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ORIGINALNI NAUČNI RAD

Nematerijalni kapital u javnom sektoru: metodološki izazovi i primjena u policiji i Poreskoj upravi Slovenije

Intangible capital in the public sector: methodological challenges and application to the police and tax administration in Slovenia

Rezime

Nematerijalni kapital pozitivno utiče na poslovanje u privatnom sektoru. Štednja je zahtijevala efikasniji javni sektor. Poboljšanje nematerijalnog kapitala je moguće rješenje. U radu se analizira metodologija određivanja karakteristika nematerijalnog kapitala u javnom sektoru uvođenjem metodologije istraživanja koja je komplementarna prevladavajućoj (zvanični statistički izvori). Anketa omogućava sveobuhvatno razumijevanje nematerijalnog kapitala i mogućih poboljšanja. Empirijska ilustracija se zasniva na Policijskoj i Poreskoj upravi u Sloveniji. Pristup koji je korišten u radu jedan od rijetkih, i prvi put se koristi u istraživanjima u Sloveniji.

Ključne riječi: nematerijalni kapital, metodologija istraživanja, javni sektor.

Abstract

Intangible capital positively impacts performance in the private sector. Austerity raised demands for a more efficient public sector. Improving intangible capital is a possible solution. The paper analyses the methodology of capturing characteristics of intangible capital in public sector by introducing the survey methodology as a complementary method to the prevailing (official statistical sources). Survey enables a comprehensive understanding of intangible capital and possible improvements. Empirical illustration is based on the police and tax administration in Slovenia. The paper introduces such an approach, one of the few such studies intangibles in general and the first for Slovenia.

Keywords: intangible capital, survey methodology, public sector

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UVOD

Nematerijalni kapital privlači dosta pažnje u posljednje vrijeme. U protekle tri decenije, pojava „nove ekonomije“ podstakla je rast produktivnosti u razvijenim zemljama (Jorgenson i Stiroh, 2000; Mortensen, 2012). Istraživački tim predvođen Corradom (2005, 2009, 2012) svoju pažnju je usmjerio na doprinos ključnih elemenata „nove ekonomije“ rastu: nematerijalnom kapitalu. Corrado i dr. (2005) definisali su nematerijalni kapital kao: (1) kompjuterizovane informacije (IT softver i baze podataka); (2) inovativna imovina (prvenstveno R&D, ali i dizajn i drugo); i (3) ekonomske kompetencije (vrijednost brenda, specifičan ljudski kapital firme i organizaciona struktura). Njihove procjene pokazuju da nematerijalni kapital doprinosi ekonomskom rastu skoro za trećinu. Budući da, prema njihovim istraživanjima, dodata vrijednost u razvijenim zemljama zavisi, prije svega, od inovacija, brendiranja i slično (Corrado i dr., 2005), dakle, od nematerijalnog kapitala, nije iznenađujuće da je tema dobila veliku pažnju i u EU i Japanu (npr. VanArk i dr., 2009; Mortensen, 2010; Fukao i dr., 2009; Miyagawa, 2010).

Pored očigledne važnosti za privatni sektor, nematerijalni kapital je jednako relevantan i za javni sektor. Nematerijalni kapital u javnom sektoru direktno i indirektno utiče na ekonomiju u cjelini. Prvo, elementi nematerijalnog kapitala u javnom sektoru utiču na efikasnost samog javnog sektora (na primjer, IT omogućava brži i efikasniji rad javnog sektora). Indirektno, to utiče i na učinak privatnog sektora kroz brže pružanje usluga i bolje usluge. Naime, administrativne procedure i birokratija često se navode kao glavne prepreke za poslovanje (vidi Doing Business 2015). Generalno, poboljšanje kvaliteta poslovnog okruženja. Nematerijalni kapital javnog sektora takođe može direktno uticati na privatni sektor pružajući mu usluge koje su bolje prilagođene njegovim specifičnim potrebama i mogu direktno smanjiti transakcijske troškove za poslovni sektor (na primjer, e-Tax, e-Government, E-Estonia projekat je jedan od najpoznatijih).

Do sada se javnom sektoru posvećivalo veoma malo pažnje u diskusijama o nematerijalnom kapitalu. Literatura je prvenstveno obuhvatila dosta djelimičnih uticaja (npr. Gardner (2002) o brendu države i dugoročnom razvoju), ali sistematski pregled podataka o količini nematerijalnog kapitala, učešću različitih komponenti i uticaja nematerijalnog kapitala u javnom sektoru do sada nije izrađen. Rad započet u okviru projekta Corrada i dr. (2014) ukazao je na neke metodološke probleme, te dao početne podatke. U radu se otkriva da postoje sistematske razlike u značaju specifičnih nematerijalnih sredstava, i da, generalno, javni sektor posvećuje manje pažnje nematerijalnom kapitalu.

Dok se studije proizašle iz metodologije Corrada i dr. (2005) oslanjaju na zvanične statističke podatke, Prašnikar (2010) predstavio je alternativni pristup istraživanju, koristeći proširenu definiciju nematerijalnog kapitala, ali koji potiče od Corrada i dr. (2005). Korisćen je detaljan upitnik, koji je obuhvatio svaki tip nematerijalnog kapitala, a metodologija je prilagođena za obuhvatanje suštine zemalja u razvoju (studija fokusirana na Zapadni Balkan). Rezultati su omogućili dobro razumijevanje nematerijalnog kapitala u firmama zahvaljujući detaljima o suštini svakog nematerijalnog sredstva: kako i zašto je to važno, gdje se nalaze prepreke za nematerijalna ulaganja i kakva je uloga menadžmenta.

Ovaj rad proširuje metodologiju i na javni sektor i predstavlja alternativni pristup koji pruža mnogo detaljnih informacija o nivoima,

prirodi nematerijalnih ulaganja, kao i drugim relevantnim aspektima. Svrha rada je pregled dosadašnjeg rada na nematerijalnim investicijama u javnom sektoru i prezentacija i diskusija o alternativnoj implementiranoj metodologiji.

Rad je strukturiran na sljedeći način. Prvo je predstavljena metodologija, koja se bavi kako definicijom javnog sektora, tako i definicijom nematerijalnog kapitala. U nastavku se raspravlja o argumentima za korištenje metodologije istraživanja i prikazuje se istraživanje. Prednosti korištenja ankete ilustrovane su korištenjem odabranih rezultata iz podataka ankete. Kao takvi, oni takođe dopunjuju rezultate alternativne metodologije (Corrado i dr., 2014). Rad se završava kratkom raspravom o rezultatima i budućim izazovima.

1. METODOLOGIJA

1.1. Definicija javnog sektora

Prema Sistemima nacionalnih računa (2008: 436), „javni sektor uključuje opštu državu i javne korporacije“. Neke neprofitne institucije su takođe uključene u opštu državu, na osnovu uslova za kontrolu od strane vlade i koncepta ekonomski značajnih cijena (SNA 2008). Međutim, definicija SNA (2008) preširoka je i nejasna za potrebe ove studije. Primarna svrha proučavanja nematerijalnog kapitala u javnom sektoru bila je identifikacija karakteristika nematerijalnog kapitala u sektorima opšte javne uprave (uključujući socijalne usluge), obrazovanja, zdravstva, policije (osim vojske). Osim javne uprave (nacionalne ili lokalne) i policije, karakteristike obrazovanja i zdravstvene zaštite u različitim zemljama se razlikuju. U nekim slučajevima, školovanje i zdravstvena zaštita su prvenstveno javni sektor (kao u Sloveniji), a u drugim zemljama ne. Da bismo prevazišli problem klasifikacije javnog i privatnog sektora, oslanjamo se na definiciju Brejca (2014). Klasifikacija javnog sektora može se oslanjati na nekoliko kriterijuma: (1) organizacioni (kada javni sektor uključuje sva javna pravna lica), (2) javne finansije (direktni i indirektni korisnici javnog finansiranja), (3) funkcionalni (obavljanje djelatnosti) (4) ekonomski (svi subjekti osnovani i/ili u većinskom vlasništvu države ili opštine) i (5) kombinovani funkcionalni i ekonomski (Brejc 2014). Kombinacijom od dva do četiri kriterijuma ograničavamo javni sektor na institucije koje se finansiraju iz budžeta, obavljajući aktivnosti od javnog interesa i koje su osnovane ili su u većinskom vlasništvu države. Na taj način, ciljni sektori su ograničeni na opštu javnu upravu na nacionalnom i opštinskom nivou, osnovno, srednje i visoko obrazovanje i zdravstvenu zaštitu (primarni i sekundarni nivo), socijalnu zaštitu i policiju. Ovi sektori su takođe najvažniji u smislu njihovog doprinosa BDP-u, ako se uzme u obzir i NACE, oni u Sloveniji doprinose 15% BDP-u u 2012. godini i 18% zaposlenosti, dok na nivou EU procenti variraju između 9,6% u Rumuniji i 21,5% u Finskoj (slika 1).¹

¹ Podaci (slika 1) ne razlikuju privatnu i javnu potrošnju za zdravstvo ili obrazovanje. U većini zemalja o kojima je riječ (veliki izuzetak je Velika Britanija), većina sredstava je javna. Ali pošto je problem prisutan, obuhvaćen je istraživanjem.

INTRODUCTION

Intangible capital has been gaining a lot of attention recently. In the past three decades the emergence of the “new economy” spurred the productivity growth in the developed countries (Jorgenson and Stiroh 2000; Mortensen 2012). The research team led by Corrado (2005, 2009, 2012) focused its attention on the contribution of the key elements of “new economy” to growth: the intangible capital. Corrado et al. (2005) defined the intangible capital as: (1) computerized information (IT software and databases), (2) innovative property (primarily R&D, but also design and other) and (3) economic competencies (brand equity, firm specific human capital and organizational structure). Their estimates show that intangible capital contributes close to one third to economic growth. Since according to their studies the value added in developed countries depends primarily on innovation, branding and similar (Corrado et al., 2005), therefore on intangible capital, it is not surprising that the topic gained a lot of attention also in the EU and Japan (e.g. VanArk et al. 2009; Mortensen 2010; Fukao et al. 2009; Miyagawa 2010).

Besides the obvious relevance for the private sector, intangible capital is equally relevant also for the public sector. Intangible capital in the public sector directly and indirectly impacts the economy at large. First, the elements of intangible capital in the public sector impact the efficiency of the public sector itself (for example, IT enables quicker and more efficient work of the public sector). Indirectly, this impacts also the performance of the private sector by facilitation quicker, and better services. Namely, administrative procedures and bureaucracy are often listed among the top obstacles to doing business (see Doing Business 2015). The quality of the business environment in general is improved. The public sector intangible capital can also directly impact the private sector by providing them services that are more tailored to their specific needs and can directly lower the transaction cost for the business sector (for example e-Tax, e-Government, E-Estonia project is one of the better known).

So far, the public sector has received very little attention in the intangible capital discussions. The literature has primarily captured a number of partial impacts (e.g. Gardner 2002 on the brand of the state and long-run development), but a systematic overview of the data on the amount of intangible capital, share of different components and the impacts of intangible capital in the public sector has so far not been done. The work initiated within the Corrado et al. (2014) project revealed some of the methodological issues as well as initial data. The paper reveals that there are systematic differences in the importance of specific intangibles, and that generally, the public sector devotes less attention to intangible capital.

While the studies stemming from the Corrado et al. (2005) methodology rely on official statistical data, Prašnikar (2010, ed.) presented an alternative survey approach, using an extended definition of intangible capital, but based on Corrado et al. (2005). Detailed questionnaire, capturing each type of intangible capital, was used, and the methodology was adjusted for capturing the nature of developing countries (study focused on Western Balkan). The results provided a good understanding of the intangible capital in firms due to the great detail about the nature of each intangible: how and why it is important, where the obstacles to intangible investment are and what is the role of the management.

This paper extends the methodology also to the public sector and presents an alternative approach that provides a great deal of detailed information about the levels, nature of intangible investments as well

as other relevant aspects. The purpose of the paper is to review the work done on intangible investment in the public sector so far and to present and discuss the alternative implemented methodology.

The paper is structured as follows. First the methodology is presented, dealing both with the definition of the public sector as well as the definition of intangible capital. In continuing, the arguments for the use of survey methodology are discussed and the survey is presented. The benefits of using a survey are illustrated using selected results from the survey data. As such they also complement the alternative methodology results (Corrado et al. 2014). The paper concludes with a brief discussion of results and future challenges.

