

Information Policy Country Report: Turkey

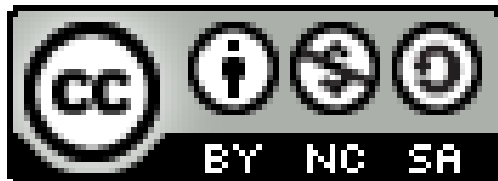
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EXECUTIVE SUMMARY

For many in the West, Turkey seems to be the gateway to the Middle East. For the Middle East, Turkey is seen by some as a buffer between the Arab world and the Western world. Recently, Turkey has expressed a desire to enter the European Union and has begun updating a number of laws to reflect this. Laws governing the control and dissemination of information, privatization of state owned companies, and intellectual property, fall within these developments. In the last ten years there have been developments in infrastructure, intellectual property, digital governance, information security, and copyright law.

Turkey never fully developed a widespread land-based telephony system. Wireless networks and digital cell phone towers have been built across the country. Mobile device penetration was expected to reach 100% across the country by 2009, and the country is relying on fiber optic lines to carry digital communications between large wireless network centers (Renda, 2008) (European Communities, 2009, p. 20). These developments reflect the dramatic and recent increase in telecommunications spending. Competition has dramatically expanded coverage for various telecommunications services, reflecting an increase in spending. With the recent liberalization of the telecommunications market from the state-owned Turk Telecom, competition is growing in both local and long-distance telephony industry.

In intellectual property, legislation has been revised in recent years, but enforcement of laws. The new laws aimed at preventing IP piracy as well as patent and copyright infringement bring Turkey up to the legal standards of the EU. Turkey belongs to many international organizations which govern trademark and copyright standards across borders. However, without effective enforcement of these laws, improvements in the dynamic of intellectual property legislation in Turkey may not reach full development for some time.

Developments in cyber security and personal data security also seem to be primarily driven by the desire to join the EU. However, as in other areas, development of the laws far outstrips their enforcement.

In digital government, Turkey is attempting to increase the services of its government through digital communications. The goal of these developments is to provide a greater range of services to the population, as well as fulfilling requirements set forth by the European Union. While there have been some issues with implementation e-government services, Turkey has shown true dedication towards success in this field as evidenced by the digital network created to connect the national justice system, the UYAP. The local governments have not had as much success at creating interconnected and uniform systems, which have prevented them from seeing the full range of benefits digital government initiatives can provide.

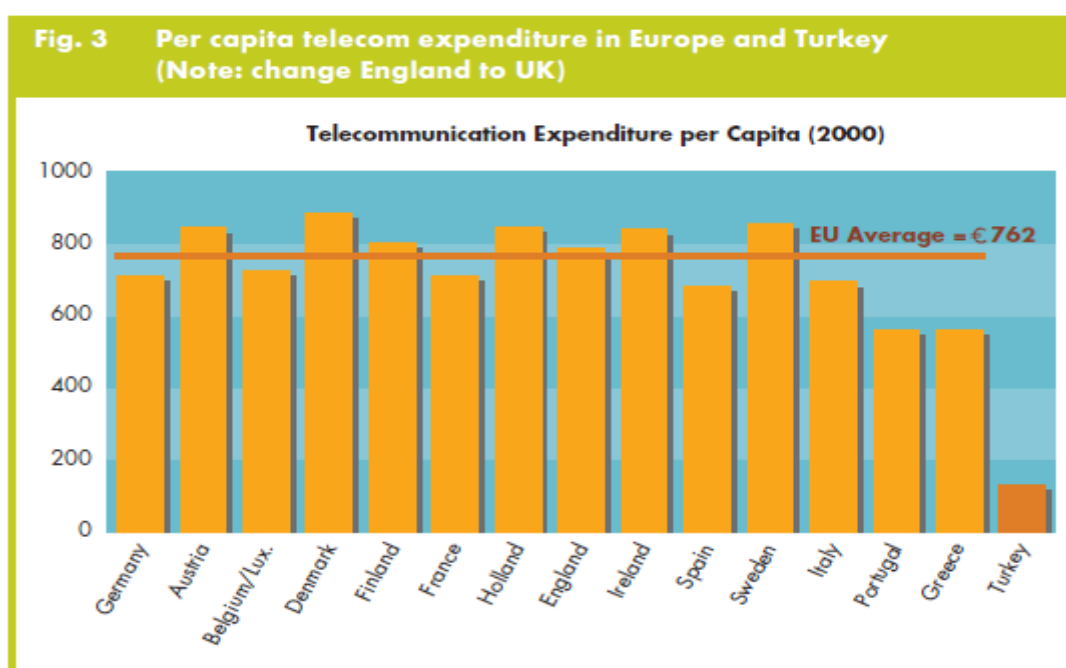
This paper discusses goals and offers directions which might be taken to assist in the progress of information policy development in telecommunications policy, intellectual property, privacy and security policy, and digital governance.

