirty nine districts 1050 residents ($n = 1050$) of all ages were surveyed, starting from 16 years, which, according to Strauss-Howe (2000) generational theory, form four generations:

- the *Silent* generation – born in 1919–1947 – 25.6 percent of respondents,
- the *Boom* generation – born in 1948–1967 – 34.8 percent of respondents,
- the *X* generation – born in 1968–1987 – 25.5 percent of respondents;

- the *Y* or *Millennial* generation – born in 1988–2007 – 14.1 per-
cent of respondents.

Questions, which represent the opinion of residents about the socio-economic justice in labour market were selected, emphasiz-ing the income, the reasons on what the income should depend and why it could diverge; and the general socio-economic situation in the country expressing the satisfaction of respondents in redistributing the public goods. The results were presented at the 14th Manage-ment International Conference 'Industry, Science and Policy Makers for Sustainable Future.'

RESULTS OF THE NATIONAL REPRESENTATIVE
SURVEY OF LITHUANIAN RESIDENTS
Income: Differences and Reasons

The huge amount (84.2 percent) of Lithuanian respondents believe that differences in income between the wealthy residents and others in Lithuania are too big; only 5.7 percent of respondents is satisfied with income differences; while the rest (10.1 percent) do not have a strong position on the question of the differences in income (see figure 1).

By more than half (54.9 percent) of respondents – comparing the answers of different generations – it should be underlined that the *Silent* (65.1 percent of them), the *Boom* (59.4 percent of them) and the *X* (48.0 percent of them) generations have a strong position that the income should not diverge a lot. The rest part (45.1 percent) of respondents – especially the main part (62.2 percent) of the *Millen-nial* generation – acknowledges the income differences and listed the following reasons:

- almost one third (28.5 percent) of the respondents acknowl-edge the income divergence because opportunities and tal-ents of every person are too different – this reason was es-pecially vindicated by the *Millennial* generation (36.5 percent of them);
- each twelfth respondent is sure that in the opposite case peo-ple will have no motive to work hard;

Totally agree ██████████████ 47.1%
Agree ███████████ 37.1%
Nor yes, nor not ███ 10.1%
Disagree █ 3.8%
Totally disagree █ 1.9%
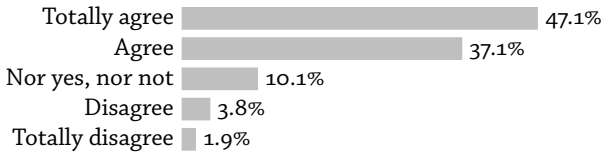
FIGURE 1   Income Differences between the Wealthy Residents and Others
in Lithuania are Too Big

1–2 times █████ 17.5%
3–4 times ████████████ 41.1%
5–6 times ██████ 20.5%
7–10 times ████ 13.0%
11 and more times ███ 7.5%
Does not know | 0.4%

FIGURE 2   Reasonable Income Differences between an Owner of a Huge
Factory and Unqualified Worker in the Same Factory

- 3.6 percent of them believe that income differences motivate people to have a dream to become wealthy;
- 2.9 percent – has faith that the state could not develop without large income differences;
- and 1,7 percent believe that small income differences could result in socialism, which can reduce the personal freedom of people.

Only 2 residents (0.2 percent) did not know or have not answered at all.

To find out the opinion of respondents about the reasonable differences in income, the following situation was created: income of an owner of a huge factory compared to unqualified worker in the same factory. The respondents answered as follows to the given situation: the main part (61.6 percent) agreed that the income could diverge by 3 until 6 times. One fifth (20.5 percent) of respondents believe that the income could diverge by 7 and more times and 17.5 percent hoped that it could differ only by 1–2 times. 23.8 percent of all respondents had higher education (see figure 2).

The respondents believe that the divergence in income between an owner of a huge factory and unqualified worker in the same fac-

TABLE 1 Reasonable Income Differences between an Owner of a Huge Factory and Unqualified Worker in the Same Factory: By Respondents' Activities
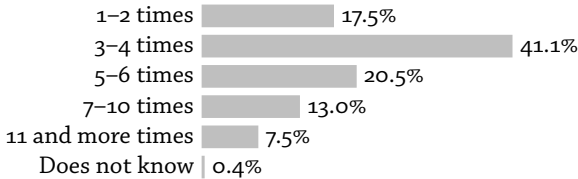
Activities	(1)	(2)	(3)	(4)	(5)	(6)
Businessman	10.0	60.0	10.0	15.0	5.0	—
Senior or middle manager	5.9	35.3	23.5	20.6	14.7	—
Skilled worker	11.2	43.8	22.2	13.5	9.0	0.3
Unskilled worker	20.5	40.9	20.5	9.1	9.1	—
Farmer	14.3	28.6	28.6	—	28.6	—
Pensioner	22.7	38.7	19.9	13.2	4.8	0.8
Unemployed	21.5	40.8	18.0	11.8	7.9	—

NOTES Column headings are as follows: (1) 1–2 times, (2) 3–4 times, (3) 5–6 times, (4) 7–10 times, (5) 11 and more times, (6) does not know/not answered.

tory could only amount to 1–2 times. Moreover, in this divergence the biggest gap in opinions of respondents with and without higher education was mentioned.

It is surprising that 11.4 percent of the surveyed *X* generation had nothing against the presumption that the income of the owner of a huge factory would be by 11 or even more times higher than the income of unqualified worker in the same factory. It could be assumed that the *X* generation associates the socio-economic justice with the persons competence and their ability to create significant added value.

Under the variety of responses it is interesting to examine the answers according to the respondents' activities. Analysing answers about reasonable divergences in income according to respondents' activities it was noticed that even businessmen have taken a strong position that the divergence should amount to 3–4 times (see table 1).

About 60 percent of businessmen do not to oppose that the income between the owner of huge factory and the unqualified worker in that factory could diverge by 3–4 times and only 5.0 percent believe that it could diverge by 11 or even more times. Senior and middle managers (14.7 percent of them) vindicate such huge divergence too. Interviews with the leaders and managers show that they are
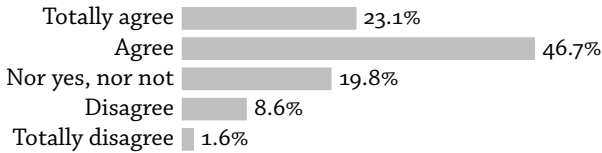
not satisfied with their entrepreneurship and abilities to apply innovative management and other technologies smoothly. Nevertheless, it is more noticeable upon inspection that farmers had no clear opinion about reasonable income differences (this was also because the number of farmers in the sample was too small). Moreover, by farmers we are faced with staff with notably low or even without qualifications. Such personnel require special supervision and control. These assumptions were based on the analysis of the survey data and interviews about individual opinions of respondents were confirmed by the following data. It was also important to find out 'what should the person's income depend on?' Distribution of respondents' answers is as follows.

[37]

Every fourth respondent – and 38.5 percent of the *Millennial* generation – believes that the income should depend on the effort of the person to improve his skills and qualifications. That is corroborated: majority of the elder generation (especially uneducated) work physically more than intellectually; young and educated people wish to perform intellectual work. Not without reason, young persons with higher education consider themselves being good specialists, even professionals, having strong merits. Young people believe that they must earn what they are entitled itself, as a result they dream to earn more than the fixed minimum wage. Unfortunately, market principles are difficult to reconcile with the practice in distribution and redistribution of public goods.

The *Silent* (33.8 percent of them), the *Boom* (41.2 percent of them) and the *X* (39.1 percent of them) generations stressed the reason 'how hard and how much the person works' the most.

A relatively small number (18.4 percent) of respondents still expects 'communistic' equality and privileges in redistribution of public goods and each tenth wish that the income could depend on how many dependents (children, persons with disabilities) are in the family. But still the question remains why even 37.5 percent of respondents are oriented to extensive development (how hard and how much/long the person works) and this needs separate study.

The least attention (8 percent of respondents) was paid to the reason 'practical experience (seniority).' This is why it became usual

Totally agree ▇▇▇▇▇▇ 23.1%
Agree ▇▇▇▇▇▇▇▇▇▇▇▇ 46.7%
Nor yes, nor not ▇▇▇▇▇ 19.8%
Disagree ▇▇ 8.6%
Totally disagree ▏1.6%

FIGURE 3   Public Goods Should Be Redistributed to Satisfy Basic Needs Not
Only of Society with Well-Earnings, But Also for Other People

to get increment to basic salary for accumulated seniority. Only 5 residents (0.5 percent) did not know or did not want to answer at all.

If we summarise, a positive trend should be acknowledged compared with the situation revealed by surveys on similar studies done a decade ago or earlier. Both social levels – employees and employers – realise much more that the socio-economic justice is created by their own hands and intellect.

The problem should be examined in terms of social relations to foresee further direction of changes. Sociality is one of the features of a democratic society, which is relevant to socio-economic justice. The prosperity of community and society largely depends on the redistribution of public goods.

Redistribution of Public Goods

To find out the general opinion about the socio-economic situation in the country, a statement was given that 'the public goods should be redistributed to satisfy the basic needs not only of society with well-earnings, but also for other people.' More than a half (69.8 percent) of respondents agreed with this statement. However, 10.2 percent of respondents disagreed with it and one fifth (20.0 percent) doubted this statement (figure 3).

To conclude, less than one-third of respondents is satisfied with the current socio-economic situation in Lithuania. The recent data of survey compared with previous studies, revealing the situation of socio-economic justice perceptions, suggest that the Lithuanian society, entrepreneurs, professionals and ordinary workers realise the essence of a welfare state. To sum up, the synergy development is the common goal.
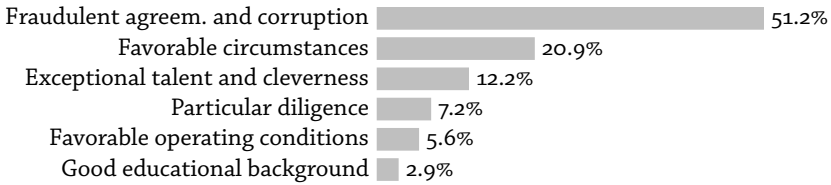
Fraudulent agreem. and corruption ▕▔▔▔▔▔▔▔▔▔▔▏ 51.2%
Favorable circumstances ▕▔▔▔▔▏ 20.9%
Exceptional talent and cleverness ▕▔▔▏ 12.2%
Particular diligence ▕▔▏ 7.2%
Favorable operating conditions ▕▔▏ 5.6%
Good educational background ▕▏ 2.9%

FIGURE 4   Circumstances Determining Welfare of the Lithuanian Residents

Corruption

Another important problem – distorting democratic relations and insulting the self-esteem of every member and the society as a whole – is corruption. More than 70 percent of respondents claim that good income derives from illegal deals, corruption and ability to seize the opportunities under certain circumstances. In other words, the criteria of welfare include neither extraordinary skills nor good educational background (only about 3 percent of respondents believe in this) (see figure 4).

To demonstrate how the residents evaluate the transparency of public relations and the current social justice, the corruption perception index (CPI) is annually measured by the global civil society organisation Transparency International. The leading global indicator of public sector corruption scores countries with a scale from 0 (perceived to be highly corrupted) to 100 (perceived to be very clean) points. The countries are ranked according the points received (Transparency International 2013). The experts highlighted that by assessing the perception of the country's corruption, the number of collected CPI points is more important than the occupied ranking on the list.

The problem of corruption is similar in most post-communistic countries. Lithuania took the 48th place out of the 176 countries, the CPI was 54 points in 2012. In 2013, the country collected 57 points and was the 43rd out of 177 countries.

It should be noted that a positive improvement is seen. However, to assess whether it is already sufficient compared to our Scandinavian neighbours, which we seek to align and develop cooperation with, with the CPI about 90 points.

Moreover, the corruption should be examined on the interna-

tional level more drastically. Only industry, science and policy makers working together can solve corruption, which is not the reason, but the result of unsuccessful management of public relations.

[40]

CONCLUSION

The results of a national survey showed that the concept of socio-economic justice in Lithuanian society changes – it formulates a realistic approach to social relations influenced by market conditions. The self-critical approach to business development and career opportunities promotes the improvement and the interest in innovations. A large part of the surveyed social groups links the socio-economic justice with the individual features and abilities to create added value.

The measures to increase socio-economic justice are well-known in society, but are still unexploited. The results of the national survey showed that less than one-third of respondents is satisfied with current socio-economic situation in Lithuania. The question remains why even 37.5 percent of respondents are still oriented to extensive development – hard and long work – and this question needs a separate study.

The problem of corruption should be examined on the international level, as this problem is similar in most post-communistic countries. Only industry, science and policy makers working together can solve corruption, which is not the reason, but the result of unsuccessful management of public relations.

Unfortunately, the synergy development – is still the goal of society and business. Companies, especially socially responsible ones, should voluntarily take part in social initiatives to increase socio-economic justice, as only responsible organizations can take advantages of their favourable status and strengthen their attractiveness as an employer and get recognized as reliable in the public.

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Trans-Regional Logistics in Carinthia: Perspectives and Vision on the Transport Infrastructure Development on the Business and Public Level

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Regional logistics development plans have become a key element for an effective – regional economy in Austria. Efforts to develop the region of Carinthia – which represents a substantial transport hub on the Baltic–Adriatic Axis – depend on targeted infrastructure investments combined with well-utilized and accessible modes of transport. As decisions on transport mode choice are made within companies, their involvement in planning processes is crucial. Therefore a more consistent approach to Carinthia's logistics infrastructure developments is required. The view of regional businesses is considered a significant basis for further public and managerial decision making with regard to the importance of future logistics developments.

Key Words: industrial organization, industry studies, regional transportation, transport, transportation

INTRODUCTION

Recently, regional logistics development plans have become a key element for effective regional economy in Austria. Especially Carinthia, being a transit province, benefits from these kinds of regional expansion plans. When promoting and developing logistics visions, master plans or concrete infrastructure investments, local and regional authorities aim for value creation within the region (Hesse 2004; 2006). More specifically such actions lead to enhanced attractivity of business locations, to optimized accessibility and utiliza-

tion of infrastructure as well as to efficient land use. As potential regional economic gains within the logistics sector are currently of high political significance, regional business logistics plans – set by resident companies – are required to be integrated into logistics-oriented policies (Qiu, Lu, and Wang 2008). An increase in logistics network activities through regional integration and networking, with the additional use of positive impetus from economic dynamics in neighboring regions, e. g. Styria and Slovenia, is one of the main objectives in Carinthia (Office of the Carinthian Government 2009).