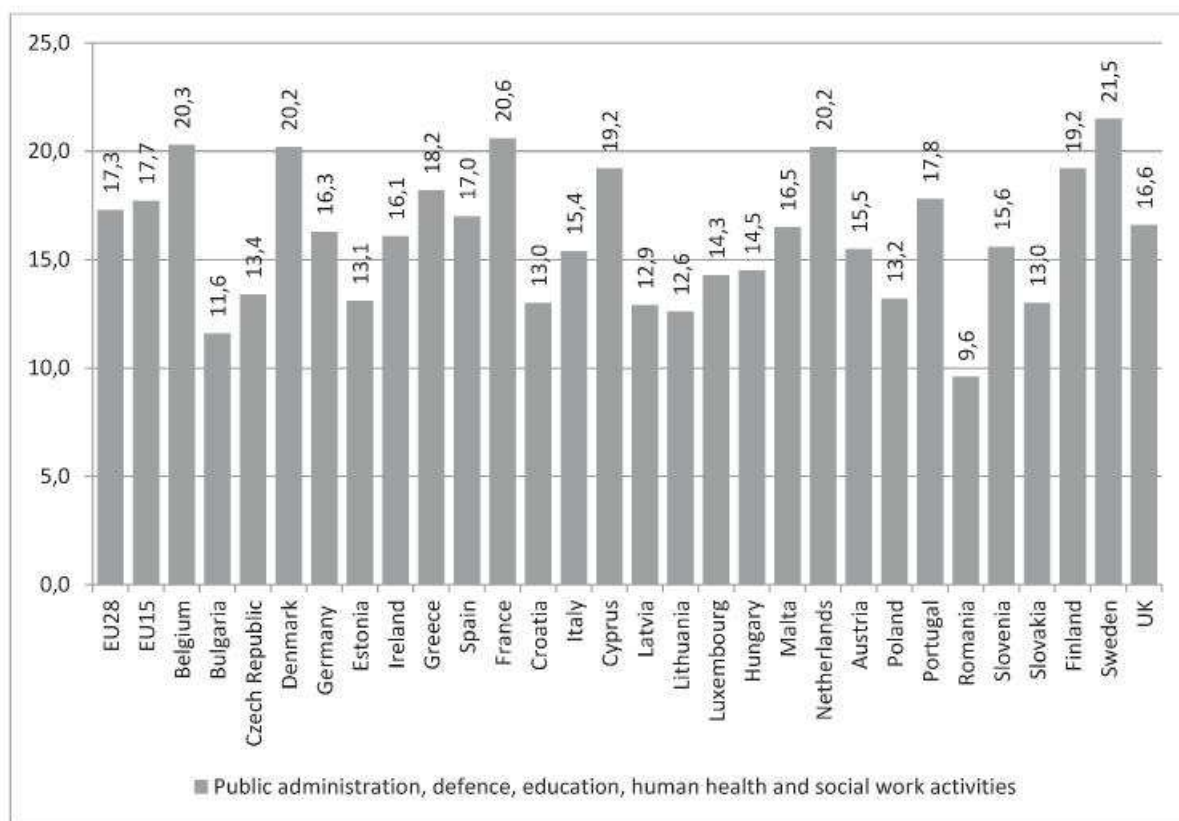
1. METHODOLOGY

1.1. Definition of the public sector

According to the Systems of national accounts (2008, 436) ‘the public sector includes general government and public corporations.’ Some non-profit institutions are also included in general government, based on conditions for control by government and the concept of economically significant prices (SNA 2008). But the definition by SNA (2008) is too broad and vague for the purpose of this study. The primary purpose of the study of intangible capital in the public sector was to identify the characteristics of the intangible capital in the sectors of general public administration (including social services), education, health care, police (army excluded). Except for the public administration (national or local) and police, the characteristics of education and health care in different countries differ. In some cases, schooling and health care are primarily public sector (as in Slovenia), in other countries not. To overcome the problem of classifying the public and private sector, we rely on the definition by Brejc (2014). The classification of the public sector can rely on several criteria: (1) organizational (when public sector incorporates all public law legal entities), (2) public finances (direct and indirect users of public financing), (3) functional (performing activities of public interest), (4) economic (all entities established and/or predominantly owned by the state or municipality) and (5) combined functional and economic (Brejc 2014). By combining criteria two to four, we limit the public sector to institutions that are financed by the budget, performing activities in public interest and are established or predominantly owned by the state. By doing so, the target sectors are limited to general public administration at national and municipal level, primary, secondary and tertiary education, and health care (primary and secondary level), social service activities and police. These sectors are also the most important in terms of their contribution to GDP, if also the NACE perspective is considered, they contribute in Slovenia in 2012 15% to GDP and 18% to employment, while at the EU level the numbers vary between 9.6 % in Romania and 21.5 in Finland (Figure 1).¹

¹ The data (Figure 1) do not discriminate between private and public spending for health or education. In the majority of the countries in question (big exception is UK) the bulk of funding is public. But since the problem does exist, it was dealt with in the research accordingly.

Slika 1. Doprinos javnog sektora ukupnoj dodatnoj vrijednosti u 2013. godini, kao postotak BDP-a



Podaci: Eurostat 2015.

1.2. Definicija nematerijalnog kapitala u javnom sektoru

Definicija koju su primijenili Corrado i dr. (2005) (tabela 1) korišćena je za identifikaciju ključnih komponenti nematerijalnog kapitala i za javni sektor. Pored relevantnih komponenti nematerijalnog kapitala (informaciona tehnologija, inovativni kapital i ekonomske

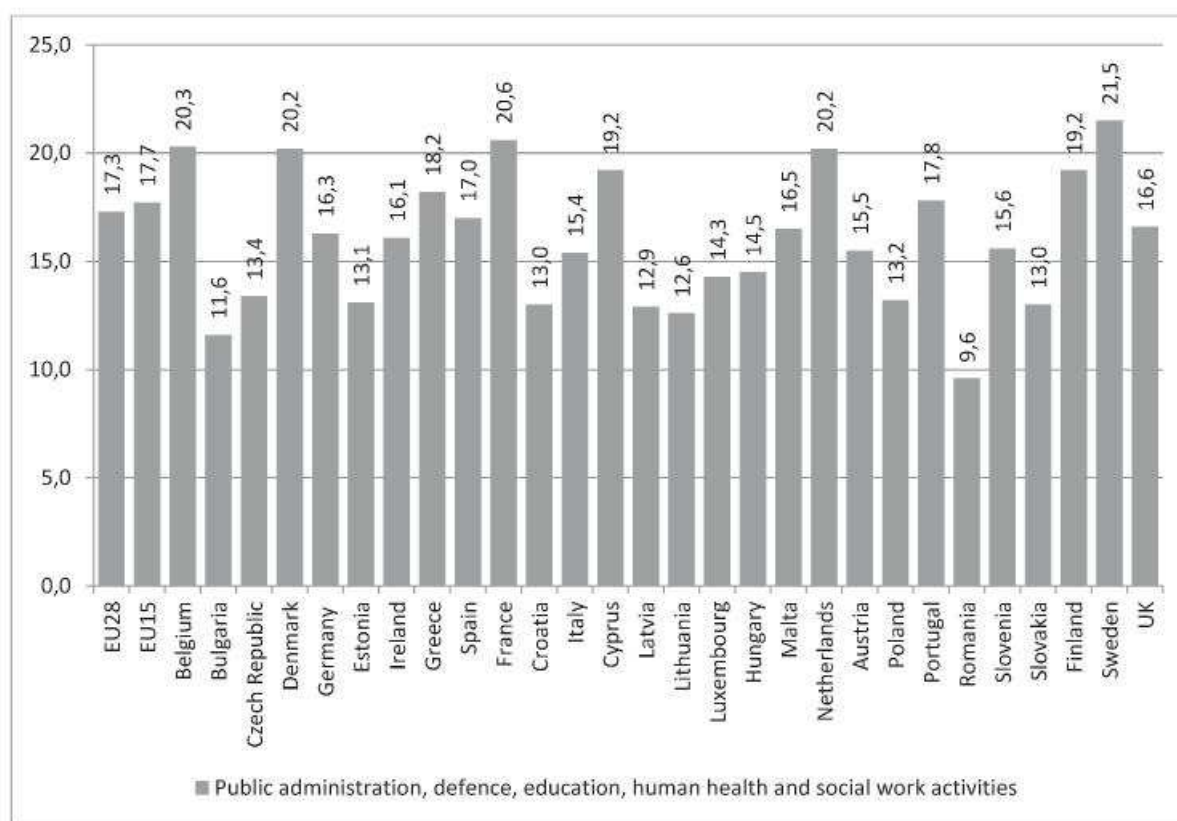
kompetencije (brendiranje i kapital brenda, marketing, ljudski kapital i organizacione karakteristike)), koje su primijenili Corrado i dr. (2005), definicija je proširena za tri dodatne komponente (Prašnikar i dr., 2010): (1) odnosi sa kupcima i informacioni kapital, (2) društveni kapital i (3) eko-kapital.

Tabela 1. Klasifikacija nematerijalnog kapitala

Vrsta	Komponente
Kompjuterizovane informacije	Kompjuterski softver Kompjuterizovane baze podataka
Inovativna imovina	Istraživanje i razvoj u oblasti nauke i inženjeringa Istraživanje minerala Troškovi autorskih prava i licenci Ostali troškovi razvoja proizvoda, dizajna i istraživanja
Ekonomske kompetencije	Vrijednost brenda Ljudski kapital specifičan za firmu Organizaciona struktura
Odnosi sa kupcima	Dužina i dubina odnosa i informacija o dobavljačima i kupcima
Socijalni kapital	Odnosi i saradnja između interesnih grupa
Eko-kapital	Fokus na ekološki prihvatljivo ponašanje/aktivnost

Izvor: Corrado i dr. (2005) i proširenja (Prašnikar i dr., 2011)

Figure 1: Contribution of public sector to total value added in 2013, as percent of GDP



Data: Eurostat 2015.

1.2. Definition of intangible capital in the public sector

The definition of Corrado et al. (2005) (Table 1) was used to identify the key components of intangible capital also for the public sector. In addition to the relevant components of intangible capital (information technology, innovative capital and economic competencies (branding

and brand capital, marketing, human capital and organizational characteristics)) as suggested by Corrado et al. (2005), the definition was extended for 3 additional components (Prašnikar et al. 2010): (1) relationship and informational capital, (2) social capital and (3) eco-capital.

Table 1: Classification of intangible capital

Type	Components
Computerized information	Computer software Computerized databases
Innovative property	Science and engineering R&D Mineral exploration Copyright and license costs Other product development, design, and research expenses
Economic competencies	Brand equity Firm-specific human capital Organizational structure
Relationship capital	The length and depth of relationships and information about the suppliers and customers
Social capital	Relationships and cooperation between stakeholders
Eco-capital	Focus on environmentally friendly behaviour/activity

Source: Corrado et al. (2005) and extensions (Prašnikar et al.,2011).

Socijalni kapital obuhvata odnose i informacije o tržištima, dobavljačima, kupcima, što je dokazano kao relevantna odrednica komparativne prednosti kroz niz studija, posebno za regije u tranziciji (Koman i dr., 2015; Domadenik i dr., 2008). Drugo, socijalni kapital odražava odnose između interesnih grupa u firmama (organizacijama) i odražava odnose između vlasnika, menadžera i zaposlenih. Studije za korporativni sektor otkrile su da su ovi odnosi povezani sa produktivnošću i ulaganjem u ljudski kapital (Prašnikar i dr., 2013, 2014a). Na kraju, eko-kapital je istovremeno važan kao element smanjenja troškova (niži troškovi emisije, troškovi električne energije, materijalni troškovi, itd.) i element tržišne konkurentnosti (Sanne, 2002; Cogoy, 1999).

1.3. Metoda istraživanja

Nakon pažljivog razmatranja raspoloživih statističkih podataka i finansijskih izvještaja za sektore, metodologija istraživanja je identifikovana kao najprikladnija metoda za obuhvatanje nematerijalnog kapitala u javnom sektoru. Ovo nadopunjuje rad Corrada i dr. (2014), u kojem su nematerijalna sredstva javnog sektora obuhvaćena pomoću dostupnih statističkih izvora. Corrado i dr. (2014) već pronalaze probleme u identifikovanju odgovarajućih mjera za nematerijalnu imovinu u javnom sektoru i tako se u nekim slučajevima oslanjaju na supstitute za obuhvatanje odabranih stavki. Na primjer, izdaci za istraživanje i razvoj zamijenjeni su zaposlenošću u istraživanju i razvoju kao procenat ukupne zaposlenosti, dok se organizacioni kapital mjeri radnim vremenom menadžera u ukupnom radnom vremenu (za detalje vidjeti: Corrado i dr., 2014).

Prateći našu prethodnu metodologiju rada, pokazalo se da je metodologija istraživanja prikladnija iz nekoliko razloga. Prvo, ona daje osnovu za poređenje nivoa svake vrste nematerijalne imovine u javnom sektoru u odnosu na privatni sektor i olakšava direktno i detaljno poređenje u zemljama u kojima je anketa u korporativnom sektoru već provedena. Takođe, može poslužiti kao osnova za širenje metodologije u druge zemlje. Drugo, detaljan dizajn upitnika bolji je u pružanju kako detaljnih podataka, tako i uvida u to *kako i zašto* komponente nematerijalnog kapitala utiču na poslovanje preduzeća. Naime, veoma detaljni podaci omogućili su opis niza procesa, veza i karakteristika firmi. Na primjer, istraživanje firmi na korporativnom nivou (poslovni sektor) koristeći podatke iz istraživanja (Prašnikar i dr., 2014b) otkrilo je da je rezultat Corrada i dr. (2009) da nematerijalna imovina utiče na produktivnost, takođe, potvrđena korištenjem podataka istraživanja. Ali, pored tog rezultata, detaljni podaci iz ankete omogućili su dokazivanje postojanja veze između karakteristika poslovnog okruženja (priroda konkurencije na tržištima, pritisak vanjskih izvora), genetskog materijala firme (oslanjajući se na Nelson i Winter, 1982, definicija) sposobnosti firme da izgradi kompetencije i iskoristi svoje sposobnosti i čvrstu inovativnost. Firme se značajno razlikuju prvenstveno zbog načina na koji koriste svoje resurse. Metoda istraživanja olakšava identifikaciju takvih veza, dok statistički podaci uglavnom ne. Takvo dublje razumijevanje je važno za dopunu trenutno prikupljenih pokazatelja komponenti nematerijalnog kapitala. Kao takav, upitnik se mogao koristiti i kao dopuna pristupa Corrado i dr. (2014). Takođe, cilj ovog istraživanja je da se naglasi značaj razvoja međunarodnog upitnika o nematerijalnoj imovini, slično kao i brojni drugi standardizovani upitnici (npr. Istraživanje o inovacijama u zajednici). Samo detaljni podaci mogu pružiti orijentaciju za kreatora politike. Ovo je, pored

sadašnjih problema štednje i prateće težnje za smanjenjem troškova u javnom sektoru i povećanom efikasnošću, takođe primarna motivacija za proučavanje javnog sektora iz ove perspektive.

1.4. Upitnik

Upitnik je razvijen na osnovu upitnika koji je korišćen za procjenu karakteristika nematerijalnog kapitala u privatnom sektoru, koji je pripremio istraživački tim FELU². Podaci iz upitnika pružili su solidne rezultate i sveobuhvatno razumijevanje karakteristika nematerijalne imovine na komparativni način (Slovenija, Bosna i Hercegovina, Albanija).³ Kao takav, identifikovan je kao veoma solidna osnova za pripremu upitnika za javni sektor.