Turkey's location between the developing world in the east and the developed world in the west is reflected in its information policies. As the country works to establish and reform policies to meet the suggestions and requirements of the European Union, Organization of Economic Co-Operative Development, and other Western pressures, much of its rural population lags behind the urban centers in information access and enforcement. It is important to analyze Turkey's information policy in light these tensions. Work in telecommunications and universal access has attempted to bring the country together despite the urban-rural division. Intellectual property laws as well as privacy and security policies have aligned themselves with wider international principles, however enforcement of these rules and regulations lags behind the levels of enforcement in the Western world. Also influenced by outside sources, namely a bid to join the EU, digital governance has made great strides, although implementation at the local government level, especially in rural areas, leaves much to be desired. Additional challenges and opportunities for improvement are found in the realms of policy enforcement, the digital divide between the urban and rural areas, and the Turkey's dedication towards integration with the European Union and the reforms this integration will require.

TELECOMMUNICATIONS POLICY

Like many developing countries, Turkey's telecommunication industry started as a monopolistic state-run enterprise. Prior to 1994, the General Directorate of Posts Telephone and Telegraph Cooperation (PTT) operated telecommunications, telegraph and postal services. Following the passage of Act No. 4000 in 1994, the telecommunications arm of the PTT separated from the main organization and became Turk Telekom (Ünver, 2009, p. 3). Since then,

Turkey has experienced dramatic changes in the telecommunications industry, not just in liberalization and regulatory reform, but also in the explosive growth of wireless customers as Turk Telekom telephony usage has remained stagnant over a number of years. There is room for growth in broadband and universal service development. In 2000 Turkey's per capita expenditure on telecommunications infrastructure was €134, compared to the EU average of 762, leaving room for future growth in telephony, broadband access, and universal service (Evcı, Ciliz, & Anarım, 2004, p. 3) (See chart below).



(Evcı, Ciliz, & Anarım, 2004, p. 3).

WIRELESS

Shortly after the establishment of Turk Telekom, Turkey launched wireless telephony using the GSM standard, similar to the standards of Europe. When it was established as a national monopoly, mobile services were specifically excluded from Turk Telekom's charter, in order to encourage a more competitive mobile industry (Akdemir, Basci, & Togan, 2007, p. 116). TurkCell and Telsim emerged as the dominant mobile telephony companies. In 1998, the

government liberalized the mobile industry by significantly reducing its revenue sharing agreement with TurkCell and Telsim, instead opting for a flat operating license fee (Turkey Liberates Cellular Market, 1998). Two minor players, Aria and Aycell, formed in 2001, but never attracted enough customers to remain viable competitors, due a lack of comprehensive roaming agreements with the two big carriers (Evcil, Ciliz, & Anarim, 2004, p. 2). In 2005, Telsim announced that Vodafone won the bid to purchase Telsim, with brand set to be replaced by 2007 (BBC News, 2005).

Turkish mobile telephony penetration has grown significantly since its introduction in the mid-1990s. In 2001, mobile subscribership surpassed fixed line subscribership, with Turkey expected to achieve 100% mobile penetration by end 2009 (Renda, 2008). However, these numbers only pertain to second-generation voice-only mobile telephony. 3G deployment has been delayed several years, largely because of a demand by Vodafone that Turkcell eventually allow number portability. This conflict put Turkey several years behind Europe in its 3G deployment with the government auctioning off 3G licenses in 2008. Mobile Number Portability (MNP) was officially launched in November 2008. A year later Turkcell attributed a sharp loss in profits to a price war in 3G services driven by MNP allowing consumers to keep their number while switching carriers (D'Souza, 2009).

BROADBAND INTERNET OVERVIEW

Broadband in Turkey serves the vast majority of customers over over digital subscriber line (DSL). During its first major attempt at rolling out broadband in early 2000, Turk Telekom built a national infrastructure using DSL technology. Earlier attempts focused on building off of the existing cable television infrastructure with limited success. Despite the advantage provided by cable's existing lines, cable subscribers currently only make up a little more than 1% of all

broadband subscribers (Ünver, 2009, p. 9).

Following a 2006 ruling by the Competition Authority, Internet services were separated from Turk Telekom as part of a broader liberalization strategy (*Id.*). Similar to the United States, Turkish DSL providers enjoy competitive access to the national broadband infrastructure. According to Section 2 of the “Communiqué On Procedure And Principles Regarding Unbundled Access to the Local Loop,” Turk Telekom is obligated to grant third parties access to the “loop,” - the copper telephone infrastructure. Turk Telekom installs the ADSL equipment in a consumer’s premise but allows a third party to administer the line, known as “bitstream access.” The Turkish government sets an upper limit on pricing, but both sides must agree to pricing principles in the Communiqué (The Communiqué on Procedures and Principles Regarding Unbundled Access to the Local Loop, 2004). Despite this aggressive pro-competitive rule and recent measures by the Competition Authority to lower license fees for access to the loop, many Turkish ISPs have opted for bitstream access. Ünver argues the telecommunications authority must explore fiber optic as a way to invigorate Turkish broadband development. Mandating Turk Telekom to unbundle the telephone loop should only be viewed as a “half-way house between intra-platform competition and facilities-based competition” (Ünver, 2009, p. 16).