This claim manifests the following consistent approach: a coordinated set-up of regional logistics activities on a company level and infrastructure plans on a public level are essential to cope with existing as well as expected freight traffic volumes. Efforts to further develop Carinthia as a major transport hub along the Baltic–Adriatic Transport Axis (BAA) depend on reasoned infrastructure investments combined with well-utilized accessible modes of transport (Office of the Carinthian Government 2009). Apart from the Gross Regional Product (GRP) in 2011 of 15.3 billion Euros (equals a rounded 5.0 percent share of Austria's total of €301 billion), Carinthia is involved in about a tenth of the overall evolving transport volumes (44.4 million tons out of a country-wide volume of 433.9 million tons). A dyadic modal-split shows a percentage ratio of 66.0 (road) to 34.0 (rail) of the transport performance in ton-kilometers, of a total of 8.07 million in Carinthia (including import and export volumes 'to' and 'from' Carinthia) (Statistik Austria 2013). As decisions upon transport mode choice are made within companies, their involvement in the public level planning process is essential in order to handle regional future transport volumes. Therefore, when developing trans-regional logistics networks, it is essential to consider companies' perspectives and their corresponding logistics plans on how to utilize regional transportation infrastructure.

MOTIVATION

The region examined in this paper is Carinthia. This Austrian federal state is strategically well-located, because it links Western, Cen-

tral and South Eastern Europe. With its favorable geographical position in the heart of the Alps-Adriatic region, Carinthia is interesting as an enabler for fostering connections to the growth markets in Southern and South-East Europe on the one hand and due to its close proximity to key markets of Central and Western Europe on the other hand. Carinthia's economy is characterized by a strong mix of sectors in which numerous businesses have grown to become world or European market leaders.

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Although the regions' existing infrastructure is described as an advanced infrastructure, regional politicians plan further developments (Office of the Carinthian Government 2009).

In detail, several regional projects in Carinthia are estimated to be highly important by EU politicians and characterize the current economic development of the region. The following list represents on-going initiatives in terms of logistics and transport (BMVIT 2010):

- Progress of the 'Semmering–Base tunnel' and 'Koralmbahn' projects to create an efficient rail infrastructure.
- Improvement of rail transport to improve its attractiveness as a mode of transport.
- Development of the dry-port terminal Villach/Fuernitz towards a more established transport hub, in order to establish the region Carinthia on the Baltic–Adriatic transport axis (BAA) connected with main transport routes from/to the Adriatic ports in the south to/from the Baltic area as well as Central and Western Europe.
- Raising awareness of the discipline 'logistics,' logistics excellence and processes in terms of a more strategic approach and more efficient infrastructure utilization.

Carinthia faces remarkable changes. In connection with the change in the European framework, the EU-membership of Slovenia and the Schengen-agreement, the foreseeable EU south-east enlargement also has an effect on the regional situation in Carinthia. Cross-border collaborations offer new opportunities for regional development. The fields of logistics and transport are considered as enablers in this matter (Office of the Carinthian Government 2009).

However, opportunities of a trans-regional cooperation between Carinthia and neighboring regions depend on the level of cross-border logistics cooperation combined with coordinated transport infrastructure utilization.

[46]   The aim of this paper is to illustrate perspectives of major industrial companies in Carinthia, explaining their logistics plans and visions regarding regional transport infrastructure development for trans-regional logistics flows. Enlargement and internationalization processes generally mean a higher degree of interaction on the business sector in terms of visions and plans of logistics (Wang 2008; Wagner 2010).

Companies are obliged to build up networks and partnerships with an international focus on new member states in order to strengthen the logistics as a discipline and to enhance its importance on a policy level.

The motivation for seting up this paper is based on the need of providing a broader perspective on Carinthia's logistics infrastructure developments from the view of regional businesses. Following a bottom-up approach, requirements of local companies serve as a basis for public decision making in this field. It should provide answers to the research questions:

1 How can the future potential of Carinthia in terms of access to trans-national transport networks (e. g. through the dry-port concept Villach/Fuernitz or 'Koralmbahn') be evaluated?
2 How do regional companies evaluate the role of the Adriatic ports for their business and/or for the development of logistics in Carinthia?
3 What is the potential impact of logistics as a 'discipline' in terms of regional transport and logistics network developments?

METHODOLOGY

Due to a lack of respective studies, qualitative research has been defined as the methodological approach in this paper. Major companies located in Carinthia were surveyed by conducting (in-depth)

TABLE 1 Survey Scope: Trans-Regional Logistics in Carinthia

Industrial area	Business	(1)	(2)	(3)
1 Metal/steel industry	Aluminium profiles/components	96	15.5	90
2 Mechanical engineering	Pumps and compressors	480	56.9	98
3 Automotive supply industry	Filter systems and fittings	1980	497.7	80
4 Metal/steel industry	Metal constructions	400	102.6	50
5 Metal/steel industry	Metal constructions	220	60.2	70
6 Fine mechanics and optics	Semiconductor/optical systems	290	80.4	80
7 Infrastructure operator	Intermodal rail/terminal services	n/a	n/a	n/a
8 Public administration	Development agency services	n/a	n/a	n/a

NOTES Column headings are as follows: (1) number of employees (2012), (2) turnover (million EUR, 2012), (3) export ratio (%).

expert interviews. In doing so, a well-structured interview guideline has been applied. Subsequently, interviews were transcribed and investigated by comprehensive content analyses. It has been used to identify how businesses perspectives and visions in Carinthia relate to logistics and to what extent transportation infrastructure development affects their trans-regional logistics network activities.

The survey scope involved six industrial businesses (with an export ratio from 50.0 to 90.0 percent of goods sold), selected from the top 25 exporting companies in Carinthia, as well as a local infrastructure operator and development agency service provider (table 1). The survey scope data in table 1 is in no specific sequence and without a reference to the related content. All content analysis results are represented in a summarized collective report (findings chapter) as a basis for public and managerial decision making procedures. The content of the findings chapter is based on in-depth interviews conducted between May and the end of June 2013.

The content of personal communication with strategic logistics managers, procurement managers and transport planners has been correspondingly summarized.

The results of this research represent a central part of the pro-

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posal for a Regional Action Plan in Carinthia, which is an essential output of the EU project 'Log4Green' (www.log4green.eu). Therein, analyses from Carinthia (Austria), Ruhr Area (Germany), Wallonia (Belgium), Normandy (France), Istanbul (Turkey), and Odessa [48] (Ukraine) are performed in order to develop these logistics clusters by means of a joint action plan towards sustainable transport logistics systems (Log4Green 2012a). The overall objective of this project is to strengthen regional competiveness and growth through creating innovative logistics solutions within the aforementioned European logistics regions (Log4Green 2012b).

LIMITATIONS

Although this research approach was specifically prepared and dedicated to answer the stated research questions, there are limitations to be taken into account, in terms of (1) time aspects, (2) survey scope/sample & method and (3) regional context characteristics. The research work comprised qualitative data collection from May to the end of June 2013 and displays only a current reflection of investigated aspects with no longitudinal character. The scope of interviews is limited, with six in-depth interviews of respondents (logisticians) in regional businesses, as well as one of each with an infrastructure operator and a public development agency service provider – with no permission to generalize the stated opinions of interviewees for other target groups. Due to the survey method, a certain degree of subjectivity is unavoidable. Due to the regional character of the analysis in hand, all given results have specific regional reference, dependent on the conditions and nature of trans-regional logistics in the area of Carinthia.

FINDINGS AND RESULTS

When economic challenges in business areas meet framework conditions and regional development trends in the transport and logistics sector, important dynamics needs to be to mention: First, the level of usability/accessibility regarding existing transportation infrastructure. Second, the systemic logistical network environment. Third, the strategic orientation and interest towards (sustainable) logistics on a business and public level.

This paper reports on the authors' survey on the basis of in-depth expert interviews and comprehensive content analyses. The subject of this survey are ongoing regional transportation infrastructure measures and their opportunities related to accessibility, transport utilization and modal shift potential (increasing number of rail transports) within the transport corridor area on industrial business level. Furthermore, this paper reflects the companies' view on Carinthia's role as a transport hub. In particular, the concept of developing a dry-port which enables a powerful hinterland connection between the Baltic area and the southern ports (Venice, Trieste, Ravenna, Koper and Rijeka) is investigated. Additionally, the paper provides insights into how regional companies in Carinthia currently handle transport volumes and which logistics strategies are aligned with regional transport infrastructure developments. Moreover, results may suggest how the increased awareness towards the discipline 'logistics' can influence sustainable strategies and foster continuous intermodal and trans-regional freight transport processes.

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Finally, the elaborated findings could illustrate a region-specific basis for public and managerial decision making. Based on that, concluding statements and parameters for a logistics master plan, which aims at strengthening the discipline 'logistics' as well as enhancing the usage of transportation infrastructure throughout Carinthia (as a region with a central hub function in the Alps-Adriatic area), are prepared.

When considering the above mentioned dynamics through regional and trans-regional logistics developments, three core topics determine the research findings in order to answer the stated study/research questions. In addition to the *effect of the discipline 'logistics' on regional transport development,* the study evaluated *regional development and logistics potentials* and explored *strategic trends in sustainable transport logistics*?

Tendencies towards Sustainable Transport Logistics Strategies
Companies questioned the claim that green and sustainability issues in terms of transport logistics seem certainly relevant, but their integration in strategic and operative processes varies. Most of lo-

cal businesses organize their logistics processes through their own shipping and logistics departments. These companies usually cooperate with one logistics service provider and several regional freight forwarders for physical transport handling. While outsourcing all logistics processes is mostly not considered, businesses expect best transport utilization and cost efficiency to be realized by the assigned service provider.

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Predominantly, economic issues are most relevant in the companies' field of logistics and transportation planning. In fact, 'time' and 'security of delivery' are identified to be considerably more important than 'sustainability concepts.' The *compliance with requirements and commitments to customers* is considered as the priority issue. Further objectives concern (1) the best possible utilization of trucks, (2) management of bundled transports according to target regions and destinations as well as (3) modal-shift of transport volumes from road to rail. Finally, for economic reasons: the motivation to set realizable measures for cost reduction is important.

Aside from internal structures and strategic characteristics in the businesses interviewed, sustainable transport logistics strategies and efforts are negatively influenced by three decisive external factors:

1 Customer-driven *short-term but tight supply horizons combined with inconstant quantities* that result in imbalanced transport streams and in high numbers of handling activities.
2 *Lack of regional service provision and unsuitable runtime schedules for rail services;*
3 Mainly *non-existent infrastructure/supra-structure* (closed regional rail sidings on company sites) for using alternative modes of transport.

Additionally, customs processes and subsequent transport planning methods increase in complexity. Economies of scale are often no longer achievable and each handling stage constitutes additional defects potential. This is a reason why infrastructure operators which define their offered additional services (e. g. transshipment and storage activities) have recently gained in importance.

Sustainable transport processes are closely linked with professional handling and optimized distribution practices. Hence, all the respondents consider modal shift – from road to rail – and cooperative use of transport resources as an environmentally friendly and sustainable contribution within the logistics sector? [51]

Development agencies perceive high-performing transport logistics processes and advanced on-site-services (e. g. cargo handling, storage and distribution) in Carinthia as key factors towards expanding location quality and long-term development of a major logistics hub. Sustainable services in transport are connected with strategic requirements along the transport corridor and the coordination towards Adriatic ports.

Although tendencies for sustainable transport activities exist, potential in improving coordination and service processing between actors of the logistics and transport sector can still be recognized.

Evaluation of Regional Development and Logistics Potentials

Transport infrastructure development refers to location-specific aspects, trans-national access/connections, freight and transportation characteristics and expected effects through investments and developing projects. Respondents preponderantly mentioned the location of Carinthia as being favorable in terms of road and rail connections as well as its near-by location to important transport corridors and Adriatic ports. In contrast to that, regional restrictions in transport planning, such as the closure of rail sidings, are assessed to be disadvantageous for several local companies. In case of on-site railway sidings, a modal shift from road to rail is feasible. However, owing to the present high cost of rail transport and the inflexibility of the railway system, a trend of a reversal to road transport was identified. Economic reasons (e. g. high operating costs) and principally small regional transport infrastructure resulted in a discontinuation of train services within the province of Carinthia. The infrastructure operator argues about the limited use of on-site rail sidings and about prioritizing road transport by the companies – resulting in the lack of necessity to keep unprofitable rail services. In turn, companies claim that they use rail less because of cost and

inflexibility. Any further shift would be dependent on enhanced developed and consistent rail connections and services.

The projects 'Koralmbahn' and 'domestic dry port Villach/Fuernitz' are not considered as essential and strategically important by respondents. In fact, companies question the nonexistent volumes on the transport axis. There are only limited doubts about the transfer of traffic from corridors located outside Austrian borders into the Austrian transport network links. While opportunities for bundling and enlarged road and rail track use are expected, an increased transit character is not anticipated by respondents.

Due to Carinthia's topography, regional differences in logistics services offered are identified, characterized by the increasing shortage of services in peripheral regions?

The dry port concept (a marshaling yard including a handling center for wagonload traffic and a container terminal for intermodal traffic) is set to initiate a potential location setup for the integrated combination of freight distribution and material management (city logistics) for Upper and Lower Carinthia. Companies identify a domestic dry port – appropriate services implied – as an opportunity to strengthen the main transport corridor connection (axis destinations and ports) and to shorten transport time. Although cost-benefit calculations of this project regarding freight transport are widely unclear, study respondents expect purposeful management decisions and concepts to enhance the route use and to enable a modal shift from road to rail. The closures of regional railway sidings – in this context – appear rather counterproductive for ongoing infrastructure developments. If companies are cut off from infrastructure networks, potentials for businesses through an efficient connection to the axis and dry port route no longer seem obvious.

In terms of trans-national cooperation (between various rail companies in international rail transport) existing communication and information deficits require further coordination and common ground for future perspectives. For international transport matters, a powerful connection between the hinterland to the Adriatic ports is considered beneficial. Since the European Economic Area will increasingly be supplied with raw materials by sea in the future, the

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southern ports gain importance. Based on the derived research material, it is necessary to ensure that port operators and ship owners provide the equipment needed (which is actually not the case) to handle transferred delivery volumes.