Upitnik za javni sektor imao je 58 pitanja. Prvo smo postavili dva otvorena pitanja (q1 i q2): koja su bila tri faktora koji su bili najveće prepreke i tri faktora koji bi bili najpotrebniji, ali nisu dostupni. Slijedila je priroda organizacije (q3–q6) (osnivač, osnovna i druga uloga/ zadaci organizacije, izvori finansiranja). Pitanja od q7 do q29 analiziraju ekonomske kompetencije u organizacijama. U q7 analizirana je priroda prilagođavanja promijenjenim uslovima (kriza), prije svega korištenju odbrambenih i ofanzivnih strategija za prevazilaženje efekta krize, što je dopunjeno informacijama o prilagođavanju radne snage (i vrsta ugovora o radu) (q8) (Prašnikar i dr., 2014a, b; Prašnikar i dr., 2013). Nakon toga je uslijedilo nekoliko pitanja i tema iz oblasti ULJR-a (kao što je predložio Zupan i dr., 2010), koji se bave ključnim zaposlenima (q9) i platama (q10, q16, q20), te obukom (q17, q18). Pored toga, postavljena su pitanja koja se odnose na odnose između interesnih grupa (q12, q14), sindikalne organizacije (q13) i strateško upravljanje (q11, q15). Prašnikar i dr. (2013 i 2014a) i Zupan i dr. (2010) pokazali su da su odnosi između ključnih interesnih grupa u Sloveniji, Albaniji i BiH blisko povezani ne samo sa opštim poslovanjem firme već i sa stavovima radnika prema firmama, kao i sa karakteristikama ULJR uopšte. U kontinuiranom vođenju (q19, q21, q22) i organizacionoj strukturi (q23–q28) u javnim kompanijama posvećena je posebna pažnja vezi između rukovođenja i učinka, učinka i zarada, učinka i unapređenja, procedura selekcije, organizacione promjene, hijerarhijske strukture i promjene, itd. Istražen je i odnos sa kupcima, prvenstveno dubina, značaj i dužina odnosa sa kupcima i dobavljačima, fokusirajući se na važnost konkurencije, saradnje, izvora ideja i konkurentnih cijena na različitim nivoima poslovanja kompanije (q29, q32–q37). Takođe, odnosi sa javnošću i javno mnijenje bili su dio istraživanja (q30, q31), kao i uticaj javne percepcije na poslovanje i strateške odluke organizacije. Žabkar i dr. (2010), Žabkar i Memaj (2012) pokazali su da je upravljanje imidžom u javnosti povezano sa učinkom firme, ali je specifično za industriju. Ovo je takođe relevantno, jer javni sektor predstavlja segment posebnih usluga. Koman i dr. (2010) (slično Corradu i dr., 2009) zaključuju da informacioni kapital (IT i baze podataka) utiče na produktivnost. Ostala pitanja su korišćena za opisivanje vrste kompanije, broja zaposlenih, prihoda i pružanje drugih osnovnih informacija o organizaciji o kojoj je riječ.

Metodološki, korištena su tri tipa pitanja (Prašnikar i dr., 2011). Prvo, kaskadni pristup izrade pitanja, koji su uveli Miyagawa i dr. (2010). Kaskadno pitanje sastoji se od tri potpitanja (tabela 2). Na svako od ova tri pitanja može se odgovoriti sa „da“ ili „ne“. Jednostavnost kaskadnih pitanja ima nekoliko prednosti. Prvo, da/ne je vrlo jednostavno za ispitanika; jednostavnost povećava pouzdanost odgovora. Izjave su jednostavne, kratke, jasne i precizne,

² Istraživački tim koji je pripremao upitnik na Ekonomskom fakultetu (Univerzitet u Ljubljani) vodio je dr J. Prašnikar i uključuje sljedeće članove: dr Koman, Ograjenšek, dr Redek, dr Trobec, dr Zupan i dr Žabkar.

³ Proučavanje nematerijalnog kapitala u regionu Zapadnog Balkana (Prašnikar, izd. 2010; Prašnikar i dr., 2012; Prašnikar i Knežević Cvelbar, 2012; Prašnikar i dr., 2013; Žabkar i dr., 2010; Zupan i dr., 2010; Koman i dr., 2010; Ograjenšek i dr., 2010; Prašnikar i dr., 2012; Redek i dr., 2010) pokazali su da je nematerijalni kapital povezan sa poslovnim rezultatima.

Relationship capital captures the relationships and information about the markets, suppliers, buyers, which has been proven as a relevant determinant of comparative advantage by a number of studies, especially for the regions in transition (Koman et al. 2015; Domadenik et al. 2008). Second, the social capital reflects relationships between the stakeholders in the firms (organizations) reflect the relationships between owners, managers and workers. Studies for the corporate sector have revealed that these relationships are linked to productivity and investment in human capital (Prašnikar et al. 2013, 2014a). Last, eco-capital is important both as a cost reducing element (lower emission costs, electricity costs, material costs, etc.) as well as an element of market competitiveness (Sanne 2002; Cogoy 1999).

1.3. Survey method

After a careful examination of the available statistical data and financial statements accounts for the sectors, survey methodology was identified as the most appropriate method to capture intangible capital in the public sector. This complements the work by Corrado et al. (2014) where public sector intangibles are captured using available statistical sources. Already Corrado et al. (2014) find problems in identifying proper measures for intangibles in the public sector and thus in some cases rely on proxies to capture selected items. For example, R&D expenditure is proxied by the employment in the R&D as percentage of total employment, while organizational capital is measured by the managers' time in total time (for details Corrado et al. 2014).

Following our previous work methodology survey methodology was found to be more appropriate for several reasons. First, it provides a comparative base of the level of each type of intangible in the public sector in comparison to the private sector and facilitates also a direct and detailed comparison for countries where survey in corporate sector was already implemented. It can also serve as a base to spreading the methodology to other countries. Secondly, the detailed design of the questionnaire is better in providing both detailed data as well as insight into *how and why* the intangible capital components impact the performance of the firms. Namely, very detailed data allowed the description of a number of processes, links and characteristics of the firms. For example, the research of the firms at corporate level (business sector) using survey data (Prašnikar et al. 2014b) revealed that the Corrado et al. (2009) result that the intangibles impact productivity are confirmed also using survey data. But in addition to that result, the detailed nature of survey data allowed proving the link between the business environment characteristics (nature of final markets competition, pressure of external sources), genetic material of the firm (relying on Nelson and Winter, 1982, definition), the ability of the firm to build competences and use its capabilities and firm innovativeness. Firms differ significantly primarily due to the nature of how they utilize their resources. The survey method facilitates the identification of such links, while the statistical data generally not. Such a deeper understanding is important to complement the currently collected indicators of the components of intangible capital. As such, the questionnaire could also be used to complement the Corrado et al. (2014) approach. Thus, third, in perspective the aim of this research is also to stress the importance of developing an international intangible questionnaire, similarly as a number of other standardized questionnaires (e.g. Community innovation survey). Only detailed data can provide orientation for policy-makers. This was, besides the current austerity concerns and the pertaining demand

for public sector cost-cuts and increased efficiency, also the primary motivation to study the public sector from this perspective.

1.4. Questionnaire

The questionnaire was developed based on the questionnaire used to assess the characteristics of the intangible capital in the private sector, prepared by the research team at FELU.² The questionnaire data provided solid results and a comprehensive understanding of the characteristics of intangibles in a comparative manner (Slovenia, Bosnia and Hercegovina, Albania).³ As such it was identified as a very solid base to prepare also the questionnaire for the public sector.

The public sector questionnaire had 58 questions. First, we posed two open questions (q1 and q2): what were the 3 factors that were the biggest obstacles and what are 3 factors that would be most needed but are not available. The nature of the organization (q3-q6) was studied next (founder, basic and other role/tasks of organization, financial sources). Q7 to q29 analysed the economic competencies in the organizations. Q7 analysed the nature of the adjustment to the changed conditions (crisis), primarily on the use of defensive and offensive strategies to overcome the crisis effect, which was complemented by the information about labour (and types of employment contract) adjustment (q8) (Prašnikar et al. 2014a, b; Prašnikar et al. 2013). This was followed by several questions and topics from the HRM field (as suggested by Zupan et al., 2010), dealing with the core employees (q9) and wages (q10, q16, q20), training (q17, q18). In addition, questions dealing with relationships between the stakeholders (q12, q14), unionization (q13) and strategic management (q11, q15) were posed. As Prašnikar et al. (2013 and 2014a), and Zupan et al. (2010) showed, the relationships between the key stakeholders in Slovenia, Albania and BIH are closely related to not only firm general performance but also workers attitudes towards the firms as well as HRM characteristics in general. In continuing leadership (q19, q21, q22) and organization structure (q23-q28) in public companies were examined, where special attention was devoted to the link between leadership and performance, performance and wages, performance and promotion, selection procedures, organizational change, hierarchical structure and change, etc. Relationship capital was also investigated, primarily the depth, importance and length of the relationships with the customers and suppliers, focusing on the importance of competition, cooperation, sources of ideas, and competitive pricing at various level of company operation (q29, q32-q37). Also public relations and public opinion was part of the investigation (q30, q31) and the impact of public perception for the operations and strategic decisions of the organization. Žabkar et al. (2010), Žabkar and Memaj (2012) showed that public image management is linked to firm performance, but is industry specific. This is also relevant, since the public sector represents a segment of special services. Koman et al. (2010) (similarly to Corrado et al. 2009) conclude that informational capital (IT and databases) impacts productivity. The rest were questions used to describe the type of company, number of employees, revenues and provide other basic information about the organization in question.

Methodologically, three types of questions were used (Prašnikar et al. 2011). First, the cascading approach to building questions, introduced by Miyagawa et al. (2010). A cascading question is composed of three sub-questions (Table 2). Each of the three can be answered either with 'yes' or 'no'. The simplicity of the cascading questions has several advantages. First, the yes/no is very simple for the respondent; the simplicity increases the reliability of answers. The statements are simple, short, clear and straightforward, which minimizes the

² The research team preparing at the Faculty of Economics (University of Ljubljana) the questionnaire was led by dr. J. Prašnikar and comprised also dr. Koman, Ograjenšek, dr. Redek, dr. Trobec, dr. Zupan and dr. Žabkar.

³ The study of intangible capital in the Western Balkan region (Prašnikar, ed., 2010, Prašnikar et al., 2012, Prašnikar and Knežević Cvelbar 2012, Prašnikar et al. 2013, Žabkar et al. 2010, Zupan et al. 2010, Koman et al. 2010, Ograjenšek et al. 2010, Prašnikar et al. eds., 2012, Redek et al. 2010) showed that the intangible capital is linked to firm performance.

što umanjuje šumove zbog nerazumijevanja ili nezainteresovanosti (zbog nedostatka vremena). Važno je da kaskada, takođe, omogućava stvaranje faktora sa varijabilnošću (1–4), što jača njenu ulogu u analizi. U kaskadi od tri, svako uzastopno potpitanje opisuje/

predstavlja dimenziju koja je nadređena prethodnoj. Ispitanik je time ograničen, budući da je razlika između dva potpitanja dovoljno velika da ne bi došlo do sumnje o tome u koju kategoriju se uklapa kompanija (Prašnikar i dr., 2011).

Tabela 2. Primjer kaskadnog pitanja iz inovacijskog dijela upitnika

Tehnološke mogućnosti	NE	DA
Naše tehnološke mogućnosti prevazilaze one u prosječnim organizacijama u industriji.		
Tehnološke mogućnosti su razvijene do te mjere da možemo tvrditi da smo tehnološki kompetentniji od drugih u industriji.		
Dinamički, zastarjele tehnološke mogućnosti stalno se zamjenjuju novim.		

Izvor: Upitnik o nematerijalnoj imovini javnog sektora Slovenije

Takođe su korišćena pitanja Likertove skale (procena važnosti, skala 1–5) i pitanja koja traže konkretne informacije, kao što su: „Koliki je bio vaš prihod u 2013. godini?“

Ukupno, upitnik pruža široku bazu varijabli i sveobuhvatnih informacija koje omogućavaju kreiranje varijabli koje mogu dobro opisati suštinu nematerijalnog kapitala u javnom sektoru.

A1) i ne proširuje svoje aktivnosti iznad potrebnog minimuma. Ipak, 37% pokušava da izvrši dodatne usluge bez ikakvog dodatnog finansiranja, dok 4,5% ispitanika takođe pokušava da dobije dodatne poslove na tržištu, za koje imaju dodatno finansiranje (primjer: zaštita). Javna priroda finansiranja i zakonska ograničenja takođe stavljaju organizacije u posebnu poziciju u pogledu inovacija (novih usluga) i nekih drugih aktivnosti ili komponenti nematerijalnog kapitala (npr. ljudski resursi, obavezna obuka).