UNIVERSAL SERVICE

Universal service in Turkey is governed by the national Law on Provision of Universal Service, most recently amended in 2005 (Tözer & Ünver, 2008, pp. 11-12). Notably, Turkey includes Internet access as well as traditional telephony services in the definition of universal service (Law No. 5369: Law on Provision of Universal Service and Amendments, 2005). Given Turk Telekom’s monopoly status until the mid 2000s, they have been expected to execute universal service, unlike more developed countries with privatized telecommunications

industries. Funding universal service has previously been done through cross-subsidization – attaching tariffs to long distance and international calls to subsidize local calls predominantly made in the rural undeveloped regions. Liberalization has shifted Turk Telekom around 2007 towards equalizing long distance and local tariffs and instead increasing monthly rentals. International rates have since fallen 86% (*Id.*, p. 15).

PRIVATIZATION OF TURK TELEKOM

Turk Telekom has undergone steady incremental privatization since its establishment as a state-owned company in 1994. That year the government passed the Law on Amendment of an article of the Telegraph and Telephone Law which allowed for 49% foreign ownership in Turk Telekom (Organization for Economic Co-Operation and Development, 2002, p. 8). In 2000 the Turkish parliament passed telecommunications reform legislation establishing the Telecommunications Authority and formalizing the commitment to liberalizing Turk Telekom (Organization for Economic Co-Operation and Development, 2002, p. 9). In 2005, a majority share of Turk Telekom was purchased by Saudi-backed Oger Telecom (Holdings: Turk Telekom, n.d.). In late September 2009, the local calling system was liberated from Turk Telekom; long distance calling was one of the first liberalized areas of the telephone industry (Ünver, 2009, p. 12). Despite the hopes that being majority owned by a foreign enterprise would spur competition among telephone providers, Turk Telekom continues to dominate the industry. The push for liberalization has come from many sources: telecommunications experts, economists, and multinational organizations.

Turkey joined the World Trade Organization in 1995 with a condition of membership to privatize telecommunications industry in ten years, which was completed successfully (Wolcott & Kursat, 2001, p. 136). Turkey's desire to join the European Union has played an even greater

role in stimulating reform. When the EU agreed to begin membership negotiations, it drew up a list of objectives or *acquis* Turkey must meet in order to be eligible for membership. James Burnham analyzed Turkey's progress in meeting the telecommunications-specific objectives, concluding that - despite the government taking positive steps in the last ten years - it must strengthen the budding Telecommunications Authority, restructure license fees so that they are not burdensome, and generally improve the investment climate (2006, p. 14). Burnham believes privatization will benefit the industry by invigorating competition, and aid investment and development of new technologies (2006). Burnham further argues given Turk Telekom's investments in DSL, competition from cable providers is a fundamental element of increasing broadband penetration and speed upgrades throughout the country (2006, pp. 10-11).

A study measuring the potential effects of EU-related telecommunications reforms in Turkey examined how liberalization affected pricing, competition and growth in other EU states, and found Turkish liberalization would decrease prices by 33% from the "base case" where liberalization had not begun in the mid 1990s. This added consumer surplus would create "an additional US \$1.12 billion annual increase in the real income of the Turkish consumers" (Akdemir, Basci, & Togan, 2007, p. 1135). Given these findings, Akdemir et. al argued Turkey has no choice but to implement full liberalization up to EU standards if it wants to grow its economy.

INTELLECTUAL PROPERTY

Turkey significantly revamped its approach to intellectual property (IP) legislation in the mid 1990s in an effort to align their laws with the EU. Although patent laws were in place as early as the 19th century, and copyright legislation since the 1950s, in the last few decades

Turkey amended existing laws and joined several international IP organizations. A member of the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO), Turkey is also a contracting member of the Paris Convention for the Protection of Intellectual Property that recognizes patent filing dates from other countries (Institutional: Agreements and Conventions, n.d.). In 2008 Turkey moved from the Section 301 Priority Watch List maintained by the Office of the United States Trade Representative (USTR) to the Watch List, indicating improvement in the IP environment (United States Trade Representative (USTR) Section 301 Annual Reports (2001-2007), n.d.). In 2007, concerns listed were “Book Piracy; Business Software Piracy in the Private Sector; Government Use of Illegal Software; Judicial Inefficiency; Pharmaceuticals”; in 2008 the only concern was pharmaceuticals (Office of the United States Trade Representative, 2009). Although legislation around intellectual property is sufficient, enforcement lags behind that of other countries in the European community.