The ultimate vision would be a set-up of the appropriate service portfolio, which is beneficial for the development of the ports, the transport-hub and the corridor. Expectations of the regional development service agency involve complementary logistics service, the potential of which is recognized along the trans-regional transport axis. Within its developing process, Carinthian policy objectives are affected by specific framework conditions at European and national level. Conditions refer to the relevance of growth and employment efforts as well as mechanisms for internationalization, location promotion, SME-support and infrastructure (road and rail) investments (Habsburg-Lotharingen and Dinges 2006). Regional infrastructure development symbolizes one evolutionary factor in systemic transport networks. A second factor is the 'mindset in logistics' itself that enables changes in both transportation planning and decision on transport modes. Using the collected study material, any registered impacts through the discipline 'logistics' are portrayed as follows. [53]

Logistics as a Discipline and its Impact on the Regional Transport and Network Development

Efforts in logistics projects – intended for strategic progress in this specific field of management – have become common within companies in recent years. In fact, respondents confirmed this development aspect in the interviews. Both, internal and company-wide processes (e. g. optimization in supply process, production or cargo handling), underlie process analysis noticeably to pursue logistics strategies. The main reason for this approach is related to plans to overcome dynamics in economic environment, supply and demand. A registered imbalance is the root cause of challenges: companies and their logistics service providers are struggling with this matter. A more flexible demand combined with ambitious logistics concepts (e. g. just-in-time/sequence – with smaller loads and shorter

supply streams) will support a more efficient coordination of processes. Therefore, closer cooperation is desirable for companies involved (e. g. shippers, logistics service providers, freight carriers) in order to alleviate the effects of imbalance. With regards to the services required, companies evaluate logistics as an important parameter for (1) reducing process costs and cycle times, (2) focusing on customer requirements and (3) meeting the desired quality at the lowest possible cost level. Quality demands (regarding delivery time, quantity and quality aspects) of the end customers are considered more and more as a key criteria. Businesses questioned a report on dramatically changed and optimized processes (including time reports and process control). Changes in logistics-mindset are becoming tangible and the discipline 'logistics' is considered as an enabler of solutions.

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A discipline 'logistics' incorporates decisions in strategic processing as well as in transport planning. This research study illustrated that transport *infrastructure development* and *logistical decision making* in combination, influence the realization of potential. This is a fact, which the surveyed companies preponderantly try to consider in their day-to-day operations. Coordinated logistics realize the use of infrastructural connections and lift modal shift potentials. It is the specific awareness of a suitable combination of strategic and operational logistics decision-making, both on a business and on a public level. Transport infrastructure investments without any investment in the discipline 'logistics' (as a strategic topic) is expected to be ineffective. Operational logistics is a very technical profession that requires a combination of a theoretical knowledge base (logistics strategies, analysis methods, key-drivers regarding process quality and costs), practical experience and skill. Respondents complained about the quality of logistics education on a professional training level, which makes it more difficult to find motivated logistics staff. It is certainly common that companies therefore establish their own concepts for further training and practicing facilities offered to educate logistics staff. On the academic education level, businesses remarked on the difficulties of finding suitable personnel at a (top) management level. This might be related to the lack of

international education orientation in Carinthia. As logistics is to be understood in an international context, a certain development potential is evident in this matter.

Regional development agents note that the term 'logistics' is currently often regarded as just a phase of transport from one place to another. Key characteristics, such as 'an integrated process view,' 'global-reach thinking' or 'involvement of cooperation partners' seem to be unconsidered. Therefore, logistics in its entirety is not understood by the population and even by responsible business staff. It is still the responsibility of political decision-makers to prioritize logistics issues and to foster knowledge in this regard. All potentials that are expected with any physical investments strongly depend on concepts and mindsets of involved decision makers. Based on these study findings, transport infrastructure utilization, modal-shift potentials or trans-regional corridor networks are – up to a certain extent – also dependent on to what extent the discipline 'logistics' is characteristic for the region.

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CONCLUSION

Three major, regional and trans-regional specific issues, have been elaborated in this research study. Firstly, the identification of the region's potential through the development of ongoing transport network concepts. Secondly, the evaluation of regional infrastructure and transport access options. Thirdly, the reflection of respondents' sensitivities towards the term 'logistics' as a type of discipline and its conceivable impact, strengths and requirements on a businesses and public level.

Except for respondents' positive views on regional developments, uncertainties towards the level of use and access as well as benefit enhancement through transport infrastructure changes can be recognized. The connection stability between the transport hub, the Adriatic ports and transport axis as well as their level of utilization is currently not assessable for the surveyed businesses. It will depend on how public decision makers reach a consistent cooperation agreement between all stakeholders involved – starting on a regional basis before moving on to trans-regional relationships (see

figure 1). An essential aspect is *the clear holistic view of the system including all stakeholder groups.* The task can first be considered on a regional level, but as soon as trans-regional transport flows are concerned – and this is undoubtedly the case – the regional view turns into a complex system or a network structure.

Several actors within the relevant (inter)national transport network need to be convinced in order to develop a strong basis: the government(s), the transport service provider(s), the state federal railways (private railway organizations), the partner-state railways (including all partner states along the corridor), the shipper(s), the consignee(s), the port operator(s) and the ship owner(s).

Considering the interests of all the above mentioned stakeholders into a wide network community, this will obviously not be a trivial task. It requires strong communication efforts and might enable a change in short-sighted plans dramatically. These plans concern business at least as much as the public level *whereas* logistics is possibly the most helpful tool for combining both strategic interests. It is necessary to consider possible risks that can accompany the development of one transport logistics master plan, in favor of a trans-regional transport network involving Adriatic ports, the regional hub and the Carinthian connection to the BAA. One risk might enfold *fluctuations in transport volumes along the transport axis* – through facilitating several kinds of transport operations (e. g. through container traffic as well as integrated single-wagon transport). Another risk may affect the *acceptance of shippers, consignees and transport service providers regarding technical and suprastructural premises* due to smaller port-sizes (compared to northern ports). A third risk might concern the *uncertain stability of economic trends, processes and conditions* that are not even easy to comprehend with supporting IT-network-systems and intelligent communication techniques. All energies for setting the relevant infrastructural standards need to be aligned with a strategic logistics mentality and control of the relevant influential framework conditions.

The importance of logistics on the political level in Carinthia is regularly limited to infrastructure issues. On the one hand, it seems that logistics is often perceived as a contributory cause of traffic

congestion and environmental pollution. On the other hand, local businesses experience politics involving themselves only in the case of deciding on night driving restrictions or dangerous goods regulations. It has been reported that precedent-setting decisions have often been delayed and that infrastructure projects have simply been taken for election campaigning purposes. Often, far-reaching strategies as to how infrastructure can deal with the increasing volume in transport in the coming years, are lacking. Without a targeted *logistics master plan* and without a sufficient *trans-regional cooperation concept,* all previous efforts that stand behind a high-performing transport region – and its infrastructural development – are clearly endangered.

Some recorded study results have indicated that there are strong opinions in terms of logistical aspects: Carinthia and its current state of a characterizing logistics portfolio are described as a 'transport region' and as a 'region of freight forwarders.' This fact shows high relevance in the field of logistics and verifies expectations regarding competiveness.

OUTLOOK

The stated imbalance in demands and transport volumes, the increase of complexity of supply processes and the internationalization in planning and coordination activities – these are the original challenges of logistics in the last few years. Strategies and relevant physical framework conditions need to be combined wisely to cope with upcoming dynamics in transport business. Due to the growth of buying markets in the Far East and the Middle East, changes in global freight flows have been determined. The increased demand for goods from (South East) Asia upturns numbers and volumes of trade flows to Europe significantly. As expected, this structural change affects the need to redesign the European Economic Area, the infrastructure and transport network systems. While the northern ports are faced with capacity constraints and an invariable return to original volumes, the southern ports have opportunities in terms of 'new markets.' With the establishment of the NAPA (North Adriatic Ports Association) and the Association of Strategic Adri-

atic ports of Koper, Trieste, Venice, Ravenna, Rijeka, a milestone developing the significance of this transport connection has been set. NAPA is the collective goal towards improving the situation in the North Adriatic region and strengthening connected trans-regional transport corridors (www.portsofnapa.com).

[58]

The trend-setting redesign of the European Economic Area, caused by the aforementioned transport flows, stresses the importance of NAPA and its contents. Due to the strong partnership between Carinthia and the Adriatic ports already, there is a high potential in terms of further establishing the hub-location Villach/Fuernitz as a basis for further cooperative activities for the hinterland connections as well as shared synergies in the transport system along the Baltic–Adriatic Axis.

Reconsidering sustainable utilization of transport corridors and intermodal transport units, a regional logistics master plan and intra-regional agreements are necessary to foster three decisive aspects in transport logistics:

1. The individual improvement measures – to increase attractiveness of the hinterland connection to regional and transregional trade and procurement markets – as a key requirement for operation on the corridor (BAA).
2. The collective, strategically agreement for a consistent transport flow through the Adriatic ports, the regional transport hub Villach/Fuernitz and along the Baltic-Adriatic Corridor.
3. The increased awareness of the need for a conjoint effort and network system in which stakeholders – from the transport service provider to the ship owner at the port – stand for one combined trans-national transport chain.

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Ontology-Based User Profiling for Personalized Acces to Information within Collaborative Learning System

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The use of modern educational technology methods has become an important area of research in order to support learning as well as collaboration. This is especially evident with the rise of internet and web 2.0 platforms that have transformed users' role from mere content consumers to fully content consumers-producers. Furthermore, people engaged in collaborative learning capitalize on one another's resources and skills, unlike individual learning. This paper proceeds with a categorization of the main tools and functions that characterize the personalization learning aspect, in order to discuss their trade-offs with collaborative learning systems. It proposes a framework of a personalized information research (IR) within a collaborative learning system, incorporating the characterization of the research type carried by the query, as well as modeling and constructing semantic users' profiles. We use the context of the user query into a prediction mechanism of the search type, based on a previous identification of users' levels and interests. The paper is concluded by presenting experiment results, revealing that the use of the subject ontology extension approach satisfyingly contributes to improvement in the accuracy of system recommendations.

Key Words: information technology, collaborative learning, ontology, information research, user profile

INTRODUCTION

Nowadays learning is being developed and applied in new ways. Its goal is transforming learning to meet learners' lifelong needs.

This adequacy/personalization will accompany learners during their professional careers. Moreover, it will promote both, social and economic goals through its contribution to preventing skill mismatches, boosting productivity and also addressing social equity and social inclusion (ELGPN 2012). This new learning context implies a different role for learners. They need to keep up to date with new knowledge, which needs in turn to promote professional networks and learning organizations. Thus, learning becomes more collaborative and personalized at the same time. In IT environments, there are many tools to support collaborative web which is a part of novelties brought by Web 2.0. By using these tools, the user has the opportunity to participate, share and search the content corresponding to his needs. However, the research task is the most important step towards the support of learner during his learning process. It enables the provision of the most adequate content to him, which in turn leads to the development of his knowledge level. In fact, the overloading data would make learners feel lost and frustrated when they search for relevant information on websites. In general, learners prefer and are more comfortable with websites that present the right content in ways that correspond to their preference (Aragonees and Hart-Davidson 2002, 375–88). The objective of a personalized collaborative learning system is to optimize the management of knowledge exchange. Indeed, each contribution or research activity of the learner, is used on one hand to construct his own profile, and on the other hand his contributions will be recommended to all other learners with similar profiles. According to Tang, Yao and Zhang (2010) the user profiling forms are the basis of the main techniques related to most recommender systems. Profiling of a Web user is the key process that allows the personalization of the information looked for by him. Considerable efforts have been made to find the user's interests. Some applications directly involve user data through surveys, questionnaires, submitting personal information during registration, and so on. In this case, the type of content may be provided for users according to their choices and preferences (Cheng et al. 2009). Some other applications, building user profiles in accordance with log files, are engaged without the

user direct involvement (Liu and Keselj 2007). It's still insufficient for modeling and understanding users' behaviors. The major limitation of the classical profiling is that it is based on a general approach that consistently evaluates user requests and delivers results without considering the context of research. However, the utilization of ontologies in user profiling techniques has gained much attention since it allows inference to be employed, enabling interests to be discovered that were not directly observed in the user's behavior (Wu, Zeng, and Hu 2009). In this way, the profile of each learner is described by annotations in accordance with ontology. This allows the system to 'know' at a given time, the learner's needs in order to promote the success of his learning. Furthermore, once profiles are represented using ontology, they can communicate with other ontologies and share similar concepts, which contributes to knowledge reuse (Felden and Linden 2007). In this paper, we propose a refined ontological profiling method based on user's information search within a collaborative learning system. According to learners' profiles, the most relevant contributions of other learners will be proposed to them, which will take into account the explicit and implicit interests of the learners, and will also reduce the total reasoning time of the system by searching only in similar profiles contributions.