2.1. Informacioni kapital

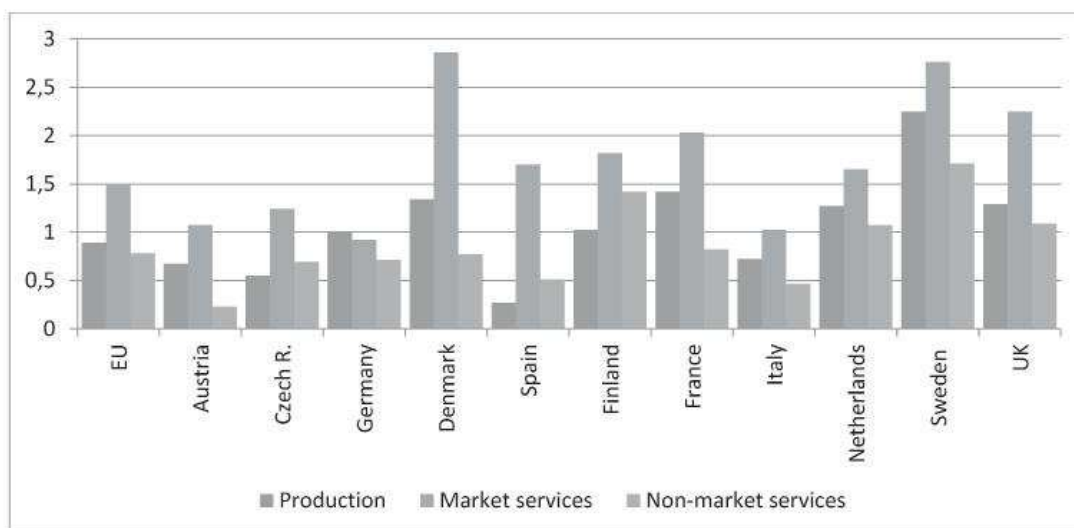
Corrado i dr. (2014) nalaze sistematsku razliku u investiranju u softver kao učešće bruto dodate vrijednosti u privatnom i javnom sektoru (tabela 3). Štaviše, oni takođe pokazuju da je između 1995. i 2007. godine ulaganje u IT bilo najveće u finansijskom posredovanju, gotovo 4% dodate vrijednosti, zatim transport, skladištenje i komunikacije (1,96%) i nekretnine (1,34%). Javna uprava (sektor L po NACE) bila je peta, sa 1,23%. Ostatak javnog sektora (obrazovanje, M, zdravstvo, N, druge zajednice, socijalna zaštita, O) uložio je 0,62%, 0,45% i 0,94% dodate vrijednosti. Ukupno gledano, za cijeli period, podaci za EU pokazuju da su tržišne usluge najviše investirale (1,5%), zatim slijedi proizvodnja (0,89%) i netržišne usluge (0,78%) (Corrado i dr., 2014). Podaci takođe otkrivaju razlike među zemljama, u nekim slučajevima, netržišne uslužne organizacije su, u stvari, više investirale u IT nego u proizvodnju (npr. Češka, Španija, Finska), ali to odražava i prirodu proizvodnih sektora u tim zemljama.

2. REZULTATI

Podaci za sektor policije i poreske administracije prikupljeni su u periodu od jula do septembra 2014. godine. Ukupno je primljeno 177 odgovora, 150 odgovora (85,7%) došlo je iz policijskih jedinica (regionalni, lokalni odjeli), a 17 poreskih odjeljenja je dostavilo odgovore. Oba predstavljaju ukupnu populaciju poreskih uprava i policijskih ustanova. Pored lokalnih jedinica, dobili smo i odgovore od pet zvaničnika iz najviše državne policijske uprave, kao i tri odgovora iz obrazovnih ustanova policije, a dvoje nisu naveli svoje porijeklo.

Zadaci policije i poreske uprave propisani su zakonom, a država finansira većinu njihovih poslova. Preko 94% ispitanika navelo je javno finansiranje kao glavni izvor, a ostatak priznaje i mogućnost za “tržišne izvore” (npr. policijska zaštita na javnim događajima, kao što je fudbal, itd.), ali oni predstavljaju zanemarljiv dio čak i za one koji su ih imali (na primjer, prijavljeni iznos bio je 0,5% prihoda). Većina ispitanika obavlja samo zadatke propisane zakonom (tabela

Slika 2. Investicije u softver kao učešće u dodatoj vrijednosti, od 1995. do 2007. godine, u %



Izvor: Podaci Corrado i dr., 2014, tabele 9. i 16.

noise due the lack of understanding or lack of interest (due to lack of time). Importantly, the cascade also allows the creation of variables with variability (1-4), which strengthens its use in analysis. In a cascade of three, each consecutive sub-question describes/

represents a dimension that is superior to the previous. Respondent is thereby limited, since the margin between two sub-questions is big enough so that no doubt can arise about which 'category' the company fits in (Prašnikar et al. 2011).

Table 2: Example of cascade question from innovation part of the questionnaire

Technological capabilities	NO	YES
Our technological capabilities exceed those of average organizations in the industry.		
Technological capabilities have been developed to such an extent that we can claim to be more technologically competent as other in the industry.		
Dynamically, outdated technological capabilities are being continuously replaced by new.		

Source: Public sector intangibles questionnaire for Slovenia.

Also Likert scale questions (assessing importance, scale 1-5) were used and questions asking for specific piece of information, such as: 'What was your revenue in 2013?'

In total, the questionnaire provides a broad base of variables and comprehensive information that allows the creation of variables that can well describe the essence of intangible capital in the public sector.

2. RESULTS

The data for the police and tax administration sector was gathered between July and September 2014. In total, 177 answers were received. 150 answers (85.7 %) came from the police units (regional, local outlets) and 17 tax offices responded. Both represent the total population of tax administration and police outlets. In addition to local units, we also received answers from 5 officials from the top state police administration as well as 3 answers from the police's educational facilities, 2 did not specify their origin.

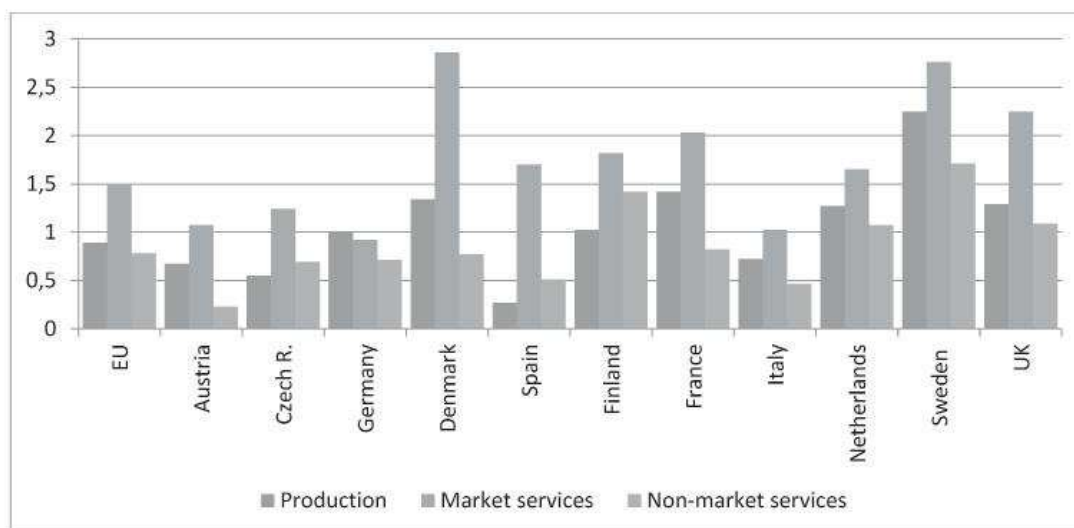
The tasks of both the police and tax administration are prescribed by law and the state also finances the majority of their operations. Over 94 % of respondents listed public funding as main source, the rest acknowledge also potential for 'market sources' (e.g. the police protection at public events, such football, etc.), but these represent the negligible part even for those that had them (for example a reported amount was 0.5 % of revenue). The majority

of the respondents only performs the tasks prescribed by law (Table A1) and do not extend their activities beyond the necessary minimum. Nonetheless, 37 % try to perform additional services without any additional financing, while 4.5 percent of respondents also try to obtain additional 'work' in the market, for which they get additional financing (example of protection). The public nature of financing and legal limitations also places the organizations in a specific position regarding innovation (new services) and some other activities or components of intangible capital (e.g. human resources, obligatory training).

2.1. Information capital

Corrado et al. (2014) find a systematic difference in the investment in software as share of gross value added in the private and public sector (Table 3). Moreover, they also show that between 1995 and 2007 the investment in IT was the highest in financial intermediation, almost 4 percent of value added, followed by transport, storage and communication (1.96) and real estate (1.34). Public administration (sector L by NACE) was fifth with 1.23 percent. The rest of public sectors (education, M, health, N, other community, social services, O) had invested 0.62, 0.45 and 0.94 percent of value added respectively. Overall the entire period, the data for the EU shows that market services invested most (1.5 percent), followed by production (0.89) and non-market services (0.78) (Corrado et al., 2014). Data also reveal cross-country differences, in some cases, non-market services actually invested more in IT than production (e.g. Czech R., Spain, Finland), but that reflects also the nature of manufacturing sectors in those countries.

Figure 2: Software investment as share of value added, 1995 to 2007, in %



Source: Data from Corrado et al. 2014, Table 9, 16.

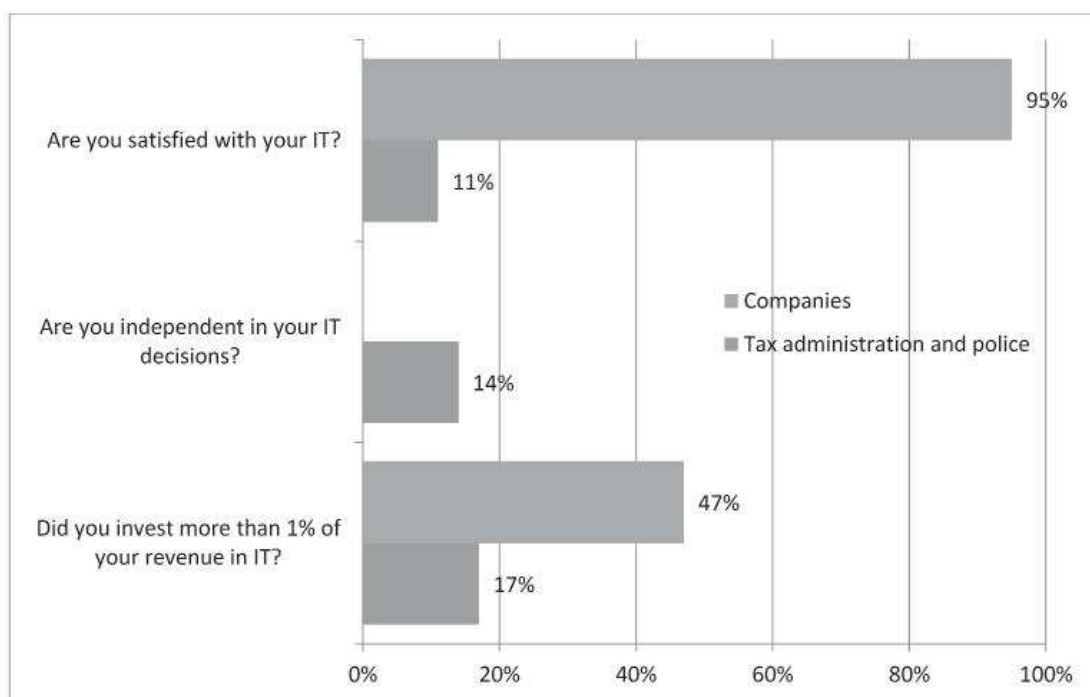
Generalno, javni sektor manje ulaže u informacijski kapital. Metodologija upitnika nam omogućava da shvatimo zašto i koje posljedice to može imati na organizacije u javnom sektoru.

Podaci za policiju i poresku upravu u Sloveniji pokazuju da su investicije u IT bile relativno niske: 83% organizacija je investiralo manje od 1%, što odražava generalno loše finansiranje materijalnih troškova od strane države tokom perioda štednje (tabela A1). Tako 89% ispitanika nije zadovoljno trenutnom situacijom u svojoj IT (i hardver i softver). Pored toga, 54% ne smatra da je budžet dovoljno fleksibilan ili da finansijer (država) može da obezbijedi potrebne resurse. Naime, i kompjuterska lingvistička analiza otvorenih pitanja o glavnim preprekama za obavljanje poslova pokazuje da su oprema uopšteno, kao i tehnička sredstva najproblematičnija područja (Redek i dr., 2015). S obzirom na opštu percepciju da su materijalni i tehnički resursi važno ograničenje za dobro obavljanje posla, važno je napomenuti da organizacije u velikoj većini (86% ispitanika) tvrde da nisu nezavisne u svojim IT ulaganjima. Plan investicija se obično radi na višem hijerarhijskom nivou. Međutim, IT je prepoznat kao važan resurs koji (1) podržava i (2) pruža konkurentsku prednost sektoru (62% i 55%). Informacioni sistem, kao dio IT-a, zadovoljavajući je, i za 59% ispitanika dovoljno cjelovit

da podrži aktivnosti, a takođe se poboljšava interno (63%), što je pozitivno, budući da zaposleni bolje razumiju potrebe organizacije. Takođe, finansijska ograničenja nisu toliko stroga u slučaju internih prilagodavanja. Ali IT sistem je veoma važan i za policiju i poresku administraciju; stoga, uprkos generalno slabom zadovoljstvu sa IT, važno je vidjeti da IT sistem u većini slučajeva zadovoljava potrebe organizacija.

Slika 3. upoređuje podatke za slovenski korporativni i javni sektor. Rezultati dvije odabrane dimenzije otkrivaju da je nivo zadovoljstva sa IT u javnom sektoru (posebno u policiji) nizak i da su investicije u IT takođe značajno niže nego u korporativnom sektoru. Dopunom rezultata do kojih su došli Corrado i dr. (2014), može se reći da javni sektor (ovaj segment) ulaže manje u IT, ali postoje i razmatranja, relevantna iz dugoročne perspektive: (1) centralizovano donošenje odluka o investiranju može dovesti do toga da tehnologije i baze podataka nisu optimalne iz perspektive potreba organizacije, (2) mogu pogoršati konkurentnost. Ovakav rezultat treba da ukaže donosiocima odluka na potrebu za decentralizacijom postupaka donošenja odluka i povećanjem ulaganja u opremu. Naime, u krizi su znatno smanjena ulaganja u opremu.

Slika 3. Informacioni kapital (odabrane dimenzije) u poreskom i policijskom i korporativnom sektoru



Izvori: Podaci iz ankete za javni sektor i podaci Prašnikara (2010) za korporativni sektor

2.2. Inovativne performanse

U pogledu inovacija i inovativnih performansi, inovacije u sektoru usluga i inovacije u javnom sektoru imaju specifičnosti. Dok je u proizvodnji inovacije lako definisati, bilo kao proizvod ili proces, u sektoru usluga, definicija je nejasna. Prema Flickema i dr. (2010 u Vos 2010), inovacija u uslugama je proces „dizajniranja, realizacije i marketinga kombinacije postojećih ili novih“ usluga. Obično, kompanije i organizacije u sektoru usluga (uključujući javne) zbog netehnološke prirode inovacija nemaju odvojeno odeljenje za istraživanje i razvoj. Inovativne aktivnosti provode se u drugim odeljenjima. U korporativnom sektoru, inovacije su često inkorporirane u odeljenje za marketing (Susman i dr., 2006).