COPYRIGHT

Copyright in Turkey is the responsibility of the Ministry of Culture and Tourism, and gives authors “the right to reproduce, adapt, communicate, distribute, broadcast” (Keyder, 2000). Unlike countries where copyright is in place from the moment of creation, Turkey uses a “banderole” system, which requires copyrighted works to be registered with the state and a holographic sticker affixed to each work. Film, video, music, and computer programs must have the sticker. Recently the amount of paperwork needed to obtain banderoles increased for publishers, causing several leading publishers to question whether the burden of acquiring the stickers should be placed on the creators of the work, rather than the copyright infringers proving

they meet a copyright exception (Pektas, 2009). The role of copyright in Turkey has been closely associated with the role of state control. An amendment to the copyright law states:

The civil administration chiefs can prohibit the distribution and display of the works of art which are probable of causing a social event due to the characteristics of the region, in the limits of their authorities and duties, on condition that the reason shall be stated. In case the work of art is found inappropriate to the inseparable integrity of the state with its country and nation, to our national sovereignty, Republic, National Security, Public Order, General Ease, Public Interest, General ethics and general health, customs and traditions at the end of any inspection made by the ministry or the civil administration chiefs, the work of art shall be prohibited and legal proceeding shall start.

Local civil authorities and municipalities have the authority to inspect the banderoles and the enterprise certificates (Turkey: Copyright (Cinema Video Music), Law (Consolidations), 1987)

In 1995 the Economist Intelligence Unit (EIU) claimed Turkey was “...one of the world’s worst infringers” of IP rights, despite passing “unparalleled volume of legislation” to align with EU standards (*Id.*). In 2008, the EIU again noted the discrepancy between legislation “provid[ing] strong protection to rights-holders” while “enforcement is still lagging” (Turkey: Licensing and Intellectual Property, 2008). Twelve courts specializing in IP hear cases related to IP, however the courts are overloaded and cases often take years to finish (*ibid.*).

PATENT

Created in 1994, The Turkish Patent Institute (TPI) oversees patents, trademarks, geographical indicators, and industrial designs with a mission to “support[] the technological development in Turkey and of establishing and protecting of industrial property rights”, and “supporting the cultivation of a competitive environment and the development of research & development activities” (*DECREE-LAW NO. 544 FOR THE ESTABLISHMENT AND THE FUNCTIONS OF THE TURKISH PATENT INSTITUTE*, 1994). According to the 2009 OECD figures, Turkey had 291 patents filed with the Patent Cooperation Treaty, 41 of which were ICT

patents, and only one biotech patent. The following table, from the Turkish Patent Institute, shows fluctuations in both domestic and foreign patent applications.

DISTRIBUTION OF PATENT APPLICATIONS WITH RESPECT TO YEARS

	Domestic					Foreign					General	General
	TPI	PCT	EPC	Total	Increasing Rate	TPI	PCT	EPC	Total	Increasing Rate	Total	Increasing Rate
1995	170	0	0	170	-	1520	0	0	1520	-	1690	-
1996	189	0	0	189	11,18%	687	26	0	713	-53,09%	902	-46,63%
1997	202	1	0	203	7,41%	598	730	0	1328	86,26%	1531	69,73%
1998	201	6	0	207	1,97%	596	1680	0	2276	71,39%	2483	62,18%
1999	265	11	0	276	33,33%	524	2220	0	2744	20,56%	3020	21,63%
2000	258	19	0	277	0,36%	442	2714	0	3156	15,01%	3433	13,68%
2001	298	39	0	337	21,66%	119	2756	2	2877	-8,84%	3214	-6,38%
2002	387	27	0	414	22,85%	88	1335	37	1460	-49,25%	1874	-41,69%
2003	454	35	1	490	18,36%	43	305	314	662	-54,66%	1152	-38,53%
2004	633	49	3	685	39,80%	68	167	1342	1577	138,22%	2262	96,35%
2005	895	33	7	935	36,50%	75	143	2308	2526	60,18%	3461	53,01%
2006	979	93	18	1090	16,58%	71	89	3915	4075	61,32%	5165	49,23%
2007	1747	60	31	1838	68,62%	71	139	4141	4351	6,77%	6189	19,83%
2008	2159	69	40	2268	23,39%	68	107	4694	4869	11,91%	7137	15,32%

* Statistical data have been prepared by the reporting date of 22.01.2009.