[63]

STATE OF THE ART

User Profiling and Related Work

Whatever the approach of personalization, we still need to collect and save data describing users in profile classes. These profiles are defined by contextual elements directly related to the user, such as his interests, his search preferences, etc. In fact, interest profiles satisfyingly contribute to improvement in the accuracy of recommendation. Their construction is presented on a rather fine granularity level. Generally, there are several methods to extract the contextual elements characterizing the user profile. In web-based social networks such as MySpace and YouTube, the user has to enter the profile by her/him-self. Unfortunately, the information obtained solely from the user entering profile is sometimes incom-

[64] plete or inconsistent (Tang and Zeng 2012). The need for a profile that supports reasoning is stressed out in (Rich 1983). An overview of methods for building a user profile semantically is presented in (Rich 1983). The user modeling knowledge plans, and preferences in a domain are presented in (Kobsa 1993). In this context a wide variety of Artificial Intelligence techniques have been used for user profiling, such as case-based reasoning, Bayesian networks, association rules, genetic algorithms, neural networks, among others (Schiaffino and Amandi 2009, 193–216). The purpose of obtaining user profiles is also different in the various areas that use them. But, to keep the reasoning side in the profiles' construction, all purposes should refer to ontologies. Nonetheless, most existing models based on ontology only consider the importance of the concepts in capturing user interests. Although some models (Vallet et al. 2007) used semantic relations for user modeling, these relations are merely used to indicate that certain concepts are connected, and semantics of the relations are not considered. To build more precise user profiles, it is essencial to explore effective ways of combining semantic relations with concepts for representing a user's interests (Xing and Tan 2009). The implicit profiles are acquired on the basis of correlative relationships among topic nodes. Inside this semantic context, there are two main strategies to build user profiles: document-based and concept-based approaches. Document-based user profiling methods aim at capturing users' clicking and browsing behaviors. This approach is based on measuring the occurrence of click through data through user's activity, before being represented as a set of weighted features. Secondly, concept-based user profiling methods aim at classifying users browsed documents and search histories to a set of topical categories. Then, users' profiles are categorized in the extracted topical categories. However, the most existing user profiling strategies only consider documents that users are interested in (i. e. users' positive preferences) but ignore documents that users dislike (i. e. users' negative preferences). While Profiles built on both positive and negative user preferences can represent user interests at finer details, personalization strategies that include negative preferences in the personalization pro-

cess are all document-based, and thus, cannot reflect users' general topical interests (Leung and Lee 2010). Practically, the most common representation of user interests are keyword-based models. Those interests are represented by weighted keywords representing users' interest-topic relevance. The main problem of this representation is that keywords contained in users' requests/posts present high diversity and nearly no overlapping that prevents from achieving an accurate profiling. In literature, there are some propositions to solve this problem. Ebner et al. (2010) argue that a knowledge-based semantic analysis is needed to deal with the high keyword diversity, they propose to manually link each keyword with its related category. Zoltan and Johann (2011) leverage the contribution of extracted information to the user profile according to their degree of occurrence with respect to the linked categories. They characterize users' profiles according to a set of weighted categories. Bernstein et al. (2010) present a new approach based on transforming noun phrases found in each user's message (composed usually of compressed similar words to gain space) posted on Twitter (or other web 2.0 application) in a set of web search queries, to retrieve documents that help to expand the original message context. To affect the topic to the original message, authors apply a term co-occurrence techniques. The main problems of this technique are related to the execution time and ambiguity derived from querying keyword-base search engines (Alexandre, Sánchez, and Roca 2012). To overcome the difficulties presented in these last methods, we will make use of the benefits offered by collaborative learning systems. Much of researches on collaborative learning were been based on the idea that peer interaction can be a powerful means for learning if and when peers engage in collaborative sense-making processes (Asterhan, Schwarz, and Eliyahu 2014). Indeed, we will benefit from contributions of other users with a similar profile to resolve requests with the appropriate content. These contributions can also be feedbacks on outcomes correctness expected through collaborative reasoning, since it provides an answer/proposition about users' knowledge domain. In summary, computer Supported Collaborative Work (CSCW) systems provide the necessary sup-

[65]

port in the use of communication services for sharing information and finding appropriate users to collaborate (Agustin, Amandi, and Campo 2009).

[66] *Collaborative Web and Tools*

Collaborative work is work performed in general by several people leading to a common task. It assumes that people interact to accomplish a fixed goal, according to their skills and role in the group dynamics. If the goal is the acquisition of skills, we will call it a cooperative work or cooperative learning. According to (Lopriore 1999) cooperative learning, which is a kind of collaborative learning, it is a learning group activity, organized in a way that learning will be dependent on the socially structured exchange of information between learners in the group. It is also an activity in which the learner is responsible for his own learning and motivated to participate in the learning of others. Once the internet media is used we talk about collaborative web, which is one of innovations introduced by Web 2.0. This web technology allows every user to become an actor, not a spectator.

Actually, with the development of new educational technologies the constructivist approach has led to the use of online learning communities in educational settings. In this way, De Wever et al. (2006) argue that CSCL environments provide a richer learning experience because inputs explain personal learning elements (memory recall) and consecutively order knowledge elements during social interaction. In addition to this main advantage of CSCL environment, they still benefit from functionalities offered by online learning environments, which led to the higher quality of knowledge exchange and important enhancement of mutual interactions. In fact, learners play an active and constructive role by providing contributions and during their interactions in CSCL (Dewiyanti et al. 2007). However, these rich learning environments are becoming more important qualitatively and functionally. In the opposite way, an environment structured by considering these elements can significantly influence learners' contributions as well as the effectiveness of the environment (Akgün and Akkoyunlu 2013).

Collaboration services are present on both, intranet and extranet. More broadly, there are many tools to support collaborative web:

- Communication tools: e-mail, forum, chat, video conferencing services, user directories, etc.
- Content sharing tools: wiki, blog, file libraries, virtual whiteboard, etc.
- Organizational tools: shared diaries, todo-list (task list), etc.

Among the software/websites the most known include: Wikipedia, Google Docs, Lotus Note, Microsoft Exchange. There are also content management systems (CMS or CMS) to create their own tools, such as MediaWiki which is the engine used to manage Wikipedia.

In all educational systems, learner interests and goals have been raised to guide learning development, in order to make learning practice aligned with objectives and strategic plans of learning systems. However, it will be more effective to reveal these interests through the use of ontologies within CSCL systems.

User Interests and Ontology

User interests are among the most important parts of user's profile in information retrieval, filtering systems, recommender systems, some interface agents, and adaptive systems that are information-driven such as encyclopedias, museum guides, and news systems (Brusilovsky and Millán 2007, 3–53). The most common representation of user interests are keyword-based models, which are extracted from his search requests or his contributions within the collaborative learning system. However, the ontology is used as the reference to construct a user interest profile. It serves to share common understanding of the information structure among the community (human or artificial agents) and to enable reuse of domain knowledge (Noy and McGuinness 2001). The ontology also plays a principal role in the construction of learners' profiles. For this purpose, the user profile modeling in our approach is characterized by a semantic representation based on a set of semantically-related concepts via the

reference ontology used. In addition, several areas of applications are using users' profiles, for reasons related to personalization, with different needs. Depending on the area, personalization consists of one or more of the following tasks: filtering a flow of information, [68] guiding the search in an wide information space, recommending a set of information to the user, adjusting results of a request to the profile, adapting the interaction to the user situation (interface, interaction) (Daoud 2009). Whatever the area of application, the notion of the user profile is defined according to dimensions related to the system purpose.

Exploitation of the User Profile in the Information Research Process

The notion of a user profile is the heart of personalization in information research (IR). It is exploited in the rescheduling of the search results of queries dealing with the same information need. It is assumed that the profile has a more invariant character compared to the task context even if interests and search preferences evolve over time. Several definitions of the profile have been discussed in literature of personalized IR. The following can be distinguished:

- The cognitive profile exploited in several personalized works (Lieberman 1995, 924–29; Leung, Chan, and Chung 2006, 357–81; Pazzani, Muramatsu, and Billsus 1996, 54–61) is analog to the cognitive context of users.
- The qualitative profile in (Harrathi and Calabretto 2006, 299–304) related to the search preferences of users relatively to the quality of information returned by the system (fresh, credible sources of information, consistency, etc.).
- The multidimensional profile (Kostadinov 2003) characterizing the environment and the system.

However, the framework we propose considers both, cognitive and qualitative sides of profiles due to the exploitation of CSCL systems in a semantic way. This will allow automatic discovering of profiles and interests, which will lead in turn to adapted and suitable recommendations.

FRAMEWORK FOR GENERATING USER'S INTEREST PROFILES

In this section, we present the framework for generating user's interest profiles within online learning systems (see figure 1). This framework is able to distinguish between different contributions of the papers on the same topic to the construction of user interest profiles. Also, a part from the user profile obtained directly from the user behavior data, is applied implicitly to profiles to infer possible interests that users may develop in the future, in order to describe user interests more specifically and thereby improve recommendations.

The main components of the framework include:

- *Paper management module.* Users can upload, browse, download and comment on any research papers through the paper management module. All of the research papers are stored in the paper database. Each paper in the paper database is classified according to the reference ontology and can readily be viewed by users. The paper management module plays the role of a fundamental component in the framework.
- *User monitoring module.* This module is responsible for the background collection of the behavior data of each user. The user behavior data include searching keywords, browsing and commenting on papers, etc. The monitoring and collecting processes are totally implicit.
- *User profiling module.* The user profiling module makes use of the user behavior data recorded by the user monitoring module, the paper database and the reference ontology to create user profiles. The user profiles obtained can be used to recommend papers to them.

The term ontology seems to generate a lot of controversy in discussions. It has a long history in philosophy, in which it refers to the subject of existence. In computer science and information science, ontology is a description (like a formal specification of a program) of the concepts and relationships that can exist for an agent or a community of agents; it is defined as 'a formal, explicit specification
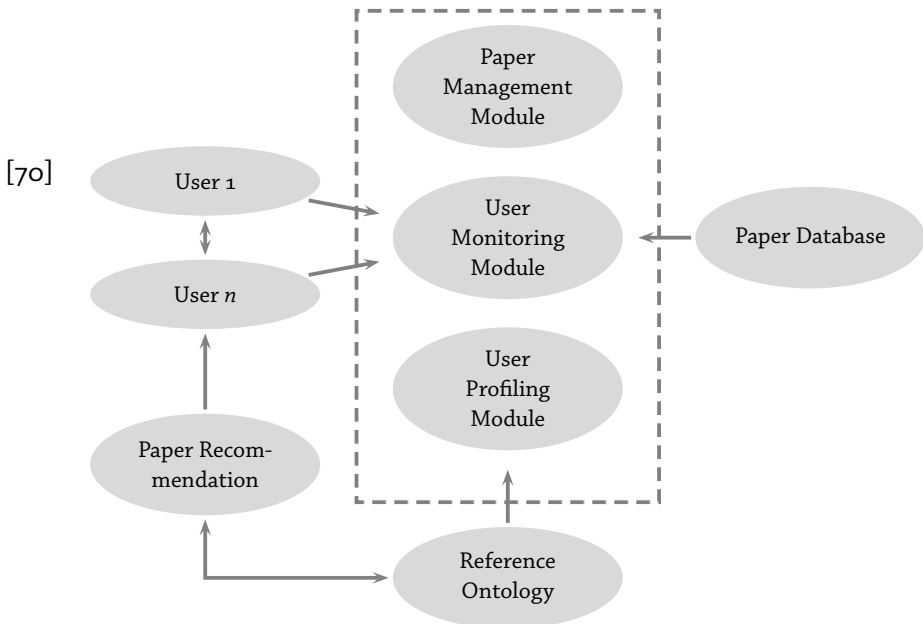
FIGURE 1   Framework for Generating User Interest Profiles

of a shared conceptualization' (Gruber 1993). Ontologies have been widely exploited in many domains (e. g., medicine, education; and logistics) using its capacity to promote and share ability of knowledge bases, knowledge organization, and interoperability between systems (Oliveira et al. 2013). In educational area, ontologies and semantic web are the backbone of e-learning; they provide mechanisms for semantic annotation of learning resources, reuse and combination of course subjects and computer-assisted open question assessment (Jia et al. 2011). Furthermore, semantic Web-based learning systems may support personalized and context-sensitive learning processes to improve learning efficiency (Gladun et al. 2009).

In summary, Chu, Lee, and Tsai (2011) offer the following reasons for developing ontology:

- To share common understanding of the structure of information among people or software agents.
- To enable the reuse of domain knowledge.
- To make domain assumptions explicit.

- To separate domain knowledge from the operational knowledge.
- To analyze the domain knowledge.

Practically, to implement ontology in the collaborative learning system, tools for ontology editing and visualization are necessary. In this study, Ontologies are written in Web Ontology Language (OWL), which is XML-based and recommended by the World Wide Web Consortium (W3C). OWL allows for defining classes hierarchies, relations between classes and subclasses, properties, associations between classes, properties domain and range, class instances, equivalent classes and properties, and restrictions (www.w3.org/TR/owl-ref). To support the development of ontologies and the translation in OWL, we use the open source tool Protege 4.1, which is a free open-source ontology editor developed by the Stanford Medical Informatics (SMI) at Stanford University (Rubin, Noy, and Musen 2007). It is an integrated software environment for system developers and domain experts to develop knowledge based systems.

[71]

Using Reference Ontology to Build User's Profiles

In order to solve the problems in the user profiles based on traditional ontologies, we propose the ontology for learning systems to generate the user's profiles. The simple ontology we propose consists of two levels, primary for subjects and secondary for keywords. Reference ontology presents the relationships between subjects on different levels. Each primary subject has also secondary subjects. This ontology is formed from several parts, among which are: Computer Science, Physics, Mathematics, Logistics, Chemistry, Medicine, Human Sciences, Geology, Biology and Economy.

In the paper database storing the research paper data, we associate a set of keywords to each paper. These keywords are provided by authors' contributions according to domain and level of users, and representing the keywords of each level (i.e. *level* = ($keyword_1 \ldots keyword_i \ldots keyword_n$) with $1 \leq i \leq n$) as shown in figure 2.
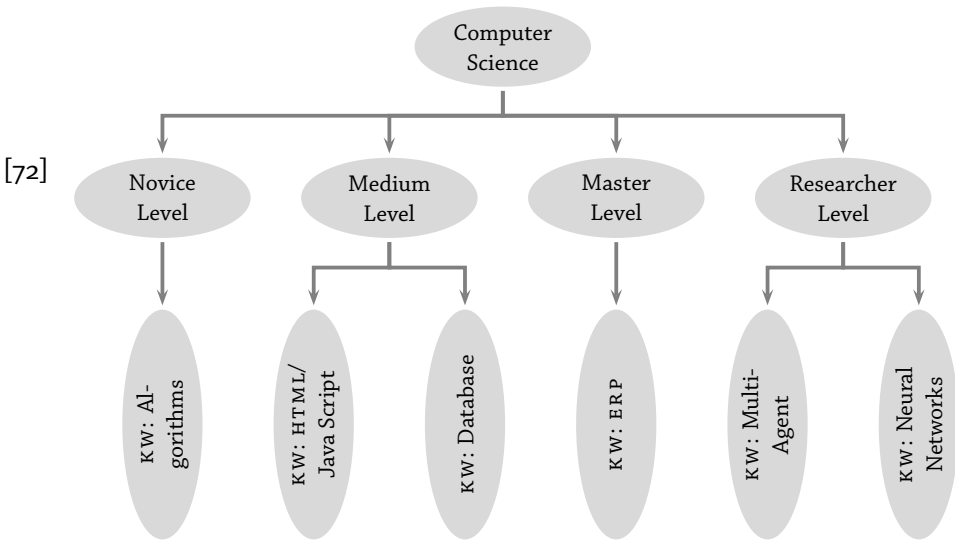
FIGURE 2   The Subject's Section 'Computer Science' in the Reference Ontology

MEASURING USERS INTERESTS BASED ON KEYWORDS

This approach is based on measuring the occurrence of keywords through user's activity in the learning system (browse, comment . . .), these measures are calculated by incrementing the counter, associated to each keyword in the ontology. Later this can show the level of interest of the user for a particular domain, and this approach can also evaluate the current level of every learner. This allows to recommend papers according to the interest centers of the user. Each keyword defined in the reference ontology belongs to a domain level, for example the keyword: 'Database,' belongs to the second level (medium level) learning in the field 'computer science.' Generalizing this process to all subjects, the system will be able to recommend papers relating to interest centers of users.