Inovacije u uslugama uveliko zavise od profesionalnih znanja i kompetencija, gdje postojeće usluge (mogu biti i eksterno dostupne) mogu poslužiti kao input (Miles i dr., 1995). Nove/poboljšane usluge često su rezultat razvoja specifičnih projekata, uključujući i saradnju sa klijentima. Međutim, usluge generalno, kao i bilo koji novi razvoj, često su pod uticajem regulacije (Miles i dr., 1995). Ovaj aspekt je posebno relevantan u javnom sektoru, gdje su zadaci i priroda usluga obično propisani zakonom, standardi su postavljeni na državnom ili regionalnom nivou, a i naknada se određuje spolja. Može se očekivati da će stopa inovacija biti niža u javnom sektoru i da će, zbog prirode sektora, ove inovacije biti u velikoj mjeri pripremljene na višim hijerarhijskim nivoima. Organizacije javnog sektora će

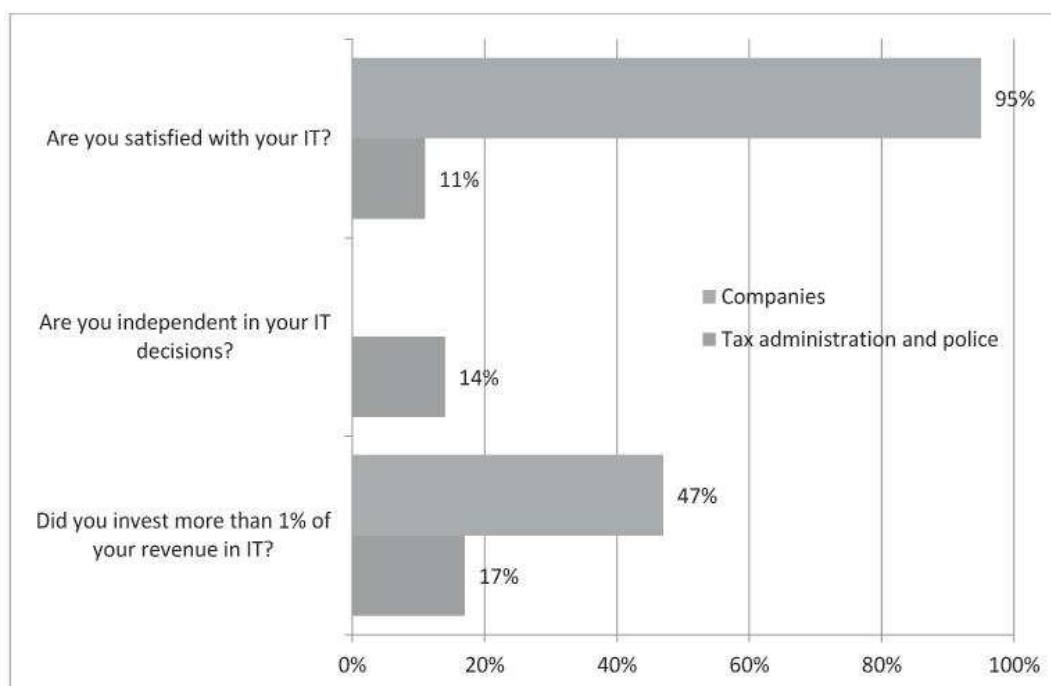
Generally, the public sector does invest less in the informational capital. The questionnaire methodology allows us to understand, why and what consequences that might have on the organizations in the public sector.

The data for the police and tax administration in Slovenia reveal that the investment in IT was relatively low; 83 percent of organizations invested less than 1 percent, which reflects the generally poor financing of material costs by the state during the austerity period (Table A1). Thus, 89 percent of respondents are not satisfied with the current situation in their IT (both hardware and software). In addition, 54 percent do not feel that the budget is flexible enough or that the financier (the state) can provide the needed resources. Namely, also the computational linguistics analysis of the open questions about the major obstacles to performing operations show that equipment in general, and technical resources are the most problematic areas (Redek et al. 2015). Given the general perception that material and technical resources are an important limitation to performing well, it is important to note that the organizations have in large majority (86 percent of respondents) claimed that they are not independent in their IT investment. The investment plan is normally made at a higher hierarchical level. But the IT is recognized as an important resource that (1) supports as well as (2) provides competitive advantage to the sector (62 and 55 percent). The information system, as part of IT, is more

satisfactory and is for 59 percent of respondents wholesome enough to support activities, also, it is being improved internally (63 percent), which is positive, since the employees understand the needs of the organization better. Also the financial limitations are not that stringent in that case of internal adjustments. But IT system is very important both for the police and tax administration; therefore, despite the poor IT satisfaction in general, it is important to see that the IT system does in majority of cases suit the needs of the organizations.

Figure 3 compares the data for Slovenian corporate and public sector. The results of two selected dimensions reveal that the level of satisfaction with the IT in public sector (especially in police) is low and that the investment in IT is also significantly lower than in corporate sector. Complementing the Corrado et al. (2014) result, it can be said, that the public sector (this segment) invests less in IT, but there are also considerations, relevant from long term perspective: (1) the centralized investment-decision-making might lead to technology and databases sub-optimal from the perspective of the needs of organization, (2) might cause competitive disadvantage. This result should signal decision-makers the need to decentralize the decision-making procedures and to increase investment in equipment. Namely, in the crisis, investment in equipment was cut significantly.

Figure 3: Information capital (selected dimensions) in tax and police and corporate sector



Sources: Public sector survey data and data from Prašnikar, ed., 2010, for corporate sector.

2.2. Innovative performance

In terms of innovation and innovative performance, both the services sectors and public sector innovation have specifics. While in manufacturing, innovation is easy to define, either as product or process, in the service sector, already the definition is vague. According to Flikkema et al. (2010 in Vos 2010) innovation in services a process of 'designing, realizing and marketing combinations of existing or new' services. Normally, companies and organizations in the service sector (also public) due to the non-technological nature of innovation do not have a separate R&D department. Innovative activities are undertaken in other departments. In the corporate sector, innovation is often incorporated in the marketing

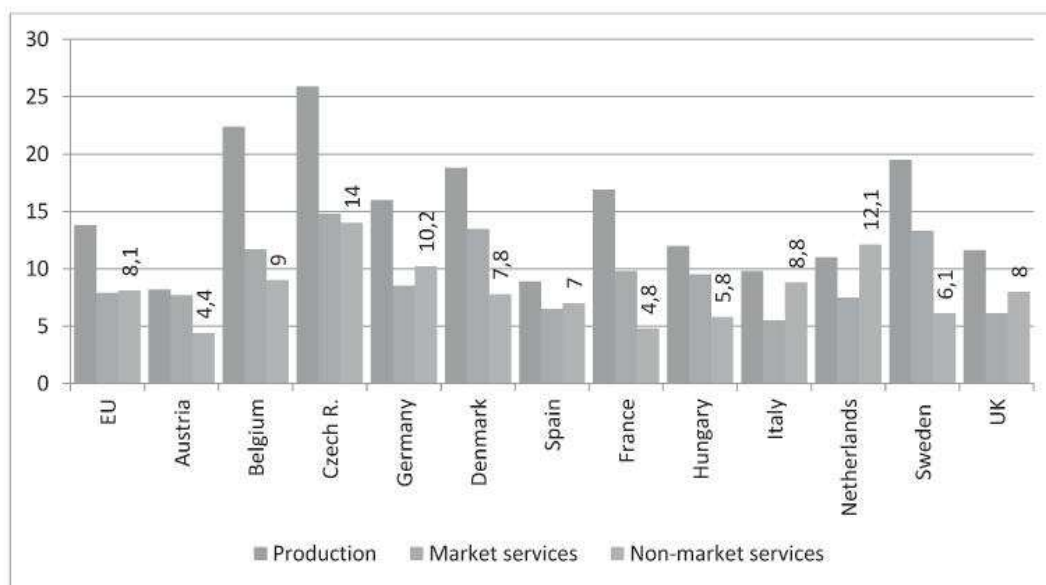
department (Susman et al., 2006). Innovation in services depend largely upon the professional knowledge and competences, where the existing services (can be also externally available) can serve as input (Miles et al., 1995). New/improved services often result from project-specific developments, including cooperation with clients. But services in general as well as any new developments are often influenced by regulation (Miles et al., 1995). This aspect is especially relevant in the public sector, where both the tasks as well as the nature of services are commonly prescribed by the law, standards are set at state or regional level and also the fee is set externally. It can be expected that the rate of innovation will be lower in the public sector, and that due to the nature of the sector,

vjerovatno imati samo malo slobode da naprave promjene, čak i u smislu procesa, iako Miles i dr. (1995) takođe vide rješenja u smislu definisanja tržišta (privatizacija nekih usluga, uključivanje korisnika, informativna podrška koja istovremeno podstiče promjene, itd.).

Corrado i dr. (2014) mjere inovativnu imovinu koristeći supstitut. Supstitut je učešće zaposlenih iz R&D u ukupnom broju zaposlenih, gdje su zaposleni u R&D odabrani na osnovu grupa zanimanja (ISCO88, grupe 211, 212, 221, 311, 321, predstavljaju fizičare, hemičare i srodne, matematičare, statističare i srodne, arhitekta, inženjere i srodne, stručnjake za prirodne nauke, tehničare fizičkih i inženjerskih nauka, tehničare prirodnih nauka i srodne). Na slici

4. prikazani su podaci po sektorima i zemljama u periodu od 1995. do 2007. godine. Podaci pokazuju da, generalno, netržišne usluge zapošljavaju manje radnika u istraživanju i razvoju nego proizvodnja, a generalno, jaz je značajan. Razlika između tržišnih i netržišnih usluga je mnogo manje izražena, a takođe je i učešće zaposlenih u istraživanju i razvoju u javnom sektoru u nekim zemljama viši, a u nekim niži. Ali u prosjeku, u EU, učešće zaposlenih u R&D u netržišnim uslugama je nešto veće u tržišnim nego u netržišnim: između 1995. i 2007. godine učešće zaposlenih u R&D u ukupnom broju zaposlenih bilo je 13,8% u proizvodnji, 7,9% u netržišnim i 8,1% u netržišnim uslugama.

Slika 4. Učešće zaposlenih u R&D u ukupnom broju zaposlenih u procentima, prosječno učešće 1995–2007.



Izvor: Podaci Corrado i dr. (2014), 18, tabela 11.

Podaci o učešću zaposlenih u R&D u ukupnom broju zaposlenih daju ograničen pogled na stvarnu inovativnu aktivnost u javnom sektoru. Metodologija istraživanja pruža dodatni uvid i dopunjuje zvanični statistički rezultat.

U prosjeku, policija i poreska uprava, generalno, smatraju da su manje uspješni u sprovođenju novih usluga kao konkurenti (82%) ili, u ovom slučaju, slične organizacije iz inostranstva. Većina (87%) takođe navodi da je manje od 1% njihovog budžeta bilo posvećeno ovim zadacima. Ali sama kriza nije imala veliki uticaj na ulaganje u „inovativne zadatke“, 47% smatra da prije krize nisu ulagali više u ove aktivnosti. Oni koji smatraju da jesu prvenstveno navode da imaju pristup tehnološkom razvoju (npr. IT i forenzika), što takođe podrazumijeva bolje usluge i unaprijeđene usluge (inovacije).

Kriza i štednja doveli su do velikog pritiska na budžet; budžetski deficit iznosio je oko 6% BDP-a između 2009. i 2011. godine u Sloveniji (RZS, 2015), a državni dug povećao se sa 21% BDP-a u 2008. na 70% u 2013. godini. Stoga je Vlada pripremila stroge mjere za konsolidaciju budžeta, a organizacije u javnom sektoru morale su da se prilagode. Samo policija, prema najnovijim planovima, izgubila je 238 zaposlenih (31. marta imali su 8054 zaposlenih, Ministarstvo unutrašnjih poslova, Policija, 2015), a planirani budžet sa 257 miliona evra je za 34 miliona manji od onoga što im je potrebno za obavljanje osnovnih zadataka (Stojilković, 2015).

Nematerijalni kapital, posebno inovacije procesa, predstavlja jednu od opcija za smanjenje troškova i poboljšanje usluga i već se koristi za to (iako se kontinuirano smanjenje budžeta ne može prevazići samo inovacijama procesa). Značajan dio organizacija smatra da se inovacije procesa primjenjuju kako za smanjenje troškova (46%), tako i za poboljšanje kvaliteta usluga (42%). Ipak, inovacije procesa su bile rijetke, samo 32% navode bilo koje vrste inovacija procesa, 24% navode poboljšanja administrativnih procesa, 25% poboljšanja u pružanju usluga i 21% pratećih aktivnosti (npr. održavanje, IT, itd.).