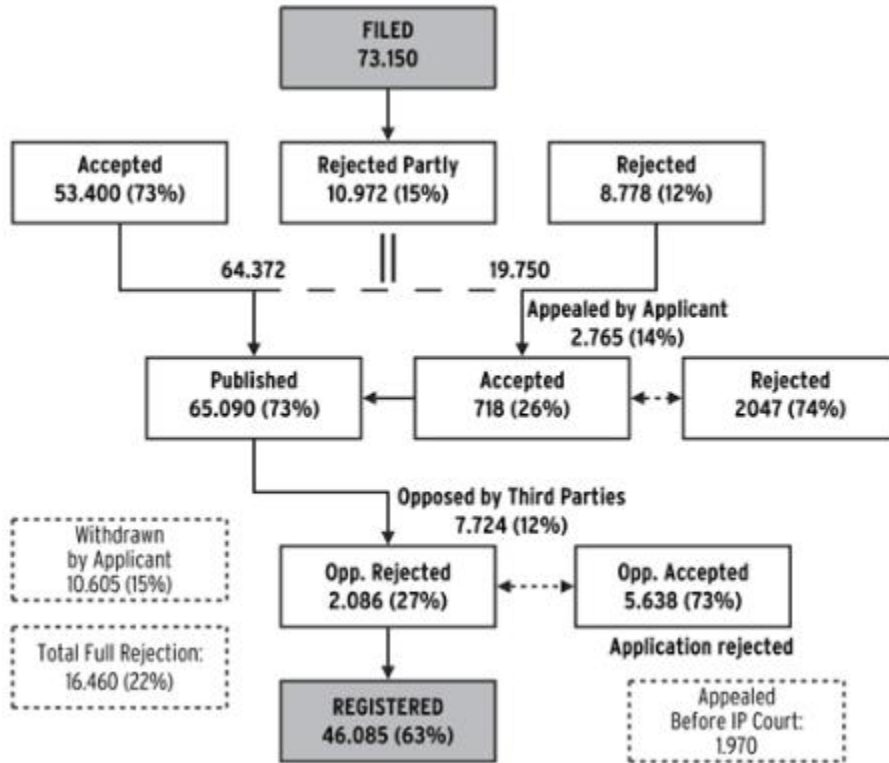
* Register information of the first applicant have been considered by the reporting date of 22.01.2009.

* Applications rejected and applications out of transaction have been included in the application data in the course of first application.

* Application data have been prepared in deference to the application date.

TRADEMARK

Turkish trademark legislation adheres to international treaties, such as the TRIPS agreement, the Nice Agreement, and the Paris Accord, and is administered by the Turkish Patent Institute (The Implementing Regulations Under the Decree-Law NO 556 Pertaining to the Protection of Trademarks, 1994). Trademark applications are submitted to the TPI, where examiners research the trademark; and, if approved, publish the trademark in the Turkish Trademark Bulletin. Objectors have three months to file an opposition. If no opposition is filed, a certificate is issued for trademark protection lasting ten years (Destek Patent, Inc., n.d.). As trademark applications have increased, there is concern the examiners are approving more applications. In an analysis of the 2007 trademark applications, Destek Patent, Inc. found of the 73,150 trademark applications filed, 74% of appealed rejections are denied.



(Destek Patent, Inc., 2008)

TECHNOLOGY TRANSFER

In 2001, Turkey created twelve zones of development to foster technology transfer between universities, researchers, and small and medium sized enterprises (SMEs). The Technology Development Zone law provided “Income tax exemptions for R&D staff; corporate tax exemptions for companies; Incentives for the academic personnel working for science park companies” (Kiziltas, 2009). Middle East University created a Technology Transfer Office which facilitates spin-offs from university research and works on behalf of the academics to apply for patents and to protect the IP of the inventions. Sixty percent of the firms are SMEs, and the ICT sector is a main focus (METU Technopolis, n.d.).

TURKEY SECURITY AND PRIVACY

Turkey is a relative latecomer to the development of laws on personal data security and privacy. Most of these developments focused on the bid to enter the European Union. Because of this, these by-laws and policy developments are reactionary to the requirements of external governments, rather than changes within the Turkish government.

Turkey's precarious position, both geographically and in its desired level of development toward acceptance into the EU, has the possibility of making it a draw for several types of attention - few of them positive. In the early stages of development, the economy could fall prey to various forms of financial exploitation on the Internet and in other areas, as well as the possibility it may be prey to a cyber attack from a rival nation or a cyber terrorism group. These circumstances make the developments of both computer network security and personal data security of unique importance to Turkey's defense of both its citizens and its infrastructure.

PERSONAL DATA SECURITY

As recently as 2008, the Turkish government deliberated on by-laws regarding the security of personal processed data. These laws are aimed at the protection of private data communications and transaction processing, as well as keeping these sources from being misused by the telecommunications industry (European Communities, 2009, p. 12). Similar to the Gramm-Leach-Bliley Act in the US, the Turkish Telecommunications Authority has enacted laws regarding the processing and technical aspects of electronic signatures (Communiqué on Processes and Technical Criteria Regarding Electronic Signatures, 2005). The goals of the legislation are protecting personal data during everyday communications, and during financial transactions. Because the idea of private data security is still relatively new, and development is

still taking place, there is a lack of evidence that these most recent by-laws have had any effect on the operation of daily transactions within Turkey.