EXPERIMENTS AND RESULTS

Our experiment consists of evaluation of the system during last 60 days, with 20 users using academic learning system adopted in faculty of sciences in Tetuan, UAE/FS, browsing and commenting pa-

pers, where each field number represents one topic, as shown in table 1.

After the analysis of users' topological structure by the previously introduced metrics, we may notice one or more subjects are interested in each profile. For example, user 3 is interested firstly in 'Biology' and secondly in 'Chemistry,' also user 4 is interested in 'Computer science,' 'Physics,' and 'Mathematics.' So the system will be able to recommend papers according to user interests, simply based on statistics of their keywords, and with no need to analyze their text stream. This technique enables the optimization of the time of requests' answers, by using the reference ontology, and then the facilitation of the paper recommendations.

[73]

We may notice that the results in overall show that the model enables showing users' interests: by taking user 4, for example, he has 92 keywords related to 'database subject,' 102 to 'web subject' and 33 to 'system subject.' This shows that user 4 is a 'computer science' user, especially interested in 'web subject,' so the learning system will be able to first recommend papers within 'web subject' to user 4, secondly 'database subject' and finally 'systems subject.' This means that, rather successfully, we have predicted what topics these users will potentially prefer. The new method allows optimizing the recommendation execution time, by avoiding the analysis of text generated by users, and simply still comparing similar profiles. Then, the system recommends the same papers to users with the same interest centers. In addition, this new approach provides paper recommendation according to the semantic discovering of implicit users' interests. These recommendations are presented on single pages, and users are notified about them on the homepage. They allow us to save time and effort of continuous documentary research. Finally, comparing our approach to others presented in literature, we were able to overcome some difficulties highlighted previously.

CONCLUSTION

The recommendation service on academic publications has become a very important research topic due to the development of infor-

TABLE 1 Keywords' Counters

User	Mathematics			Physics			Chemistry			Medicine			Biology			Economy			Comp. science		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
User 1	1	2	7	0	70	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
User 2	0	0	0	0	0	0	44	0	12	0	0	0	0	0	0	0	0	0	0	0	0
User 3	0	0	0	0	0	0	33	11	0	0	0	0	93	12	0	0	0	0	0	0	0
User 4	0	0	22	22	54	3	0	0	0	0	0	0	0	0	0	0	0	0	92	102	33
User 5	33	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88	30	2
User 6	0	0	0	0	0	0	0	0	0	87	0	0	0	0	0	0	0	0	0	0	0
User 7	0	22	0	0	0	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
User 8	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
User 9	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
User 10	0	0	0	0	0	0	0	0	0	0	0	12	6	0	0	0	0	0	0	0	0
User 11	0	0	0	0	0	0	0	0	0	0	2	0	36	0	98	0	0	0	0	0	0
User 12	12	0	65	0	0	0	12	43	0	0	0	0	0	0	0	103	88	25	0	0	0
User 13	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
User 14	0	0	0	0	0	0	0	0	0	0	0	66	0	0	0	0	0	0	0	0	0
User 15	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	77	4
User 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	103	0
User 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	67	0
User 18	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	77	23	11	0	0	0
User 19	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
User 20	11	22	33	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTES Column headings are as follows: (1) algebra, (2) geometry, (3) analysis, (4) automatic, (5) mechanics, (6) electronics, (7) analytical, (8) solutions, (9) organic, (10) cardiology, (11) dermatology, (12) pediatrics, (13) animal, (14) vegetal, (15) zoology, (16) finance, (17) bank, (18) accounting, (19) database, (20) web, (21) systems.

mation personalization in learning systems. In this paper, we introduced a user profiling method based on ontology. The ontology we propose is based on multiple domains, and through our framework, we propose to use ontological profiling approach to provide paper recommendations to users. This method is based on measuring the occurrence of keywords through user's behavior within a collaborative learning system. Then, the system recommends papers according to interest's centers of each user. Our method also enables to identify levels of all users, and allows recommending papers according to their levels. The experiment's results reveal that the use of the subject ontology extension approach satisfyingly contributes to an improvement in the accuracy of paper recommendation. In the future, we may make improvements to the weighted keyword algorithm-based interest profiling approach and the subject ontology extension method. We will improve the keyword clustering algorithm through identifying synonyms among keywords. Furthermore, we expect to develop reference ontology using a multi-agent system, and then assess the impact of agents on the recommendation system.

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[78]

Space Dynamics and Improvement
of the Total Factor Productivity

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The new analyses in economic sciences give a strong attention to the internal and external returns to scales of an industry. These economic theories envisage the existence of a competing sector, which produces a homogeneous good, another sector in monopolistic competition, which produces differentiated good with increasing return of scale, and another sector in imperfect competition profiting from external effects. These assumptions are the base of 'New Theories of the International Trade' analysis (NTIT). By adding the assumption of freedom movement of the factors of production and spatial analysis into the economic analysis, we can speak about the New Geographical Economy (NEG). In this paper, we propose to provide a model of the regional interaction by introducing the space variable as a factor, which directs effective choices of the economic policy. Therefore in the first section the geographical character of the labor productivity is introduced. The labor productivity spatialized as being the rise of the coordination mode is described in the second section, while empirical approach of space dynamics will be the subject of the last section.

Key Words: productivity, growth, system of eqations, space

GEOGRAPHICAL CHARACTERISTICS
OF ECONOMIC GROWTH

To seize the geographical character which improves the TFP, we break up the growth of technical progress by space elements in interactions. TFP integrates geographical elements, such as the competitiveness indicator of an area.

By analyzing the determinants of the total factor productivity; we try to show how the TFP is explained by the improvement of the labor productivity. New approaches (Krugman 1991) consider that industrial sector is competitive if it is able to gain success in the in-

ternational trade due to its productivity and maintaining high re-munerations of labor. This definition is justified more specifically in the presence of economy, the price effect of which is limited. It is the case of small, open countries where the measurement of the labor productivity seems to be determined primarily by the importance of the competitiveness of nations and sectors.

[80]

Productivity is not the only determinant of the competitive po-sition of economy. Small open economies can have certain ability in fixing their prices compared to the world market and thus reflect a possible rise of their production costs. In addition, exchange rate, wages, taxation also form the price component of competitiveness.

After having to point out the interest of TFP in the income growth of an area, we present some determinants of space natures which take the current analyses of technical progress as a starting point (Romer 1986; Helpman 1981).

DECOMPOSITION OF THE TOTAL FACTOR PRODUCTIVITY (TFP)

The apparent average productivities of each factor, respectively Q/L and Q/K are partial because they evaluate contributions from each one of these two factors to production in an isolated way.

Calculation method of TFP assumes constant returns to scale. Let us consider the following production function:

$$Q(t) = A(t) \cdot F[K(t), L(t)], \tag{1}$$

where $Q(t)$ is the added value in volume, $A(t)$ a parameter of dis-placement of the production function and $F[\ldots]$ a total indicator of inputs.

The total factor productivity $\prod_F$ (which coincides with $A(t)$) is equal to the relationship between the volume of the output Q and the volume of the factors F:

$$\prod_F = \frac{Qt}{F[K(t), L(t)]}. \tag{2}$$

We can express the growth income rate by three growth rates:

$$\frac{\dot{Q}}{Q} = \frac{\dot{A}}{A} + (1-\alpha)\frac{\dot{K}}{K} + \alpha\frac{\dot{L}}{L}. \tag{3}$$

We note by: $1 - \alpha = AF_K K/Q$ and $\alpha = AF_L L/Q$, with α being the income elasticity by report to the labor force quantity employed in sector. [81]

The TFP growth rate is below:

$$\lambda = \frac{\dot{A}}{A} = \frac{\dot{Q}}{Q} - \left[(1-\alpha)\frac{\dot{K}}{K} + \alpha\frac{\dot{L}}{L}\right]. \tag{4}$$

By symbolizing the growth rate of the TFP by λ, the growth rate of labor productivity by p and the average productivity of work by P, we can write:

$$\lambda = p - (1-\alpha)\frac{\dot{k}}{k}. \tag{5}$$

With $P = Q(t)/L(t)$ and $k = K(t)/L(t)$.

To calculate the total factor productivity (total), we assume that the production factors are remunerated by their marginal productivity. This condition is checked for companies 'price-takers' on the factors markets organized by the pure and perfect competition. Consequently, $\alpha \exists$ and $(1-\alpha)$ are respectively the contribution of labor and capital to the added value.

Growth rate of $A(t)$ seems as an indicator of the profits TFP. It is a long period growth which is not allotted to the accumulation of the production factors (K and L), but rather with the improvement of factors productivities, in particular work. These profits as a growth rate of the total added value dissociated from the two factors of production are in the origin of the increase in the product for a given volume of the production factor. It is often useful to allot them to 'technical progress.' Actually, they represent a fascinating residue of account. All the not strictly quantitative elements contribute to the increase of the labor productivity.

Thus, technical progress is not only due to the improvement of the labor quality or the stock of capital (related to its renovation) but also to the progress in the organization and business management, as well as to any forms of externalities related for example to the

contiguity, concentration of specialized labor or with the diffusion of information.

Spatial Source of TFP: The Spatial Character
of the Labor Productivity

A significant teaching analysis of the economic growth model according to Solow (1956) shows that on the long run growth of income per capita is due only to the quantitative accumulation of production factors under the influence of decreasing returns to scale. Consequently, TFP evolution is only able to underlie a durable and long run growth path. In traditional models of exogenous growth, calculation of the TFP evolution makes it possible to obtain a technical progress indicator. However, this decomposition does not specify the origin of the technical progress, which is thus supposed to be exogenous (basket of the sky).

During last years, this analysis was criticized by a certain number of economists (Romer 1986). The latter developed endogenous growth models. A central idea of this new theory is that growth does not result solely from one exogenous factor but also from cumulative increase in an endogenous factor, which represents the stock of knowledge generated by investment (Romer 1986) and human capital (Lucas 1994).

We try to show that the TFP (a measurement of technical progress or growth explained by endogenous factors) is allotted to the profits of labor productivity in spite of improvement in growth due to new investments in the presence of productions functions under increasing returns. If the productivities of the primary education factors of production are cancelled in the long run, labor productivity improves due to localization effects. The labor productivity (it will be the subject of the following development) is considered as being a space variable related to the site and the density of the labor, compared to space entity. Labor localization is measured by the distance between the central area (generally considered as a leader area) and another area. The central area is not defined according to the labor productivity but with various spatialized approaches of endogenous growth.

If we introduce differences on the level of the human capital, the

analysis of the NGE finds other dimensions and contributes to studies the endogenous growth models (dependent on know-how), characterized by increasing outputs of scale and a perfect mobility of the force of work between various areas and sectors.

[83]

Specialization of the Technical Progress and Spatial Effect on the Labor Productivity (The Static Technical Progress)

In the following analysis, added value or the production of an area or a country is calculated according to production function of CES type, where the economic activity is determined per unit of surface.

Each unit of surface is an area, which has particular geographical characteristics. These geographical, demographic or cultural characteristics influence human behavior responsible for the operation of production or consumption, as well as movements of the work force. Each unit of surface or area lodges a labor having specific qualifications, which depend on the human capital localization, specific cultures and clean lawful framework. The theoretical approach of modeling production geography takes the theoretical abstraction of Ciccone and Hall (1996) as a starting point.

The economic density of macroeconomic variables is an essential concept in the Ciccone's approach. In particular, the author assumes that the density of work in an area i (mail i) is a space variable, which affects the income growth rate of a particular area in one country, via the information exchange in the form of commercial trade.

Surface labor productivity per unit (by mail i) finds other dimensions in areas, where the working density is high (all depends on the elasticity of the value added compared to the density). Transmission channels of working repair in a system r influence the labor productivity of an area, economic health and the regional development. In this case *the technological* spillovers and the TIC play a significant role by the means of various measurements or mode of adoption of new production methods.

Following Ciccone and Hall's (1996) assumptions, we suppose that production function by unit of surface i, is as follows:

$$Y_i = Q_r \, (E_i L_i)^\alpha \, K_i^\beta \left(\frac{Y_r}{A_r}\right)^\lambda,$$

(6)

where Y_i is the added value of the region i, E_i is the labor efficiency in the region i, Q_r is a TFP indicator of all regional system, Y_r and A_r are respectively added value of the regional system (even a country) and the system area (or country r).

[84]   The essential assumption of this model assumes a static technical progress, which doesn't have a regular growth rate in time and for each area.

The term Y_r/A_r is named in the NGE by the economic density, writen as an average evaluated in by km² added value. The coefficient λ is positive elasticity if the economic density affects the per unit surface production positively. Parameters α and β are elasticity, α and β are the same in all regions.

We try to break up the space and geographical character of the production operation of the regional system R by giving space characteristic to the production function. We call the regional system a state member of a perfectly integrated zone. In a regional system, the factors of production (mainly labor of an intensive sector in knowledge) circulate freely and without constraints.

The per region (i) production function shows particular regional characteristics. Labor productivity is a distinctive characteristic of the surface units. To pass to a production function of a more raised scale, country or governorate (all depends on the geographical framework used) is simple. It is enough to multiply the per unit production function by the surface of the local system (country r):

$$Y_r = \sum_i Y_i = (A_r Y_i) = Q_r \, (E_r L_r)^\alpha \, K_r^\beta A_r^\gamma \left(\frac{Y_r}{A_r}\right)^\lambda. \tag{7}$$

This aggregation is done under the assumption: $L_r = A_r L_i$, $K_r = A_r K_i$ and $\gamma = 1 - \alpha - \beta$.