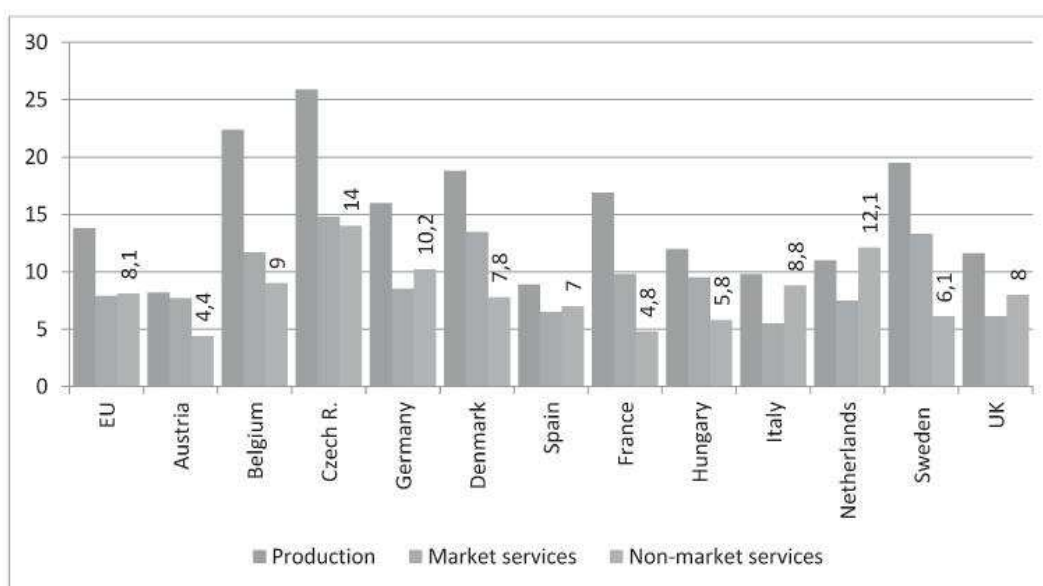
Poboljšanja u sektorima usluga često proizlaze iz saradnje između ljudi i odjeljenja. Veoma je dobro vidjeti da je skoro 60% organizacija navelo postojanje neformalne komunikacije, razmjene iskustava, itd. To može stimulirati poboljšanja, kako u pogledu poboljšanja usluga, tako i inovacija procesa. U pogledu sposobnosti, takođe je očigledno da organizacije u velikoj mjeri sumnjaju u svoje tehnološke sposobnosti; samo 13% navodi da imaju bolje tehnološke mogućnosti od uporedivih organizacija. Opet, ovo odražava nedostatak resursa koji je evidentan u javnom sektoru skoro jednu deceniju. Pritisak na pružanje usluga i smanjenje troškova doveli su do niskih ulaganja u resurse.

these innovations will be largely prepared at higher hierarchical levels. Public sector organizations will probably only have little freedom to make changes, even in terms of processes, although Miles et al. (1995) also see solutions in terms of market definition (privatization of some services, user involvement, informational support that stimulates also changes, etc.).

Corrado et al. (2014) measure innovative property using a proxy. The proxy is the share of R&D workers in total employees, where R&D workers are selected based on occupation groups (ISCO88, groups 211, 212, 221, 311, 321, representing physicists, chemists and related, mathematicians, statisticians and related, architects,

engineers and related, life sciences professionals, physical and engineering science technicians, life science technicians and related). Figure 4 presents data by sector and country in the period 1995 to 2007. The data show that generally, the non-market services employ less R&D workers than production, generally, the gap is significant. The difference between market and non-market services is much less pronounced, and also, the share of R&D employees in the public sector is in some countries higher and in some lower. But on average in the EU the share of R&D workers in the non-market services is slightly higher in the market than non-market: between 1995 and 2007 the share of R&D workers in total employment was 13.8 in production, 7.9 in market and 8.1 in non-market services.

Figure 4: Share of R&D workers in total employment in percent, average share 1995-2007



Source: Data from Corrado et al. 2014, 18, Table 11.

The data on the share of R&D workers in total employment provides a limited view on the actual innovative activity in the public sector. The survey methodology provides additional insight and complements the official statistical result.

On average, the police and tax administration in general feels that they were less successful in implementing new services as competitors (82 percent) or in this case comparable organizations from abroad. The vast majority (87 percent) also reports that less than 1 percent of their budget was devoted to these tasks. But the crisis itself did not have a major impact on the investment in 'innovative tasks', 47 percent feels that before the crisis they did not invest more in these activities. Those that feel that they did, report primarily that they had access to more technological developments (IT and forensics for example, also training), which also means better services and more improved services (innovation).

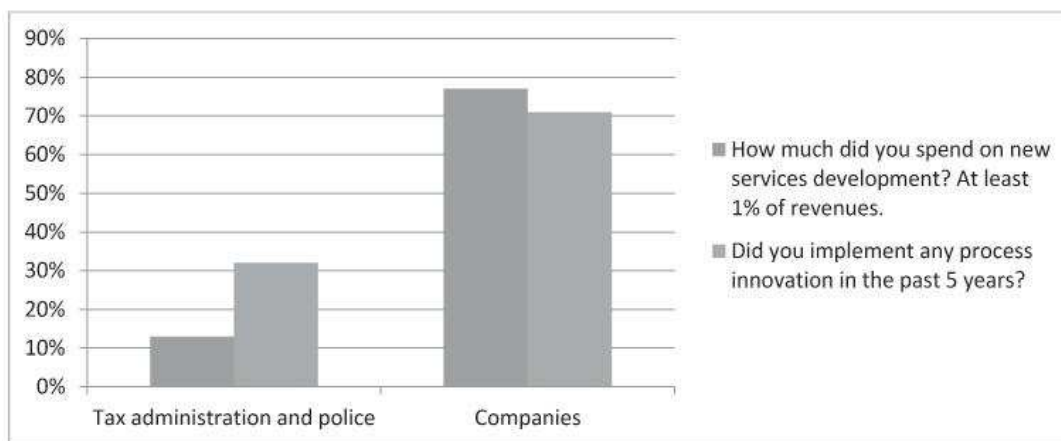
The crisis and austerity placed a large pressure on the budget; budget deficit was around 6 percent of GDP between 2009 and 2011 in Slovenia (SORS, 2015) and government debt increased from 21 percent of GDP in 2008 to 70 percent in 2013. Consequently, government prepared strict measures to consolidate the budget, and organizations in the public sector had to adjust. The police alone, according to the latest plans lost 238 employees (on March 31st they had 8054 employees, Ministry of the interior affairs, Police, 2015) and the planned budget is with 257 million euros 34 million short

of what is needed for them to do the basic tasks (Stojilković, 2015).

Intangible capital, especially process innovation, represents one option to cut cost and improve services and are being used to do that already (although continuous budget cuts cannot be overcome just by process innovation). A significant share of organizations feels that process innovations are implemented for both cost-cutting (46 percent) as well as improving the quality of services (42 percent). Nonetheless, process innovation was rare, only 32 percent reports of any kind of process innovation, 24 percent report administrative processes improvements, 25 percent of improvements in the delivery of services and 21 percent of supporting activities (e.g. maintenance, IT, etc.).

Improvements in the service sectors often stem from cooperation among people and departments. It is very good to see that almost 60 percent of organizations did report informal communication, exchange of experience, etc. This can stimulate improvements, both in terms of services improvement as well as process innovation. In terms of capabilities, it is also evident that the organizations largely doubt their technological abilities; only 13 percent reports that they have better technological capabilities than comparable organizations. Again, this reflects the lack of resources that has been evident in the public sector for a good decade. The pressure on delivery of services and cutting cost has led to low investment in resources.

Slika 5. Inovativna imovina (odabrane dimenzije) u poreskom i policijskom i korporativnom sektoru



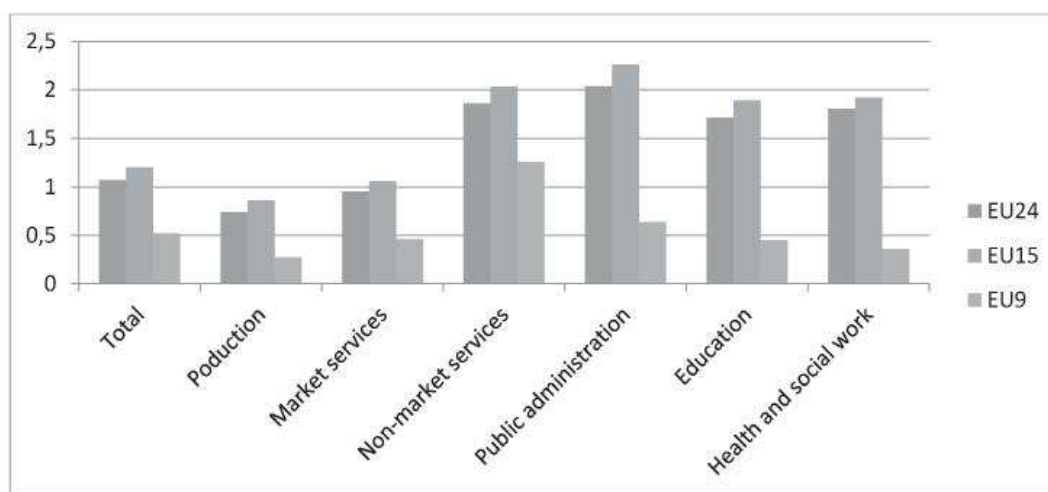
Izvori: Podaci iz ankete za javni sektor i podaci iz Prašnikar (2010) za korporativni sektor

2.3. Ekonomske kompetencije

Corrado i dr. (2014) koriste supstitut prosječnog ulaganja u kontinuirano osposobljavanje kao postotak dodate vrijednosti u periodu od 2003. do 2007. godine za ulaganje u ljudski kapital

specifičan za firmu (tabela 5). Smatraju da EU15 ulaže oko 1,2%, ali je proizvodnja ispod prosjeka sa 0,86%, tržišne usluge su takođe ispod prosjeka sa 1,06%, dok su netržišne usluge znatno iznad prosjeka sa 2,03%, gdje se naročito izdvaja javna uprava sa 2,26%.

Slika 6. Ulaganje u kontinuiranu obuku kao procenat dodate vrijednosti, prosjek između 2003. i 2007. godine



Izvor: Corrado i dr. (2014), 14, tabela 7.

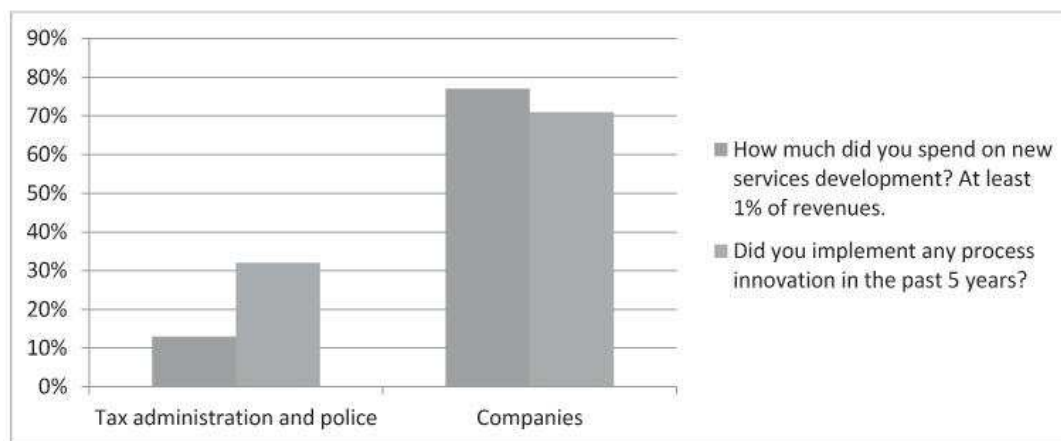
Dok Corrado i dr. (2014) koriste supstitut za procjenu ljudskog kapitala specifičnog za firmu, specifičnosti ljudskog kapitala su mnogo složenije. Dok je obuka definitivno važan aspekt, elementi zarada, motivacije, napredovanja, osnovne grupe zaposlenih, itd. (Zupan i dr., 2010; Prašnikar i dr., 2014b) jednako su relevantni. Oni podstiču transfer znanja u realan porast produktivnosti. Podaci iz ankete omogućavaju da se u velikoj mjeri shvati priroda ljudskog kapitala specifičnog za firmu i dodatno rasvijetle zvanični podaci.

Za Sloveniju, Corrado i dr. (2014) izvještavaju u ukupnom ulaganju u kontinuirano osposobljavanje u iznosu od 0,54% BDP-a prosječno između 2003. i 2007. godine. U proizvodnji, slično kao i u EU, nivo je niži, samo 0,34%, u tržišnim uslugama je 0,5%, dok u sektoru netržišnih usluga on iznosi 1,07% BDP-a. Podaci iz ankete za policiju i poresku upravu potvrđuju važnost obuke. To je široko rasprostranjeno, 75% organizacija je organizovalo obuku i skoro polovina organizacija uključuje u obuku najmanje jednu polovinu

zaposlenih. Više od polovine takođe stimuliše transfer znanja među zaposlenima. Međutim, priroda posla i priroda sektora (čime se metodologija koja se oslanja na zvanične statističke podatke još ne bavi) zahtijevaju kontinuirano osposobljavanje kao dio radnih zadataka. Kada se uporede javni i privatni sektor, treba uzeti u obzir da se nastavnici, doktori, policajci, vojnici, itd. moraju redovno osposobljavati. Podaci iz ankete, stoga, pružaju sveobuhvatnije razumijevanje problema, jer se otkrivaju i drugi problematični aspekti. Prije svega, "obavezna" priroda osposobljavanja otkriva se u činjenici da samo petina anketiranih organizacija u Sloveniji mjeri uticaj osposobljavanja. Koristi bi se povećale ako bi se i rezultati mjerili.