NETWORK AND INFRASTRUCTURE SECURITY

Another developing area within the realm of security, also in response to EU requirements, is general electronic communication security. This set of laws is designed to hold operators accountable for understanding and effectively countering threats to computer networks. These threats include software-based threats, such as viruses; hardware-based threats, such as faulty or old equipment; as well as physical elements, such as physical security of networks and security of personnel operating those networks. However, this particular by-law explicitly excludes personal information processing and protection (*Id.*, p. 13). By definition, then, this by-law seems to be aimed both at the private and state sectors. Private sector network security preparation is of paramount economic interest in the current global market of online transaction processing and banking. If this by-law can be implemented quickly and effectively, it has the opportunity to make the transition to an eastern EU economic power much more feasible. Also, preparing for the government's computer network security, both in the current global warfare climate and in Turkey's particular geographic region is important. Many of the largest cyber warfare attacks have been in the general area of that geographic region; some allegedly perpetrated by Russia whose political ties to Turkey are often tenuous (Geers, 2008).

Other national cyber security policies within Turkey's geographic region can serve as a benchmark and possible set of guidelines for Turkey to observe in its development of policies in the area. These countries are often targets for both electronic financial transaction abuse and targeted cyber attacks from a number of sources (Markoff, 2009). The generally agreed upon

scheme for cyber security policy is that of an evaluated system of security. The more necessity for security in a given area, business, utility, or other location of a computer network, the higher the level of security is needed. The idea that a system should be as secure as possible seems like common sense to someone looking in from the outside. But from the view of the IT professional who is securing that network, the goal is to have the most secure network possible that is also usable. Securing a computer network against any and all threats is not a feasible option for any business or government site as the service would be immediately unusable and pointless to operate.

Using this perspective, most private sector data security and information processing security has been developed, and can also be used to develop Turkish policy. Many of Turkey's businesses will not need stringent data security policies and should not have them because they are still not connected to computer networks or because of the nature of their business or the transactions they process. The goal of the development of information security policies is to make private and government sector services more efficient, which includes some level of data security.

The goal for Turkish security policy should be to strike an appropriate balance between information security and efficiency of economy. An effective formation and maintenance of policies and procedures tailored to each service has the best opportunity of providing that balance and keeping it manageable as Turkey continues to progress as a technologically developing eastern nation.

DIGITAL GOVERNANCE

E-government and related initiatives in Turkey, have only been strongly embraced since the beginning of the 21st century, although studies have been conducted since 1996 (European Communities, 2009, p. 7). The central government has been diligent in creating and implementing additional plans to further the country's e-government goals, which have focused on bringing online "high-value" and "high-volume" services such as tax returns and collection, e-procurement, social security payments, and creating citizen databases, such as MERNIS, which is a collection of census data (Organization of Economic Co-Operation and Development, 2007, pp. 9, 11). Because of these initiatives, Turkey jumped from 18th to 9th in Brown University's Global e-Government Report and received recognition from 2009's Computerworld Honors Program for its work in creating e-government systems for Turkey's justice system (European Communities, 2009, p. 4) (Awards and Quality: National Judiciary Informatics System, 2009).

Turkey establishes its e-government strategies and policies centrally at the federal level, leaving individual agencies to handle implementation (European Communities, 2009, p. 8). E-government leadership is nominally provided by the e-Transformation Turkey Executive Board, which is chaired by the Deputy Prime Minister (Organization of Economic Co-Operation and Development, 2007, p. 14). However, projects are implemented at the agency level, with little oversight from the central planning agencies. An OECD study indicated that, while Turkey does an excellent job planning and overseeing investments in e-government, they fall short in administering the implementation of e-government plans and strategies. For example, most civil servants do not know where to turn for guidance when they have questions or concerns about e-government issues (Organization of Economic Co-Operation and Development, 2007, p. 85). Most of the guidance for technical issues, such as privacy or security, is handled within an

agency instead of by the more specialized Scientific and Technological Research Council of Turkey (TUBITAK) which has been advising the central government by providing research and expertise on technical issues (Organization of Economic Co-Operation and Development, 2007, pp. 68, 77, 85).

Much of the reform and expansion of Turkish e-government services is part of the government's effort to comply with European Union regulations, as part of the bid to join the EU (European Communities, 2009, p. 8). It participated as an observer in the eEurope 2005 Action Plan instituted in 2002, with the objective of improving access to services and broadband service related to e-commerce (Organization of Economic Co-Operation and Development, 2007, p. 38). At the conclusion of the eEurope 2005 Action Plan, Turkey was invited to participate in the new EU plan, i2010 - A European Information Society for Growth and Information. The EU i2010 plan objective is to create an inclusive European Information Society that promotes growth and new jobs while remaining true to the policies of sustainable improved public services (*Id.*, p. 39). Turkey's dedication to meet EU's standards has been rewarded, especially its development of the National Adjudication Network Project (UYAP) which was awarded with the European Commission's Crystal Scales of Justice in 2008 and with a write-up in the European Journal of ePractice, published by the EU (Awards and Quality: National Judiciary Informatics System, 2009) (Cam, 2008).