We suppose that the total added value is the production of a whole company regarded as a rational agent. Consequently, we pass from the micro agent space, rational with another producing agent, by simple aggregation, while preserving the basic assumption of the rational behavior of the aggregate producing agent.

We suppose that the perfect competition exists between various producing agents on a space macro scale (between the macro-areas

r). Consequently, the rule of the maximization of profit (the price of the output is standardized with the unit), gives the following results:

- The marginal productivity of labor equals to the marginal cost of this factor, which is the wage;
- The marginal productivity of capital equals the marginal cost of this factor, which is the user cost of the capital noted *C*.

[85]

Optimization means that the pure and perfect space competition model presupposes areas with same sizes. Producers are atomic and do not influence (reduced sizes) price market of homogeneous good.

In the equilibrium situation (for the producing agent of an area), the last unit of work brings back only its cost and the last unit of the capital factor brings back only its user cost *C*. Formally, we can write the following equalities, which illustrate the theoretical approach of optimization or maximization of the aggregated profit, incorporated in the regional system.

$$\frac{\delta \pi_r}{\delta K_r} = 0 \Leftrightarrow K_r = \frac{\beta Y_r}{C}, \tag{8}$$

where π_r and C indicate respectively the profit of the aggregate regional agent (of the system or country *r* and the marginal cost of a unit of the capital. The latter is supposed to be constant by any *r* country.

The workforce of the system is in charge of qualification or of effectiveness connected to human capital acquired in the form of academic formation of hours or a space-time interaction. The effectiveness of work E_i in this model is proportional to the average S_r and of the years of studies carried out by the labor of the total system *r* (indicating of the human capital). We assume that η is the elasticity of the effectiveness of work (E_r) in the system *r* compared to the indicator of human capital S_r. This elasticity calculated on the aggregate level is constant in the various regional systems (all countries). After analytical rearrangements, the aggregate production function is as follows:

$$Y_r = \left(\frac{\beta}{C}\right)^{\beta\theta} Q_r^{\theta} S_r^{\eta\alpha\theta} A_r^{1-\alpha\theta}$$

$$\theta = \frac{1}{1 - \beta - \lambda}. \tag{9}$$

The development of the last two equations provides theoretical relations in the form of equation to be in empirical production estimates according to the system surfaces and labor. Certain authors built models inspired from the equation (9) with regards to the labor productivity as an endogenous variable, whereas the density of labor and the economic density are explanatory variables.

This type of estimate does not constitute a space approach of the labor productivity, insofar as the empirical approach can be a-space. I. ., the sets of data of work density and the economic density are time series of only one system, while its surface remains unchanged in time. By integrating the space dimension (i. e. to use data by localizations of the perfectly integrated areas), the empirical approach requires measurements of spatial autocorrelation between variables in the model represented in the next equation. This step of spatial econometrics implicitly implies modes of coordination and interactions between various operators of a perfectly integrated regional system.

$$\frac{Y_r}{L_r} = \left(Q\beta^\beta C^{-\beta}\right)^\theta S_r^{\eta\alpha\theta} \left(\frac{L_r}{A_r}\right)^{\alpha\theta-1} \left(\frac{Y_r}{A_r}\right)^{\alpha\theta\mu}. \tag{10}$$

Baptista (2003) supposes that the labor productivity and the economic density per unit of surface (square kilometer) are dependent according to the next equation. We presuppose in this equation that the economic density is constant in various systems r. The equation estimated by the author is as follows:

$$\frac{Y_r}{A_r} = \left(Q\beta^\beta C^{-\beta}\right)^\theta \left(\frac{L_r}{A_r}\right)^{\alpha\theta}. \tag{11}$$

The last equation is estimated by the Baptista (2003) by using American data by states. The author interprets the labor productivity as being a geographical measurement dependent only on one geographical variable, which reflects the distribution of labor in the states.

This attempt to integrate regional dimension hiding place made

an intrinsic causality exerted by the space variable on the human be-
havior. Although the area surfaces do not change in time, the space
dimension of the model estimated by Baptista (2003) is accentuated
via the movements of labor between various localizations. In the
absence of a true space variable, this contributes to growth rates of [87]
the areas benefiting from productive labor. The work force immi-
grates and emigrates while benefiting from the interactions in the
form of a ball of snow. The workmen of a unit of surface profit from
the movements and improve their capacities to produce. In the same
manner, the workmen profit from their localizations through the in-
teractions ensured by the NTIC while benefiting from the capacities
to produce close areas.

INCREASING RETURNS TO SCALE, PROXIMITY
OF CONTIGUITY AND A STEADY STATE

The majority of space economic surveys consider a production func-
tion with partially substitutable factors. This assumes hiding places,
and behind them another significant assumption, checked by the
operations of immigrations of the productive forces between areas.
This assumption is checked by the space-time character of the pro-
duction function. Production function of an area is given in time
and measures the production per unit of surface, according to the
quantities of the factors of the aforementioned unit. Production in
an area profits from the capital of the whole system. We presuppose
the absence of external effects, related to the physical stock of capi-
tal in close areas, on the production behavior of a particular area.

The per unit surface production function is as follows:

$$Q = A_o e^{\lambda t} K^\alpha L^\beta, \qquad (12)$$

where λ is the growth rate of per unit surface (TFP), α and β are pa-
rameters of returns to scale and L the employment level. Coefficient
α and β are elasticities of the production per unit surface of the cor-
responding factor. Elasticities are the same ones in various areas of
the perfectly integrated system.

By employing the logarithm on the preceding equation and by
applying the total differential on the left and on the right of the

equation of labor productivity (Q/L), there will be a relation which connects labor productivity growth rate p at the growth rate of the per capita capital per unit surface k and the per capita growth rate q:

$$p = \frac{\lambda}{\beta} + \frac{\beta - 1}{\beta}q + \frac{\alpha}{\beta}k. \tag{13}$$

If we assume that the capital per capita growth rate is equal to the product per unit surface growth rate, then $q = k$:

$$p = \frac{\lambda}{\beta} + \frac{\alpha + \beta - 1}{\beta}q + \zeta. \tag{14}$$

The equation above is an empirical relation, insofar as it is a random term, which follows a known distribution law.

If we suppose that $k = \gamma q$, than

$$m_1 = \frac{\gamma \alpha + \beta - 1}{\beta} > 0 \quad \text{and} \quad m_0 = \frac{\lambda}{\beta}$$

$$p = m_0 + m_1 q + \zeta, \tag{15}$$

where p and q are respectively the output and labor productivity or the income growth rate of this area.

m_1 is a coefficient, which represents the economy of scale. Indeed, if the value of the coefficient m_1 is equal to 0.5, an increase by 1% of output implies an increase in the labor productivity of 0.5% because of the saving effort of the workmen. It is the case of the increase in returns to scale. Workmen per unit of surface have the capacity to double the production, whereas the acquired effort of 0.5% optimal remainder.

Equation above does not show a per unit of surface labor productivity as being an endogenous variable equipped with certain space characteristics, such as the distribution of labor, working qualification, clean experiment and the space proximity. Consequently, it will be operational to explain the growth of the TFP by space factors, which influence labor productivity.

With this intention, we developed a model in order to explain the growth of TFP by the effect of the space variables and the effect of vicinity, which influence dependence between areas. It is supposed

that between the integrated areas, where the movements of production factors and the products are free, there is a technology transfer from an area to another, which is generally, according to our assumptions, explained by:

- The effect of vicinity;
- Acquisition of new technologies;
- Growth of the human capital.

The endogenous growth stresses the role of TFP in the explanation of growth. The term is clarified by λ while giving it a space dimension, which generates interactions between differently localized productive forces in a particular regional system.

Coefficient λ determines labor productivity growth of an area according to localization of this area in the whole regional space.

Amelioration of Labor Productivity by the Spatial TFP

The modern growth theory started to distinguish between production factors, such as work, capital and total productivity (TFP). Initially it was considered that the total productivity was drawn by exogenous technological change. However, by preoccupation with coherence these 'exogenous' models were to postulate that the technological shocks were absorbed quickly by all the firms. However, the gain of productivity is obtained only gradually by a process of training since the new knowledge is diffused slowly.

To understand these mechanisms of the growth process, we must revisit the original trilogy of Schumpeter against innovation and diffusion:

- Invention refers to progress of technical training;
- Innovation is a cumulative process, which converts this knowledge into marketable products and methods;
- Diffusion is a sequential process which encourages the use of these new products and new methods throughout an integrated regional system.

In the model we propose to take studies as a space dependence of the coordination modes by multiples tools as a starting point, sug-

gested previously in the preceding sections. TFP growth rate represents a space variable related to the worker behaviors in space. As we presented previously, the economies of scale are behavioral sources of saving capacity. Consequently, the improvement of TFP including the factors work is related to the growth rate of productivity of these factors in an area. In short, TFP growth rate of an area seems definitely related positively to the labor productivity growth rate of these areas.

In addition, the phenomenon of space diffusion of behavior and the modes of coordination shows the existence of a space adjacency between productive forces. Heterogeneity of labor productivity in various integrated areas built the effect of vicinity, where the productivities of the contiguous areas will be inter-connected.

$$\lambda = \lambda^* + \phi p + \kappa W p$$
$$W_{ij} = \frac{Q_i Q_j}{d_{io} d_{jo}}, \tag{16}$$

where Q_i and Q_j are the income in Euro at constant prices of the respective areas, i and j, at a given date.

W is the weight matrix or of vicinity, it is known as matrix of the interregional interaction. We notice that $Q = PL$. The term P indicates the average productivity of work per unit of surface.

To normalize the matrix W, it is enough to divide each w_{ij} by the sum compared to the column of line i:

$$W^*_{ij} = \frac{W_{ij}}{\sum_j W_{ij}}. \tag{17}$$

Matrix W^* is not symmetrical as in the case of the binary matrix seen previously.

We note by $Q = PL$.

λ^* is a parameter, which summarizes the technical progress growth at the regional level. This parameter is identical in each area. It depends on the initial characteristics of the areas. The latter are generally particular regional characteristics which determine the activity of innovation extent at the local level. It is about the initial level of technology noted G and the level of the human capital s. As

the level of the technology of the area is low, the region will be ready to adopt new technologies:

$$\lambda^* = \pi G + \delta s, \; \pi > 0, \; \text{and}$$

$$G_i = \frac{p^* - p_i}{p^*} = 1 - a p_i : a > 0: \text{start-of-period}, \qquad (18) \qquad [91]$$

where p_i^* is the labor productivity of the leader area (better productivity), p_i is the labor productivity of area i, and G indicates the variation of labor productivity between the leader area and a given area.

The parameter is an indicator of human capital of an area, it is a function of the localization of area i per contribution with the whole regional system. From this point of view, a technological indicator of proximity between the departments is incorporated in the last equation. This indicator is adapted by Fingleton (2001) and Fingleton and McCombie (1998).

The vectors of technological position of departments (areas) are made up using the variable s. The technological proximity indicator (s) is measured, then the 'resemblance' enters the technological position of a given department and the technological position of its neighbors, according to whether this area can be rural or urban. We indicate this regional characteristic by a variable which takes value 1 if the area is urban, and 0 if not.

In the same way, it is supposed that the labor qualification or the human capital of an area is a function of the distance, which separates an area and the center from the whole regional system (l). This center is regarded as the leader area. In this model we explained the human capital by space variables dependent on localizations of areas in the regional system and compared to the economic center of this system. This leads to the function:

$$s = \varepsilon + \theta l + \Gamma u, \; \theta < 0, \; \Gamma > 0,$$

$$E{:}\, p = \rho W p + b_0 + b_1 l + b_2 u + b_3 G + b_4 q + \zeta. \qquad (19)$$

Equation E is a dynamic equation. Indeed, it is an interaction function between areas of space. E is dynamic, because it is related to W.

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Empirical Approach of the Spatial Dynamics

The data which we use to evaluate the macro space dynamics of productive behaviors are diversified. We used the data base published by Eurostat Regio in 2000 and the World Bank data, published in 2000. The regional nomenclature in this work is that NUTS 2, increased by 6 areas for purely statistical ends. We started initially by building regional series of variables of the equation (*E*).

SPATIAL ECONOMETRIC ANALYSIS

The model is represented by a system of the following simultaneous equations (*S*). Estimating parameters of the system (*S*) is done for each year from 1976 to 1998. Each year we built a space econometric development with regional interaction seen by interregional weights matrices. Interaction matrices base on the assumption that the economic operations build weight areas and interactions. Using regional incomes in calculations of the elements W_{ij} represents a manner of an endogenous regional interactions.

The regional interaction type bases on optics of gravitational field (Rey and Montouri 1999). Each time the distance from certain areas to the economic center (leading area or Luxembourg) increases, the interregional weights decrease.

Spatial character of modeling brought the usage of space econometrics elements. Indeed, spatial literature shows that under endogenous weight matrix, autocorrelation between residues in a spatial mode and between European regional incomes appears. By descriptive indicators we can demonstrate easily that endogenous regional interactions in Europe form clubs of convergence (Kelejian and Robinson 1997).

In this model, all the equations are over identifiable. Consequently, the estimating method is generalized as a moment of moments (GMM).

The choice of instruments in the equation model must be robust and be proven by a statistical test. The test used is *J*-statistic, which justifies the choice of instruments while referring to the orthogonality between instruments and estimators. It gives a high probability to accept the H_0 othogonality assumption.