Nekoliko drugih problema u oblasti ljudskih resursa otkriveno je metodom istraživanja. Rezovi i štednja ostavili su trag u javnom sektoru. Što se tiče ljudskog kapitala, javni sektor u cjelini je dužan da smanji broj zaposlenih za 1% godišnje, dok su i plate smanjene

Figure 5: Innovative property (selected dimensions) in tax and police and corporate sector



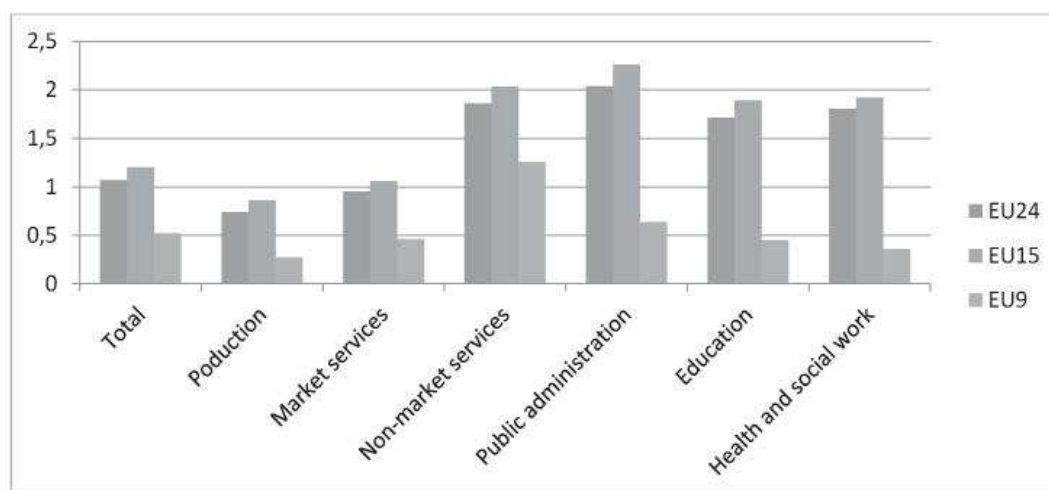
Sources: Public sector survey data and data from Prašnikar, ed., 2010, for corporate sector.

2.3. Economic competencies

Corrado et al. (2014) use the proxy of average investment in continuous training as percent of value added in the period of 2003 to 2007 to investment in firm specific human capital (Table

5). They find that in general, the EU15 invests around 1.2 percent, but the production is below average with 0.86, market services are also below average with 1.06 percent, while non-market services are significantly above average with 2.03 percent, where public administration stands out even more with 2.26 percent

Figure 6. Investment in continuous training as percent of value added, average between 2003 and 2007



Source: Corrado et al., 2014, 14, Table 7.

While Corrado et al. (2014) provide a proxy to estimate firm-specific human capital, the human capital specifics are much more complex. While training is definitely an important aspect, elements of payment, motivation, promotion, core employees group, etc. (Zupan et al. 2010; Prašnikar et al. 2014b) are just as relevant. They encourage the transfer of knowledge into actual increase of productivity. Survey data allows understanding the nature of firm-specific human capital in great deal and sheds additional light on official data.

For Slovenia, Corrado et al. (2014) reports a total investment in continuous training in the amount of 0.54 percent of GDP on average between 2003 and 2007. In production, similarly as in the EU, the level is lower, only 0.34, in market services it is 0.5, while in the non-market service sector it is 1.07 percent of GDP. The survey data for the police and tax administration confirm the importance of training. It is wide-spread, 75 percent of organizations have organized training and almost half of the organizations include

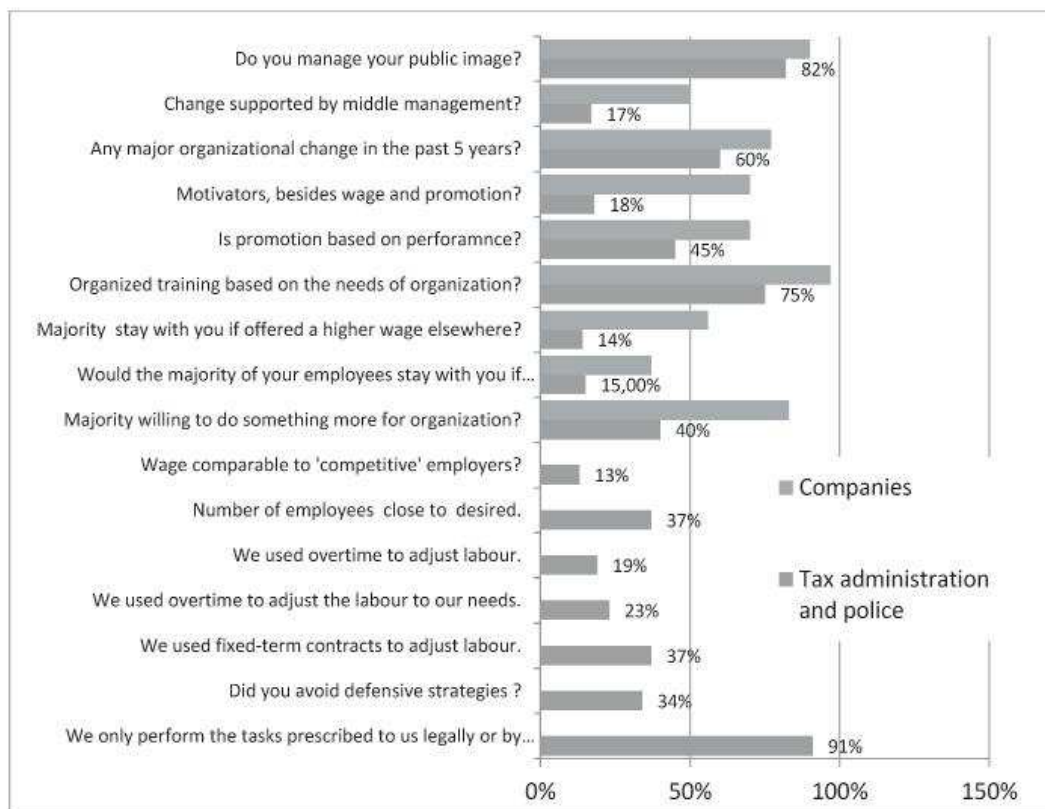
at least one half of employees into training. More than half also stimulate the transfer of knowledge among employees. But the nature of work and the nature of the sectors (which methodology relying on official statistical data do not deal with yet) require continuous training as part of work requirements. When public and private sectors are compared, it should be taken into account that teachers, doctors, police-men, soldiers, etc. have to have regular training. Survey data consequently provides a more comprehensive understanding of the problem, since other problematic aspects are revealed. First of all, the 'obligatory' nature of training is revealed in the fact that only a fifth of surveyed organizations in Slovenia measure the impact of training. The benefits would be increased if also the results were measured.

Several other human resources problems were revealed using the survey methodology. Austerity and saving have left a mark in the public sector. As far as human capital is concerned, the public

već u 2012. godini i njihov rast je ograničen (Vlada RS, 2015). Da bi se prevazišao manjak radne snage, najčešće se koristio prekovremeni rad (76% slučajeva) i ugovori na određeno vrijeme (50%). Ipak, 63% organizacija smatra da nisu dostigle željeni nivo zaposlenosti. Iz perspektive budućeg razvoja organizacije, bilo bi korisno imati skup ključnih zaposlenih, ali skoro 90% organizacija nemaju niti imaju odgovarajuća finansijska sredstva za ulaganje u razvoj takve grupe, 87% organizacija navodi da su plate niže od plata u sličnim organizacijama, a 86% smatra da bi radnici otišli ako bi im se ponudio bolji posao. Niska motivacija zaposlenih takođe

može biti posljedica (pored nekonkurentnih plata i prekovremenog rada): organizacije (96%) nemaju dovoljno alata za motivisanje radnika (kao što su dodatne isplate). Bolji radnici ne mogu biti nagrađeni, a oni koji ne rade dobro dobijaju usmeno upozorenje. Unapređenja u velikoj mjeri (55%) ne zavise od uspjeha, a 82% organizacija može samo stimulirati zaposlene putem plata (koje su postavljene na državnom nivou i koje su, u stvari, smanjene zbog štednje) i unapređenja (što je opet propisano). Fleksibilnost u smislu motivacije i nagrađivanja je vrlo niska.

Slika 7. Ekonomske kompetencije u privatnom i javnom sektoru



Izvori: Podaci iz ankete za javni sektor i podaci iz Prašnikar (2010) za korporativni sektor

Organizaciona struktura je, s jedne strane, veoma rigidna, zadaci su jasno podijeljeni u gotovo svim aspektima. S druge strane, organizacione promjene su napravljene u proteklih pet godina u 60% organizacija, ali u velikoj mjeri promjene nisu podržane od strane srednjeg menadžmenta ili zaposlenih (83% i 87%, respektivno). Proces neprekidnog poboljšanja sprovodi se samo u trećini organizacija. S druge strane, jedan broj organizacija izvještava o novim poslovnim praksama u smislu upravljanja procesima i odgovornostima (70% i 64%), gdje su te promjene u velikoj mjeri motivisane željom za poboljšanjem kvaliteta usluga, što je vrlo važno, jer su promjene usmjerene ka korisnicima. To bi takođe moglo u perspektivi dovesti do inovacija procesa, što bi moglo povećati nematerijalni kapital u organizacijama javnog sektora.

Ako su brendiranje u privatnom sektoru i upravljanje brendom veoma važni, brend u policiji i poreskoj upravi, naravno, nije relevantan sam po sebi. Ali to ne znači da javni sektor nije zabrinut za svoj javni imidž: 82% organizacija posvećuje veliku pažnju svom javnom imidžu, komuniciraju sa štampom, a čak 73% ima osobu koja je odgovorna za komunikaciju. Takođe, tokom tri kvartala analiziraju

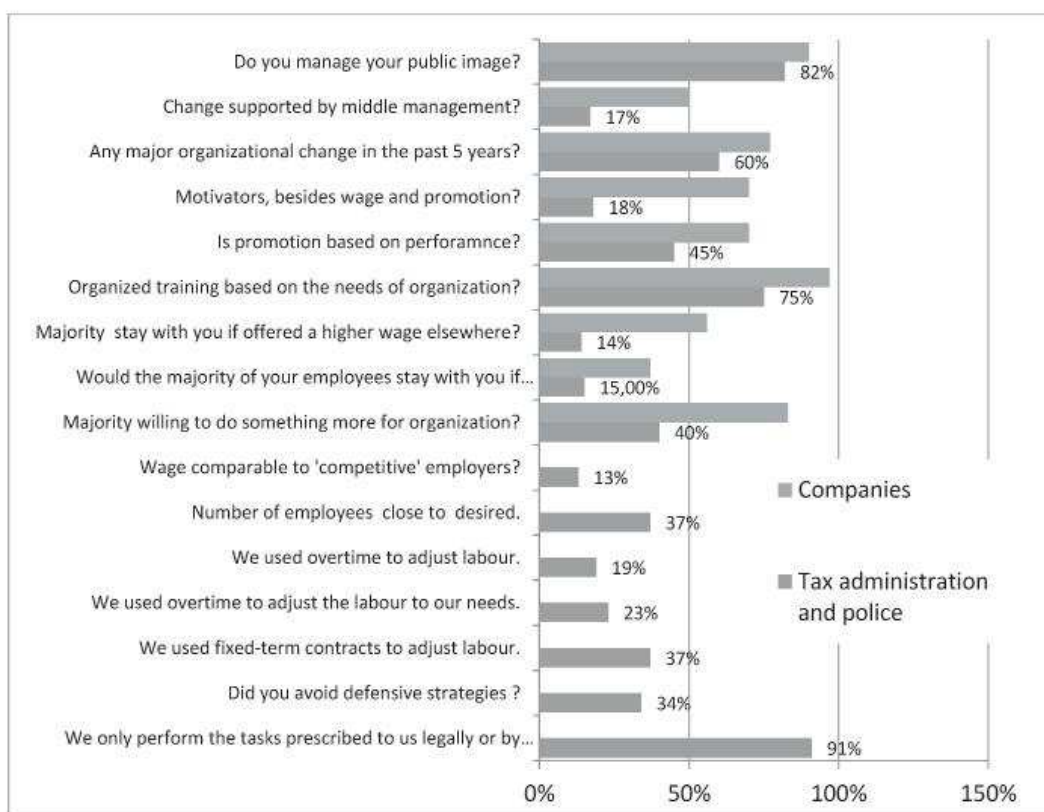
se mišljenja korisnika i skoro 60% navodi da su procjene korisnika korištene u planiranju promjena.

Rezultati su pokazali odabrane i istaknute elemente nematerijalnog kapitala u javnom sektoru koji nadopunjuju Corrado i dr. (2014). Pregled u tabeli 6, koji se fokusira isključivo na najvažnije segmente nematerijalnog kapitala u javnom sektoru i suprotstavlja podatke o troškovima/izdacima i zaposlenosti korišćenim u Corrado i dr. (2014), otkriva da je naizgled dobra situacija u javnom sektoru u mnogo aspekata lošija ako se detaljnije ocijeni, koristeći rezultate istraživanja. Rezultati su posebno problematični u pogledu ljudskih resursa i inovativne imovine. Što se tiče ULJP-a, u većem dijelu javnog sektora može se primijetiti slična situacija kao u policiji i poreskoj upravi. Plate su niske, organizacija je veoma nefleksibilna i menadžeri imaju ograničene resurse za motivisanje. Dakle, opšta motivacija i lojalnost je niska, što je presudno za učinak. Takođe, u smislu inovacija, korišćenje samo podataka o zaposlenju malo govori o prirodi inovacija, kao i o bilo kakvom potencijalnom uticaju inovacija na uslugu za korisnika, a što je najvažniji aspekt.

sector in general is required to lower the number of employees by 1 percent a year, while also the wages have been cut already in 2012 and their growth is restricted (Vlada RS 2015). To overcome the labour shortage, most commonly overtime was used (76 percent of cases) and fixed-term contracts (50 percent). Nonetheless 63 percent of organizations feel that they have not reached the desired employment level. From the perspective of future organisation development, it would be beneficial to have a set of core employees, but almost 90 percent of organizations do not have that and neither do they have the appropriate financial resources to invest in the development of such a group. 87 percent of organizations report that the wages are lower than the wages in comparable

organizations and 86 percent believe that the workers would leave if offered a better job. Low motivation of employees can also be a consequence (beside uncompetitive wage and overtime work): organizations (96 percent) do not have sufficient tools to motivate the workers (such as additional payments). Better workers cannot be awarded; those not performing well only get an oral warning. Promotions largely (55 percent) do not depend on success and 82 percent of organizations can only stimulate the employees via wages (which are set at state level and have been in fact cut due to austerity) and promotions (which again are prescribed). Flexibility in terms of motivating and awarding is very low.

Figure 7: Economic competencies in private and public sector



Sources: Public sector survey data and data from Prašnikar, ed., 2010, for corporate sector.