EGOVERNMENT IN THE JUSTICE SYSTEM – A CASE STUDY

The UYAP, one of Turkey's success stories, is an integrated computer network system encompassing the Ministry of Justice, courts, public prosecutors' offices, enforcement groups, prisons, and the Forensic Medicine Institute (Björnberg & Cranston, 2005, p. 75). The project began with a focus on automating human resources, finances, and procurement processes at the

Ministry of Justice in Ankara (Aydin & Polat, 2008, p. 5). It continued with a second phase, which installed the UYAP system and trained judges, lawyers, and others in 1,022 locations across the country (*Id.*). The UYAP successfully improved legal research by making case law, regulations, and laws more accessible online; created a Lawyer Portal that allows lawyers to file case documents and pay fees online, and prevented errors by warning users of potential problems or anomalies on forms for creating common pleadings or court decisions (Björnberg & Cranston, 2005, pp. 75-76). UYAP's success is due, in large part, to its ability to effectively integrate its network with other e-government services within Turkey. Integration with MERNIS, the computerized census system, in March of 2006 made it possible for lawyers to obtain land title requests or identity registry information from anywhere in the country in hours instead of months, speeding up the legal process (Björnberg & Cranston, 2005, p. 75) (Aydin & Polat, 2008, p. 4). However, only 170 cases were filed using the system in the year between March 2007 and March 2008 (Aydin & Polat, 2008, p. 9). Aydin and Polat suggest the lag in use of the Lawyer Portal is due mostly to the use of e-signatures, which are mandatory when using the Lawyer Portal and the Ministerial Circular, the mandatory system of electronic correspondence, used at the Ministry of Justice (2008, pp. 8-9). They recommend better e-signature education and training to improve awareness of the system and encourage the use of e-signatures which will in turn increase use of the Lawyer Portal System (*Id.*).

LOCAL EGOVERNMENT

In order to meet increasing demands for improved service delivery, while working to meet EU requirements, Turkey began devolving power to local governments in 2002 (Tosun & Yilmaz, 2008, p. 4). There are over 3,200 municipalities and eighty-one special provincial administrations that have been affected by the government's decentralization work, which

includes updating laws in place since the Ottoman Empire (Organization of Economic Co-Operation and Development, 2007, p. 36). Local e-government initiatives, such as distance learning for civil servants, uniform information sharing services across localities, and integrated public e-services, will be necessary for making decentralization initiatives work (*Id.*, p. 41). In 2007 several laws related to local e-government were passed, including the requirement that all localities with populations above 50,000 develop a strategic plan for implementing e-government strategies (Arslan, 2006, p. 95) (Organization of Economic Co-Operation and Development, 2007, p. 98). Despite creation of local government portals, such as YerelNET.tr, there are significant differences among municipalities that prevent strong collaboration and support among governments; better collaboration would create common standards, software, and shared services (Organization of Economic Co-Operation and Development, 2007, p. 72).

CHALLENGES AND OPPORTUNITIES

ENFORCEMENT

While legislation in Turkey follows many European standards, awareness of laws and regulations and their enforcement is lacking. The bylaws on Personal Data and Network Security enacted between May and July 2008 may be too recent to be enforced. Clear steps to enforcement and penalties for infringement are lacking. Furthermore, the Telecommunications Authority protects consumers but there is no organization tasked with data protection enforcement as of May 2009 (Quality Management System, n.d.) (European Communities, 2009, p. 17).

Enforcement is also a key issue in intellectual property policy. According to a report issued by the World Economic Forum, Turkey ranks 105 out of 133 countries in Intellectual

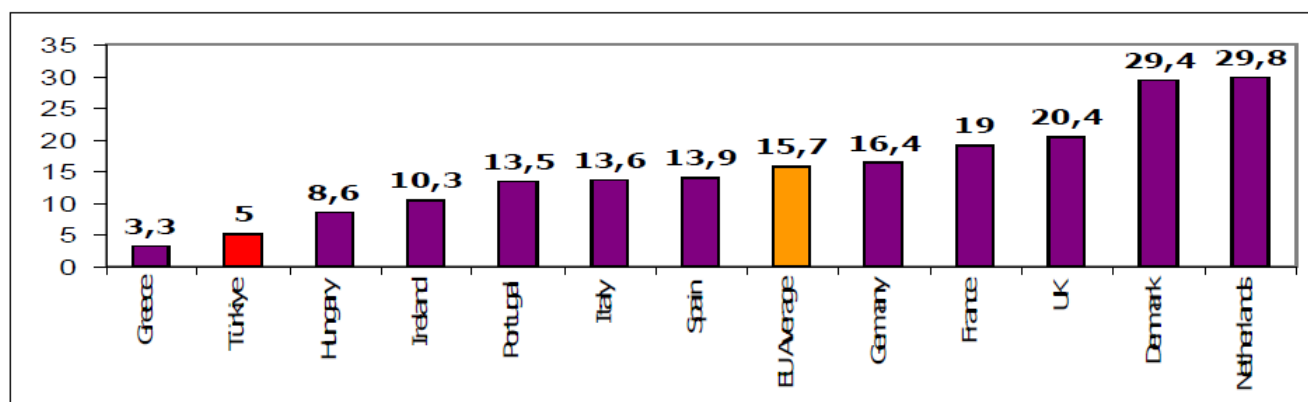
Property Protection (Sala-i-Martin, 2009, p. 311). The Turkish Patent Institute's mission statement specifies protection: "To provide effective protection of patents, trademarks, industrial designs and other industrial property rights" (T.C. Turkish Patent Institute - Vision/Mission, n.d.) The Director of the Turkish Patent Institute, Yusef Balci, connects the challenge of enforcement with the demographics of the country: "the biggest challenge is to raise awareness of IP rights in Turkey. Turkey is a big country with a very young population, undergoing rapid economic and sociological change" (Barrclough, 2007).