TABLE 1 Space Model with Simultaneous Equations

Year	$\hat{\rho}$	b_1	b_3	b_4	b_5	b_6
1977 (GMM)	46.37888	$-3.30e^{-7}$	-1.022586	0.012626	1.012146	1.000000
1978 (GMM)	40.70351	$2.43e^{-7**}$	-1.042980^{**}	0.024972	1.012146	1.000000
1979 (GMM)	35.74281	$6.26e^{-7**}$	-1.027069	0.055598^{**}	1.012146	1.000000
1980 (GMM)	79.05855	$1.21e^{-6}$	-1.069197	0.127932	1.012146	1.000000
1981 (GMM)	-15.53797	$-2.05e^{-6}$	0.006080^{**}	0.899075	1.012140	1.000000
1982 (3sls)	13.75253	$1.89e^{-7**}$	-0.155729	0.774097	1.012146	1.000000
1983 (GMM)	177.4543	$2.91e^{-6}$	-1.195619	0.049071^{**}	1.012146	1.000000
1984 (GMM)	41.27069	$-2.07e^{-7**}$	-1.014822	-0.00866^{**}	1.012146	1.000000
1985 (GMM)	31.96620	$2.07e^{-7**}$	-1.065417	-0.040865	1.012146	1.000000
1986 (GMM)	42.75026	$-4.30e^{-7}$	-1.096812	-0.01874^{**}	1.012146	1.000000
1987 (GMM)	63.17814	$1.14e^{-6}$	-1.097189	0.015051^{**}	1.012146	1.000000
1988 (GMM)	39.96286	$9.60e^{-7}$	-0.993863	0.085487	1.012146	1.000000
1989 (3sls)	0.489419	$3.08e^{-6}$	-0.987985	0.023557^{**}	1.012146	1.000000
1990 (GMM)	37.92498	$4.21e^{-7}$	-1.137982	-0.072566	1.012146	1.000000
1991 (MCO)	57.34329	$-6.20e^{-7**}$	-1.066316	0.163792	1.012146	1.000000
1992 (GMM)	0.521340^{**}	$-3.70e^{-7**}$	-0.008630	1.079488	1.012146	1.000000
1993 (GMM)	142.1787	$7.05e^{-6}$	-1.353815	0.230477	1.012146	1.000000
1994 (GMM)	58.55525	$1.16e^{-6}$	$1.16e^{-6}$	0.166491	1.012146	1.000000
1995 (GMM)	5.674872	$1.23e^{-6}$	-0.992875	0.036330^{**}	1.012146	1.000000
1996 (GMM)	-35.30919	$1.91e^{-6}$	-0.948490	0.054471	1.012146	1.000000
1997 (GMM)	44.56648	$2.69e^{-7}$	-1.027437	0.048501	1.012146	1.000000
1998 (GMM)	41.30049	$-4.27e^{-7}$	-1.026380	0.010571^{**}	1.012146	1.000000

NOTES Values with two stars represent estimators which are not statistically significant for a risk of 5%.

In table 1, we present the estimating coefficients of the space model (S):

$$(S) = \begin{cases} p = \rho W p + b_0 + b_1 l + b_2 u + b_3 G + b_4 q + \zeta \\ G = b_6 - b_5 p \end{cases} \tag{20}$$

The majority of coefficients are statistically significant every the year. Determination coefficients of each regression are sufficiently high. The estimate of each year is overall significant while referring to the J-test statistics suggested by Davidson and MacKinnon (1993). Statistics J-test follow χ^2 to 7 degrees of freedom, it tests the best alternative of instruments used in each regression. In this model, the choice of instruments is optimal and gives a high probability, except for the years 1978, 1993 and 1998.

Each coefficient of each variable of each year provides theoretical information, concerning the effect of space interactions on the labor productivity in each area.

Interpretation of Results

The coefficient, which illustrates the space dependence between various areas of the European system is ρ. The estimated values of this coefficient are statistically significant each year. The tendency ρ represents a remarkable dispersion, whereas the values are in the majority positive.

High and positive values of the coefficient of space interaction ρ are marked by high significance. Negative Estimators of 'intensity of the space interaction' (ρ), are in 1981 and 1996. The estimated value of ρ in 1981 is not statistically significant, therefore it does not generate economic implications.

Series of space dependences between labor productivity growth rates in Europe are in fact series of space averages of interactions modes between European working forces. Series values do not have a raised variance for each year. This characteristic of spatial series ($\rho W p$) is deduced to leave employment matrices from annual regional interactions, which depend on the economic masses measured each year. Matrices, which provide the viable space, are endogenous measurements of the space interaction.

In the majority of years these interactions have a positive effect on labor productivity in European areas. For example, value of spatial intensity (ρ), in 1977 is $\rho = 46.37888$ and stamps it interaction space, used in the empirical estimates, integrates determinants of the European areas in forms of economic interactions. In this case, the average productivities of areas depend on the averages of the labor productivity in various areas of the European system, plus the effect of the distance from a certain area to the European economic center (Luxembourg), plus the effect allotted of development (or productivity) of the area compared to the labor productivity of leader area and finally, plus the effect allotted to the growth of its added value. Labor productivity of Brussels in 1977 functions of the interregional weights which are decreasing com-

pared to the distance and crescents compared to the income areas.

Interactions between labor productivities vary according to years because the size of Europe changes in time, although we use the same areas in 22 years of study. We cannot consider all the areas as being units of the same system each year, because Europe comprised 9 countries in 1973, 12 countries in 1986, 15 country in 1995 and finally 26 in 2004. This is why, the space effect of the regional influence reached its maximum level in 1983 and 1993.

With regards to the distance from the center effect on the labor productivities of the areas, we notice a sometimes positive, sometimes negative but always a weak effect. This remark is essential insofar as the distance to the interior of Europe does not influence productivities of the workmen in any area.

Cohesion policies and regional development in Europe do not depend on spaces but on behaviors of the factors of production at particular work. The objectives of the development funds after its constitution will ensure improvement of the labor productivities in certain areas.

With regards to the variable G, we notice that its coefficient (each year) is positive and statistically significant. This result is logical if the variation of productivity between an area and the leading area increases, the growth rate of labor productivity drops. Values taken by the coefficient b_3 are close to the unit for the years 1976 and 1998. The remarkable values (too weak) of this coefficient were carried out in 1983 and 1993.

Concerning the economies of scale, assuming the value of the coefficient b_4 is positive, we attend a screw and economy of scale. In this model, we notice that each year there are economies of scale in the European system except for 1976, 1989 and 1990, where increasing returns to scales are decreasing. The maximum value of b_4 can reach the vicinity of the unit. Positive value of b_4 (for example $b_4 = 0,5$) means that if the added value growth rate of an area increases by 100%, the growth rate of the labor productivity increases by 50%. The increase in the labor productivity generates growth more than proportional of the added value growth. This observation filled assumptions of the new theories of international

trade (NTIT). While adding to the economies of scale, free movements of production factors, we provide answers in this case, about the conditions and the basic assumptions of the new geographical economy (NEG).

CONCLUSION

Economic policy aims to develop areas, where the income is lower than the Community average, which is influenced by national characteristics. Regional and national contexts needed to be discussed, analyzed and shared.

In the interior of a State, by distinguishing an area from the State, interesting and relevant problems which tackle regional ones are often ignored simply because the policy is committed to the national level. This idea was confirmed by the econometric approach and explains well that geographical characters exert effects of ousting on the wills of the economic policy. However, it is necessary to analyze the broad consequences of national and sub national policies if we want to include 'the hidden cost' of the national development policy into its areas.

Can we admit an initial intra national deterioration of cohesion is essential if we want to improve international cohesion?

This can be necessary for certain countries by taking account of the considerations and space characteristics of the areas. However, it is difficult 'to engage' a virtuous circle of growth for an entire country and convergence in the absence of an initial regional policy. Community policy, without drawing up characteristics of all areas of this country, contributes to a deterioration of the Community policy objectives. Going beyond the space data creates a risk of instability. A territorial focus in the short run could open the diffusion prospects of the benefits from the longer-term growth. However, in the integrated areas there is a real risk that the role of the longer-term government in as well 'as strategic organizer' is dominated by the requirement of short term and the ignorance of the geographical characteristics. The domination reduces the size of the administration and accentuates the budget deficits. If the role of the public sector compared to the private sector, like that of the national level

compared to the UE, evolves in an antagonistic way, then cohesion is more likely to be degraded than improved.

European policies with the profit of the cohesions countries and the local policies exerted by the developed countries generally try to return the variations of developments between weak areas and answer the leveling growth targets.

Choices of the economic policies which mobilize transfers cannot achieve the growth targets by forgetting the concept of social integration ethics. Space and interdependence between the labor productivities exert positive effects on regional growth productive behaviors, as we show with the static space model of this paper. However, space effects of coordination modes are dynamic and depend on time in order get benefit from space dynamics in research from a leveling growth.

To take into account the dynamic aspect of space interactions, economic choices propose target growth of the areas in a perfectly integrated system and reductions of the regional inequalities.

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[98]

Résumés

Métaphores et discours politique d'un point de vue interculturel

SILVA BRATOŽ

Cet article étudie la façon dont les métaphores issues de discours politiques reflètent les environnements culturels et linguistiques auxquels elles se rattachent. L'article étudie les métaphores conceptuelles et leurs réalisations linguistiques dans des discours pré-électoraux populaires en anglais et en allemand, ainsi que dans trois langues euro-méditerranéennes (slovène, italien, croate). L'un des principaux objectifs de cette étude consiste à présenter un modèle d'analyse contrastive, combinant des méthodes qualitatives et quantitatives, mais également des approches ascendantes et descendantes, portant sur la recherche métaphorique. Les résultats d'une étude de cas, ayant servi à valider le modèle proposé et basée sur l'analyse contrastive d'un corpus d'articles pré-électoraux relatifs aux élections américaines en 2008, seront étudiés. On argumentera que même si les langues sélectionnées conceptualisent les élections de la même façon, il existe également des variations importantes, aux implications culturelles essentielles.

Mots clés : métaphore conceptuelle, discours pré-électoral, différences cross-culturelles, analyse contrastive

La justice socio-économique reste-t-elle l'objectif ou est-elle déjà devenue le résultat de la coopération entre les entreprises et la société dans le développement des synergies ? Le cas de la Lituanie

DALIA KARLAITĖ

La philosophie d'entreprise d'aujourd'hui favorise la responsabilité sociale, le développement personnel social et d'autres concepts importants visant à la coopération entre les entreprises et la société dans le développement des synergies, déterminant ainsi les évolutions de la logique de production, d'échange et d'innovation. Les entreprises socialement responsables prennent volontairement l'engagement de répondre aux intérêts et besoins de la société, et assument la responsabilité de l'impact de

leurs activités pour toutes les parties prenantes. La société entend la justice socio-économique comme un accès aux biens et services, une participation aux processus de prise des décisions, une égalité d'accès à l'emploi et des salaires équitables, entre autres. Les résultats de l'enquête nationale représentative portant sur les résidents lituaniens ont montré où subsistent les tensions sociales et économiques dans le pays. Les répondants évaluent de façon critique le concept de responsabilité sociale, les principes de corruption, l'exercice de « circonstances prédominantes appropriées » et d'autres interférences, étant toujours bien présents

Logistique transrégionale en Carinthie : perspectives et vision du développement des infrastructures de transport aux niveaux des entreprises et du public

MICHAEL PLASCH et GERHARD WINTERER

Les actions de développement de la logistique régionale sont devenues la clé d'une économie régionale efficace en Autriche. Les efforts qui ont été faits pour développer la région de la Carinthie – qui est au cœur des réseaux de transports de l'Axe Baltique-Adriatique – reposent sur des investissements en infrastructures ciblés, combinés à des modes de transport bien utilisés et accessibles. Puisque ce sont les entreprises qui choisissent les modes de transport utilisés, leur implication dans le processus de planification est cruciale. Par conséquent, une approche plus cohérente du développement carinthien des infrastructures logistiques est nécessaire. Les perceptions des entreprises régionales servent à établir de nouvelles politiques publiques et managériales, prenant en compte l'importance des futurs développements logistiques.

Profilage d'utilisateur basé sur l'ontologie pour accès personnalisé à l'information au sein d'un système d'apprentissage collaboratif

MOHAMMED AMINE ALIMAM, YASYN ELYUSUFI et HAMID SEGHIOUER

[101]

L'utilisation de méthodes de technologie éducative moderne est devenue un domaine de recherche important afin de soutenir l'apprentissage ainsi que la collaboration. Cela est particulièrement évident avec la montée d'Internet et du Web 2.0, plates-formes qui ont transformé le rôle des utilisateurs, passant de simples utilisateurs de contenus à de véritables consommateurs-producteurs de contenus. En outre, les personnes engagées dans l'apprentissage collaboratif capitalisent sur des ressources et des compétences mutuelles, contrairement à l'apprentissage individuel. Cet article procède à une catégorisation des principaux outils et fonctions qui caractérisent l'apprentissage personnalisé, afin de discuter leurs compromis avec les systèmes d'apprentissage en collaboration. Il propose un cadre de recherche d'information personnalisée (IP) au sein d'un système d'apprentissage collaboratif, intégrant la caractérisation du type de recherche effectuée par la requête, ainsi que la modélisation et la construction des profils sémantiques des utilisateurs. Nous utilisons le contexte de la requête de l'utilisateur dans un dispositif de prédiction du type de recherche, sur la base d'une identification préalable des niveaux et les intérêts des utilisateurs. Le document se conclut par la présentation des résultats d'expérimentation, révélant que l'utilisation de l'approche ontologique contribue de manière satisfaisante à l'amélioration de la précision des recommandations sur le système.

Mots clés : technologies de l'information, apprentissage collaboratif, ontologie, recherche information, profil d'utilisateur

Dynamique d'espace et amélioration de la productivité globale des facteurs

LASSAAD JEBALI

Les nouvelles analyses proposées en sciences économiques prêtent une plus grande attention aux rendements d'échelle internes et externes dans le domaine industriel. Ces théories économiques prévoient à la fois l'existence d'un secteur en concurrence pure et parfaite produisant un bien

[102]

homogène, d'un secteur en concurrence monopolistique produisant un bien différencié aux rendements d'échelle croissants, et, enfin, d'un secteur en concurrence imparfaite profitant d'effets externes. Ces hypothèses sont à la base des « nouvelles théories du commerce international » (NTCI). En ajoutant l'hypothèse de libre circulation des facteurs de production et une analyse spatiale à l'analyse économique, il est possible de parler de nouvelle économie géographique (NEG). Dans cet article, nous nous proposons d'étudier un modèle d'interaction régionale, en introduisant une variable spatiale en tant que facteur à l'origine des comportements effectifs de politique économique. Ainsi, la première section introduit le caractère géographique de la productivité du travail. La productivité du travail spatialisé comme mode de coordination est décrite dans la deuxième partie, alors que l'approche empirique de la dynamique de l'espace fera l'objet de la dernière section.