The organizational structure is on one hand very rigid, the tasks are clearly divided in almost all aspects. On the other hand, the organizational changes have been made in the past 5 years in 60 percent of organizations, but largely the changes were not supported by the middle management or the employees (83 and 87 percent, respectively). Continuous improvement process is only implemented in a third of organizations. On the other hand a number of organizations report of new business practices in terms of processes and responsibility management (70 and 64 percent respectively), where these changes were largely motivated by the desire to improve the quality of services, which is very important, since the changes are user-focused. This could also in perspective lead to process innovation, which could increase intangible capital in public sector organizations.

If in the private sector branding, and brand management are very important, brand in the police and tax administration of course is not relevant per se. But that does not imply that the public sector is not concerned about their public image. 82 percent of organization pay close attention to their public image, communicate with the press, 73 percent even have a person which is responsible for communication.

Over three quarters also analyse the opinions of users and close to 60 percent report that user evaluations were used in planning the changes.

The results presented selected highlights of the intangible capital in the public sector that complement Corrado et al. (2014). The overview in Table 6, which focuses solely on most important segments of the intangible capital in the public sector and contrasts the cost/expenditure and employment data used in Corrado et al. (2014) reveals that the seemingly good situation in the public sector is many aspects worse if evaluated more in detail using also the survey results. The results are especially problematic in the human resources aspect and innovative property. As far as HRM goes, in the majority of public sector a similar situation as in the police and tax administration might be observed. Wages are low, organization in highly inflexible and managers have limited motivation resources. Therefore, the general motivation and loyalty are low, which is crucial for the performance. Also in terms of innovation, using solely employment data says very little about the nature of innovation and consequently barely anything about the potential impact of innovation on the service for the user, which is the most important aspect.

Tabela 3. Sažetak glavnih nalaza za nematerijalni kapital

Vrsta	Corrado i dr. (2014) nalaz o nematerijalnoj komponenti javnog sektora	Uvid u rezultate istraživanja	Poređenje	
Kompite-rizovane informacije	<ul style="list-style-type: none"> – Značajno zaostaje za tržišnim uslugama – Nešto niže nego u proizvodnim industrijama 	<ul style="list-style-type: none"> – Niske IT investicije – Centralizovano odlučivanje o IT odlukama – Nizak nivo zadovoljstva IT 	<ul style="list-style-type: none"> – Pored niskih IT investicija, ni kvalitet IT ne zadovoljava potrebe organizacija, ali oni nemaju moć da utiču na odluke o kupovini 	
Inovativna imovina	<ul style="list-style-type: none"> – Procijenjeno samo na osnovu učesća zaposlenih u R&D u ukupnom broju zaposlenih – Nešto više u javnom sektoru nego u tržišnim uslugama – Znatno niže u javnom sektoru nego u proizvodnji 	<ul style="list-style-type: none"> – Nizak fokus na razvoj usluga – Veći fokus na razvoj procesa – Smanjivanje troškova važno u inovacijama procesa – Nije fokusiran na korisnika 	<ul style="list-style-type: none"> – Uprkos naizgled većim investicijama, stvarna situacija je gora – Podaci o zaposlenosti sami po sebi daju pogrešnu sliku 	
Ekonomske kompetencije	ULJR	<ul style="list-style-type: none"> – Netržišne usluge najviše ulažu u obuku, što je dvostruko više od proizvodnje i dvostruko više od tržišnih usluga 	<ul style="list-style-type: none"> – Obuka je obavezna u mnogim slučajevima, učestvuje veliki broj zaposlenih – Efekti obuke nisu izmjereni – Plate su niske – Motivacioni mehanizmi su vrlo ograničeni – Unapređenje nije zasnovano na učinku 	<ul style="list-style-type: none"> – Anketa otkriva mnogo problematičniju situaciju, posebno nisku motivaciju
	Brendiranje, oglašavanje	<ul style="list-style-type: none"> – Uglavnom manje nego u privatnom 	<ul style="list-style-type: none"> – Javni imidž važan, praćen, zaposleni stručnjaci za komunikacije 	<ul style="list-style-type: none"> – Niža ulaganja u imidž prirodna zbog tipa aktivnosti, ali javni imidž je takođe veoma važan u javnom sektoru
	Organizacioni kapital	<ul style="list-style-type: none"> – Nizak značaj u javnom sektoru 	<ul style="list-style-type: none"> – Napravljene organizacione promjene, ali rigidna organizaciona struktura, povećanje hijerarhijskih nivoa, niska fleksibilnost, nedostatak zadovoljstva srednjeg menadžmenta promjenama 	<ul style="list-style-type: none"> – Niske investicije, ali i drugi problemi koji mogu ometati dugoročne performanse

Izvor: autori, 2015.

ZAKLJUČAK

Studija o nematerijalnom kapitalu postala je od 2005. godine jedna od glavnih istraživačkih oblasti, koja je takođe intenzivno finansirana od strane Vlade i EU. Istraživanje nematerijalnog kapitala u privatnom sektoru potvrdilo je značajan uticaj nematerijalnog kapitala na produktivnost. Studije se sada proširuju na javni sektor (npr. SPINTAN projekat na nivou EU). Početni podaci pokazuju da je nematerijalni kapital u javnom sektoru na prilično konkurentnom nivou, a u nekim slučajevima čak i znatno veći nego u privatnom sektoru, posebno u proizvodnji. Podaci se oslanjaju na zvanične statističke podatke, zasnovane prvenstveno na troškovima (izdacima) i zapošljavanju različitih profila.

Predlažemo metodologiju istraživanja koja će upotpuniti podatke o troškovima/izdacima i zaposlenosti. Metoda istraživanja zasniva se na onoj koja je već pružila solidnu osnovu za interpretaciju u privatnom sektoru. Ona pruža mnogo detalja koji omogućavaju duboko tumačenje podataka o troškovima/izdacima ili zaposlenosti. To važi za sve komponente nematerijalnog kapitala.

Osim toga, metoda istraživanja ima i moć da identifikuje uticaj regulatornih ograničenja na rezultate. S tim u vezi, treba napomenuti (slično kao što se obično radi za proizvodnju ili usluge u tržišnom sektoru) da podaci o troškovima/izdacima nisu tako detaljni. Ali čak i kada se koriste takvi podaci, tumačenje treba uvijek da bude zasnovano na podsektorima, identifikujući specifičnosti ne samo za javni sektor u cjelini, već i za podsektore (npr. zdravstvo, policija, itd.). Ovaj rezultat je, na primjer, u ovom slučaju, vrlo evidentan u podacima o osposobljavanju, gdje je osposobljavanje veoma često zbog zahtjeva zakonodavca.

U budućnosti, upitnik će biti testiran u drugim sektorima i takva sektorska prilagođavanja se mogu izvršiti, ali imajući u vidu da bi komparativno jezgro trebalo zadržati, kako bi pružilo analitičke osnove za privatni i javni sektor (uključujući podsektore). Pored toga, budući da rezultati ukazuju na analitičku i interpretativnu vrijednost metodologije istraživanja, prospektivni standardizovani međunarodni upitnik bio bi od velike pomoći pri ocjenjivanju učinka javnog sektora.

Table 3: A summary of main findings for the intangible capital

Type		Corrado et al. (2014) finding on public sector intangible component	Survey results insight	Comparison
Computerized information		Significantly lagging behind market services Slightly lower than in production industries	Low IT investment Centralized decision-making about IT decisions Low satisfaction with IT	Besides low IT investment, also the quality of IT does not meet the needs of organizations, but they do not have power to impact the purchasing decisions
Innovative property		Evaluated only based on share of R&D workers in total employment Slightly higher in public sector than in market services, Significantly lower in public sector than in production	Low focus on services development More focus on process development Cost cutting important in process innovation Not user focused	Despite seemingly higher investment, the actual situation worse Employment data alone provide a misleading picture
Economic competencies	HRM	Non-market services invest most into training, more than twice as much as production and twice as much as market services	Training obligatory in many cases, large share of employees takes part Training effects not measured Wages low Motivation mechanisms very limited, can not Promotion not performance based	Survey reveals much more problematic situation, especially low motivation
	Branding, advertising.	Generally smaller than in private.	Public image important, monitored, communication specialists employed	Lower investment in image natural due to nature of activity. But public image also very important in public sector
	Organizational capital.	Low importance in public sector	Organizational changes made, but organizational structure rigid, increasing in hierarchical levels, low flexibility, lack of satisfaction of middle management with the changes	Low investment, but also other problems that might impede long-run performance

Source: Authors' own, 2015.

CONCLUSION

The study of intangible capital has become since 2005 one of the major research areas, also intensively financed by the government and the EU. The research of the intangible capital for the private sector has confirmed the significant impact of the intangible capital on the productivity. The studies are now extending to the public sector (e.g. SPINTAN project at the EU level). Initial data reveal that the intangible capital in the public sector is at quite competitive levels, in some cases even significantly exceeding that in the private sector, especially in manufacturing. The data rely on the official statistical data, based primarily on cost (expenditure) and employment of different profile types.

We propose a survey methodology to complement the cost/expenditure and employment data. The survey method is based on one that already provided solid interpretations' base for the private sector. It provides a great amount of details allowing deep interpretation of the data suggested by cost/expenditure or employment. This is true for all components of intangible capital.

In addition, the survey method also has the power to identify the impact of regulatory limitations on the results. Related to this, it should be noted (similarly as is normally done for manufacturing or services in the market sector) that the cost/expenditure data cannot provide this detail. But even when such data is used, the interpretation should always be sub-sectorally based, identifying the specifics not just for the public sector at large, but also for sub-sectors (e.g. health, police, etc.). This result is for example in this case very evident in the training data, where training is very high due to legislator requirements.

In the future, the questionnaire will be tested in further sectors and such sectoral adjustments can be made, but bearing in mind that comparative core should be kept to provide analytical grounds for both private and public sectors (including sub-sectors). In addition, since the results point to the analytical and interpretative value of survey methodology, a prospective standardized international questionnaire would be of great assistance when evaluating the performance of the public sector.

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Tabela A1: Odabrani rezultati

	Pitanje		NE	DA
Informacioni kapital	Da li ste uložili više od 1% svog prihoda u IT?	N	50	10
		%	83%	17%
	Da li ste nezavisni u svojim IT odlukama?	N	60	10
		%	86%	14%
	Jeste li zadovoljni IT-om?	N	65	8
		%	89%	11%
Inovativna imovina	Koliko ste potrošili na razvoj novih usluga?	N	54	8
		%	87%	13%
Da li ste u proteklih pet godina implementirali neke inovacije u procesu?	N	51	24	
	%	68%	32%	
Ekonomске kompetencije	Mi izvršavamo samo zadatke koji su nam propisani zakonom ili drugim dokumentima (zakon, izmjene i dopune).	N	14	134
		%	9%	91%
	Da li ste uspjeli izbjeći korištenje obrambenih strategija u posljednjih pet godina?	N	80	41
		%	66%	34%
	Koristili smo ugovore na određeno vrijeme kako bismo prilagodili rad našim potrebama.	N	61	45
		%	50%	37%
	Koristili smo prekovremeni rad da bismo prilagodili rad našim potrebama.	N	91	23
		%	76%	19%
	Broj zaposlenih koje imamo je blizu željenog broja.	N	78	45
		%	63%	37%
	Da li vaši zaposleni primaju platu koja se može uporediti sa „konkurentnim“ poslodavcima?	N	103	15
		%	87%	13%
	Da li bi većina vaših zaposlenih bila spremna da učini nešto više za vašu organizaciju?	N	67	45
		%	60%	40%
	Da li bi većina vaših zaposlenih ostala sa vama ako bi im se ponudila veća zarada negdje drugo?	N	96	15
		%	86%	14%
	Da li ste organizovali obuku za zaposlene, na osnovu potreba vaše organizacije?	N	26	78
		%	25%	75%
Da li je unapređenje zasnovano na učinku?	N	58	47	
	%	55%	45%	
Imate li druge motivatore, osim plate i napredovanja?	N	85	19	
	%	82%	18%	
Da li ste u proteklih pet godina sproveli neke značajne organizacione promjene?	N	39	59	
	%	40%	60%	
Da li je promjena podržana od strane srednjeg menadžmenta?	N	77	16	
	%	83%	17%	
Da li upravljate imidžom svoje organizacije?	N	16	75	
	%	18%	82%	

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Table A1: Selected results

	Question		NO	YES
Informational capital	Did you invest more than 1% of your revenue in IT?	N	50	10
		%	83%	17%
	Are you independent in your IT decisions?	N	60	10
		%	86%	14%
	Are you satisfied with your IT?	N	65	8
		%	89%	11%
Innovative property	How much did you spend on new services development?	N	54	8
		%	87%	13%
	Did you implement any process innovation in the past 5 years?	N	51	24
		%	68%	32%
Economic competencies	We only perform the tasks prescribed to us legally or by other documents (law, ammendments).	N	14	134
		%	9%	91%
	Did you manage to avoid the use of defensive strategies in tha past 5 years?	N	80	41
		%	66%	34%
	We used fixed-term contracts to adjust the labour to our needs.	N	61	45
		%	50%	37%
	We used overtime to adjust the labour to our needs.	N	91	23
		%	76%	19%
	The number of employees we have is close to our desired number.	N	78	45
		%	63%	37%
	Do your employees receive a wage comparable to 'competitive' employers?	N	103	15
		%	87%	13%
	Would the majority of your employees be willing to do something more for your organization?	N	67	45
		%	60%	40%
	Would the majority of your employees stay with you if offered a higher wage else-where?	N	96	15
		%	86%	14%
Do you have organized training for your employoees, based on the needs of your organization?	N	26	78	
	%	25%	75%	
Is promotion based on performnce?	N	58	47	
	%	55%	45%	
Do you have other motivators, besides wage and promotion?	N	85	19	
	%	82%	18%	
Did you implement any major organizational change in the past 5 years?	N	39	59	
	%	40%	60%	
Was the change supported by middle management?	N	77	16	
	%	83%	17%	
Do you manage the public image of your organization?	N	16	75	
	%	18%	82%	