THE DIGITAL DIVIDE

One of the largest challenges Turkey must face over the next several years is the digital divide. As of 2007, only 14% of the Turkish population used the Internet regularly, compared to a European Union average 47% (Organization of Economic Co-Operation and Development, 2007, p. 10) (See chart below indicating broadband usage in several EU countries as well as Turkey.). Even among the 14% of Internet users in Turkey, there is a significant gender gap, with only 9% of women feeling comfortable using the internet, compared to 19% of men (Organization of Economic Co-Operation and Development, 2007, p. 12). Additionally, the rural/urban digital divide has sparked international concern, as evidenced by the United Nations' 2008-2009 project "Rural Empowerment Turkey Project" (Rural Empowerment Initiative of Turkey (Technology Villages), n.d.). This initiative will implement pilot projects in two rural communities that aim to close this divide using Internet and computer literacy education (Country: Turkey, Project Document, 2008). Unlike most of Europe, at home usage of the Internet is low. Educating users is one of the benefits of digital communication and the use of computers will help the population take advantage of Turkey's recent developments in network coverage, offered by fiber-optic interconnected urban centers and a domestic satellite system

which covers rural areas (European Communities, 2009, p. 20). This could be used to Turkey's advantage as it works to shrink the digital divide by working with NGOs to improve computer literacy by offering courses in Internet use at the many Internet cafes located in the cities, similar to the UN Development Programme mentioned above (*Id.*, pp. 12, 58, 71). However, the current telephone line infrastructure will continue to cause problems, especially for the rural populations; it is important Turkey work to expand and improve the fiber optic network while working to make broadband more affordable (*Id.*, pp.56-57). In response to these concerns, the 2009-2013 Turkey Ministry of Transport Strategy Plan includes provisions "to increase the number of broadband Internet subscribers to more than 11 million, to offer broadband Internet services to all the schools with the social responsibility and to eliminate the access difference between high-populated urban cities and the rural areas within the framework of Universal Service Act" (Ünver, 2009, p. 18). In addition, strengthening and improving digital governance will increase demand for the Internet, creating a two way street where increased Internet access will improve demand for electronic government services and improved electronic government will increase demand for the Internet access (Organization of Economic Co-Operation and Development, 2007, p. 13).

PENETRATION LEVELS IN BROADBAND INTERNET USAGE



(Tözer & Ünver, 2008, p. 19).

EUROPEAN UNION

In addition to the rapidly evolving internal information policy landscape, policy in Turkey must be taken in context of the wider goal of integration in the European Union. While compliance with the *acquis communautaire* will challenge the Turkish government in many ways, general compliance will help Turkey modernize and improve many of its policy areas. The EU provided Turkey with a “roadmap” for regulatory reform to help Turkey meet EU regulations; this “roadmap” became the basis for legislation proposed in the Turkish Parliament in 2006 (Burnham, 2006, p. 12). Ali Riza Cam, the Examiner Judge for the Turkish Ministry of Justice IT Department, argues the Turkey is outpacing the EU in some areas and can offer the EU help towards meeting its own goals. Cam argues, for example, that the UYAP system is a proven success, and Turkey can use this experience to guide current EU member states towards similar success at interconnectedness and an efficient judiciary (Cam, 2008, p. 16). In addition to providing a legislative roadmap, the EU has also provided funds to develop specialized patent courts in an effort to stem the proliferation of infringement (Turkey: Licensing and Intellectual Property, 2008). By creating intellectual property courts with trained judges, cases of infringement move through the legal system more quickly.

CONCLUSION

While Turkey has made significant progress modernizing the telecommunications infrastructure and increasing competition in telephone and Internet access, there are still significant improvements to be made before meeting EU standards. Legislation and e-Government initiatives are both relatively advanced. However, adoption and awareness of new

initiatives is lacking. Because of disparity between the rural and urban centers, and with a young population, Turkey faces challenges in attaining European levels but has a foundation in place to succeed.

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