Mots clés : productivité, croissance, système d'équations, espace
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Povzetki

Metafore v političnem diskurzu z medkulturnega vidika

SILVA BRATOŽ

Osnovni namen članka je ugotoviti, na kakšen način metafore v političnem diskurzu odražajo kulturno in jezikovno okolje, iz katerega prihajajo. Obravnavane so metafore na konceptualni in jezikovni ravni v predvolilnem diskurzu v angleščini, nemščini in treh jezikih evro-mediteranskega območja, in sicer slovenščini, italijanščini in hrvaščini. V članku predstavljamo model za analizo metafor na osnovi protistavne analize, ki združuje kvantitativne in kvalitativne metode raziskovanja kot tudi pristopa »od zgoraj navzdol« ter »od spodaj navzgor«. Model bo predstavljen in preizkušen na osnovi študije primera, v okviru katere smo analizirali korpus predvolilnih člankov, povezanih z volitvami v ZDA leta 2008. Rezultati raziskave nakazujejo, da četudi obravnavani jeziki v veliki meri podobno konceptualizirajo volitve prek metafor, obstajaj med njimi tudi pomembne razlike, ki odražajo kulturno specifičnost.

Ključne besede: konceptualne metafore, predvolilni diskurz, medkulturne razlike, protistavna analiza

Je socialno-ekonomska pravičnost še vedno namen ali že rezultat sodelovanja med podjetji in družbo pri razvoju sinergij? Primer Litve

DALIA KARLAITĖ

Današnja poslovna filozofija spodbuja družbeno odgovornost, družbeni samorazvoj in druge pomembne koncepte prizadevanj za sodelovanje med podjetji in družbo v smislu razvoja sinergij. To povzroča spremembe v logiki proizvodnje, izmenjav in inovacij. Družbeno odgovorna podjetja prostovoljno prevzemajo obveznosti, da bi zadovoljila interese in potrebe družbe, ter prevzemajo odgovornost za posledice svojih aktivnosti za vse zainteresirane strani. Družba pod socialno-ekonomsko pravičnost razume dostop do blaga in storitev, sodelovanje v procesu odločanja, enake zaposlitvene možnosti, poštene plače in drugo. Rezultati nacionalne reprezentativne ankete litovskih prebivalcev so pokazale, kje v državi ostajajo velike družbene in gospodarske napetosti. Anketiranci so

kritično ocenili oazo družbene odgovornosti, kjer so še vedno prisotna načela korupcije, po katerih prihaja do »pravih prevladujočih okoliščin« in druge motnje.

Ključne besede: socialno-ekonomska pravičnost, družbena odgovornost podjetij, sodelovanje, sinergija

Medregionalna logistika na Koroškem: perspektive in vizija za razvoj prometne infrastrukture na gospodarski in državni ravni

MICHAEL PLASCH in GERHARD WINTERER

Regionalni logistični razvojni načrti so v Avstriji postali ključni element za učinkovito regionalno gospodarstvo. Prizadevanja za razvoj koroške regije, ki predstavlja pomembno prometno vozlišče na baltsko-jadranski-osi, so odvisna od ciljnih infrastrukturnih naložb v povezavi z dobro izkoriščenimi in dostopnimi načini prevoza. Ker se odločitve o izbiri načina prevoza sprejemajo v podjetjih, je njihovo vključevanje v procese načrtovanja ključnega pomena. Zato je na Koroškem potreben bolj konsistenten pristop k razvoju logistične infrastrukture. Vidik regionalnega poslovanja pa je pomembna osnova za nadaljnje javno in vodstveno odločanje ob upoštevanju pomena prihodnjega razvoja logistike.

Ključne besede: industrijska organizacija, študije panog, regionalni transport, transport, prevozništvo

Profiliranje uporabnikov na osnovi ontologije za prilagojen dostop do informacij znotraj sodelovalnega načina učenja

MOHAMMED AMINE ALIMAM, YASYN ELYUSUFI in HAMID SEGHIOUER

Uporaba sodobnih metod izobraževalne tehnologije je postala pomembno področje raziskav z namenom podpore učenja ter sodelovanja. To je še posebej vidno z vzponom interneta in spletnih 2,0 platform, ki so preoblikovala vlogo uporabnikov od zgolj potrošnikov vsebin do celotnih potrošnikov-proizvajalcev vsebin. Poleg tega za razliko od individualnega učenja ljudje, ki se ukvarjajo s sodelovalnim učenjem, medsebojno izkoriščajo vire in sposobnosti. Ta članek se ukvarja s kategorizacijo glavnih

orodij in funkcij, ki so značilne za personaliziran učni vidik, z namenom obravnavanja kompromisov s sodelovalnimi učnimi sistemi. V članku je predlagan okvir prilagojenih podatkov raziskave znotraj sodelovalnega sistema učenja, ki vključuje karakterizacijo vrste raziskav, opravljenih s poizvedbo, kot tudi modeliranje in oblikovanje semantičnih uporabniških profilov. Uporabljamo kontekst poizvedbe uporabnika v mehanizem predvidevanja tipa iskanja, ki temelji na predhodnem prepoznavanju ravni in interesov uporabnikov. Prispevek se zaključi s predstavitvijo rezultatov preizkusa, ki razkrivajo, da uporaba pristopa ontologije zadovoljivo prispeva k izboljšanju natančnosti sistemskih priporočil.

Dinamika prostora in izboljšanje skupne faktorske produktivnosti

LASSAAD JEBALI

Nove analize v ekonomskih znanostih veliko pozornosti posvečajo notranjim in zunanjim donosom obsega posameznih industrijskih panog. Te ekonomske teorije predvidevajo obstoj konkurenčnega sektorja, ki proizvaja homogeno dobrino, drug sektor v monopolistični konkurenci, ki proizvaja diferencirano dobrino s povečanim donosom obsega, ter sektor v nepopolni konkurenci, ki pridobiva koristi iz zunanjih vplivov. Te predpostavke so osnova za analizo »nove teorije o mednarodni trgovini«. Z dodatno predpostavko prostega pretoka proizvodnih dejavnikov in prostorske analize lahko v ekonomski analizi govorimo o novi geografski ekonomiji. V tem prispevku predlagamo model regionalne interakcije z uvedbo prostorske spremenljivke kot dejavnika, ki usmerja učinkovite izbire gospodarske politike. Zato so v prvem delu predstavljene geografske značilnosti produktivnosti dela. Produktivnost dela, kot povod za povečanje koordinacijskega načina je opisan v drugem delu, empirični pristop prostorske dinamike pa je predmet zadnjega dela.

ملخصات

الإستعارة في الخطاب السياسي من خلال منظور متعدد الثقافات
سليفا براتو

يتركز البحث في إنعكاس الإستخدمات المتعددة للمجاز في الخطاب السياسي للبيئة اللغوية والثقافية التى ظهرت منه ويتناول موضوع الإستعارات الإدراكية وتطبيقتها اللغوية داخل الخطاب الشعبي الذي يحدث في فترة ما قبل الإنتخابات باللغة الإنجليزية وثلاث من اللغات الأورومتوسطية (اللغة السلوفينية والإيطالية والكرواتية). يأتي ضمن أهداف البحث تقديم نموذج المنهج التقابلي الذي يجمع بين طرق البحث الكمي والنوعي من جانب وبين إسلوب تنازلي وتصاعدي للبحث المجازي من جانب أخر. يتم الإشارة إلى مصادر نتائج دراسة الحالة بناء على التحليل التقابلي لمجموعة مقالات متعلقة بالإنتخابات الأمريكية لعام 2008 شرعت لتأيد إستخدام النموذج المقترح. سيناقش البحث انه في حين أن اللغات المختارة تصور الإنتخابات بطرق متشابهه، سوف يستنتج ايضا أنه يوجد إختلافات جذرية وأثار ثقافية ناتجة عنها.

الكلمات الرئيسة: الإستعارات الأدراكية -خطاب ماقبل الإنتخابات- اوجه الإختلاف بين الثقافات المتعددة- المنهج التقابلي
النص بالكامل (1): ص 3-23

هل العدالة الإقتصادية الإجتماعية لازلت الهدف ام أنها بالفعل نتيجة التعاون بين قطاع الأعمال والمجتمع من أجل تطوير تآزر؟
داليا كارلاتي

إن تعزيز المسؤولية الإجتماعية والتطور الذاتي الإجتماعي ومفاهيم أخرى ذو أهمية تعتبر من فلسفة العمل الحديثة الهدف منها التطلع إلى تعاون بين قطاع الأعمال والمجتمع من أجل تنمية التآزر ومن ثم تقوم هذه الفلسفة بتحديد المتغيرات في منطق الإنتاج والتبادل والإبتكار. تفرض الشركات المسؤولة إجتماعيا طوعا التزمات المصالح والإحتياجات الخاصة بالمجتمع وتتحمل المسؤولية للأثار الناشئة عن أنشطتها لأصحاب الشأن. إن مفهوم العدالة الإقتصادية الإجتماعية عند المجتمع هو حق الحصول على الخدمات والبضائع والمشاركة في عملية صنع القرار وتوفير فرص عمل متساوية للجميع وأجور عادلة وأمور أخرى أيضا. أظهرت نتائج الدراسة القومية لسكان ليتوانيا المنطاق التي لا تزال بها حدة التوتر الإجتماعي والثقافي في البلد وقد قيم المشاركين في الدراسة بحسم ملجأ المسؤولية الإجتماعية

حيث لاتزال اساسيات الفساد وممارسة منهج "الظروف الحالية المناسبة" سائدة ضمن ممارسات أخرى.

الكلمات الرئيسة: العدالة الإجتماعية الإقتصادية- المسؤولية الإجتماعية لدى الشركات- التعاون- التآزر

النص بالكامل (1): ص 25-42

الخدمات اللوجيسية العبر إقليمة في كارينثيا: المنظور والرؤية حول تطوير البنية الأساسية للنقل على مستوى قطاع الأعمال والجمهور

مايكل بلاج وجرهارد وينترر

باتت الخطط للتطوير من الخدمات اللوجيسية الإقليمية من أهم العناصر من أجل أقتصاد إقليمي فعال في النمسا. فتعتمد المحاولات لتنمية منطقة كارينثيا، والتي تمثل مركز ذو أهمية كبرى لمحور بحري البلطيق والأدرياتيكي، على إستثمار مستهدف لبنية تحتية مع وسائل نقل حسنة الإستخدام وسهلة المنال ولأن إتخاذ القرارات بخصوص وسائل النقل يحدث داخل الشركات، فمشاركتهم بعملية التخطيط يعتبر مصيري وبتطلب نهج أكثر اتساقا لتنمية البنية التحتية للخدمات اللوجيسية في كارينثا. تعد الرؤية العملية الإقليمية قاعدة أساسية لإتخاذ مزيد من القرارات العامة والإدارية فيما يتعلق بأهمية التطورات اللوجيستية في المستقبل.

الكلمات الأساسية: تنظيم صناعي، دراسات صناعية، وسائل الموصلات الإقليمية، النقل، الموصلات.

النص بالكامل (1): ص43-59

تنميط المستخدم عن طريق إستخدام علم المعلومات من أجل حق الحصول على المعلومات ضمن نظام التعلم التعضادي

محمد أمين عليمام، ياسين اليوسفي، حميد صغير

أصبح الإستخدام الحديث لوسائل التكنولوجيا التعليمية مجال مهم للبحث بهدف دعم سبل التعليم والتعاون. وهذا قد بات واضحا خاصة مع زيادة عدد منصات الشبكة والإنترنت التى حولت دور المستخدمين من مجرد كونهم مستخدمين المحتوي إلى مستخدمين ومنتجين للمحتوي بشكل كامل بالإضافة إلى مشاركة الناس في التعلم التعضادي مما يجعل الشخص يستغل موارده كما يضيف إلى مهارته بعكس التعليم الفردي. يستمر هذا البحث في تصنيف الأدوات والوظائف الأساسية التي تصور تشخيص الجانب العلمي لمناقشة تبادلهم مع أنظمة التعلم التعضادي. إن البحث يقترح إطارا من بحث معلوماتي مخصص من خلال نظام التعلم التعضادي والذي يتضمن توصيف نوع البحث التى أجري بالإستعلامات وايضا تصميم وبناء أنماط

المستخدمين المعنيين. نستخدم سياق طلب المستخدم ليتحول إلى ألية للتنبأ بنوع البحث بناء على دلالات سابقة لمستويات المستخدمين إهتمامتهم المختلفة. سوف ينتهى البحث بتقديم نتائج التجارب مبينا أن إستخدام موضوع الأنطولوجيا بنهج واسع يؤدي بطريقة مقنعة إلى التقدم في دقة تزكية النظام.

[109]

الكلمات الأساسية: تكنولوجيا المعلومات، التعلم التعضادي، الأونطولوجية (علم المعلومات)، بحث معلوماتي، نمط المستخدم.
النص بالكامل (1): ص61-78

ديناميكية المكان وتنمية العامل الأساسي للإنتاج
لاسد جبالي

يهتم التحليل الحديث في علوم الإقتصاد بشكل كبير بالعوائد الداخلية والخارجية لقياس صناعة معينة. فتصور هذه النظريات الإقتصادية وجود قطاع للمنافسة ينتج سلع متاجنسة، بينما ينتج قطاع أخر في المنافسة الإحتكارية سلع مميزة بزيادة عوائد الحجم، وقطاع أخر يعتمد على المنافسة الغير كاملة مستخدما لصالحه العوامل الخارجية. تأتي هذه التوقعات بناء على دراسة النظريات الجديدة للتجارة الدولية وعندما نضيف إحتمال عامل حرية الحركة كإحدى العوامل للإنتاج وايضا التحليل المكاني داخل التحليل الإقتصادي فأننا نستطيع أن نتحدث عن الجغرافيا الإقتصادية الجديدة. نقترح في هذا البحث تقديم نموذج للتفاعل الإقليمي وذلك عن طريق تقديم عامل تغير المكان ليؤدي ذلك إلى خيارات مؤثرة على السياسة الإقتصادية ولهذا السبب أقدم في القسم الأول الطابع الجغرافي لإنتاجية العمل. يشرح في القسم الثاني كون إنتاجية العمل سبب في زيادة وضع التنسيق ، في حين أن النهج التجريبي لديناميكية المكان سوف يكون موضوع القسم الأخير.

الكلمات الأساسية:إنتاجية، النمو ، نظام المعادلات، المكان
النص بالكامل (1): ص 79-98

INFORMATION FOR AUTHORS
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