**UNIVERSAL SERVICE IN VIETNAM AND AN INSTITUTIONAL APPROACH**

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**Abstract**

Applying institutional theory to look at the Program 74 (a universal service policy) in Vietnam, this paper concludes that the Vietnamese universal service policy was strongly affected by formal institutional factors (the international agreements and the directives of the Communist Party of Vietnam - CPV), in which the international agreements played a leading role and the CPV’s directives played a guarantee role. The formulation and implementation of the universal service policy in Vietnam were mainly concentrated on action at levels 2 and 3 (formal and informal institutional arrangement, and formal institutional environment). The paper recommends that nations favouring a top-down approach not based on a market-oriented regime should deregulate and emphasize the role of provincial governments as well as encourage private sectors/social organizations and rural users to be more involved in the formulation and implementation of universal service policies. Moreover, the government should set up and force the contractual relations between governmental entities and telecom providers.

**Keywords**: Universal service; telecommunications; institution factors; rural areas; policy; Vietnam.

**1 Introduction**

Universal coverage of Internet services is a policy aim in almost any country. However, the strategies applied to achieve this goal differ from country to country especially with regard to prioritization of various policy tools. Some countries focus mainly on coverage of fiber networks, while other countries put more emphasis on demand stimulation. Also, the level and kinds of public sector involvement varies. These national differences are rooted in differences in history, markets and institutional structures (Lemstra & Melody, 2014). Vietnam provides a unique example of this. Vietnam follows the international trend of liberalization of telecom markets, but the Communist Party of Vietnam still exercises a strong influence on the telecom agenda, and the strategy applied for meeting universal service objectives. This paper applies the four-layer model of Koppenjan & Groenewegen (2005) to examine how institutional factors have shaped universal service policy in Vietnam.

The concept of universal service was initially used by Theodore Vail of the Bell System in a campaign prohibiting competition and establishing a regulated monopoly in the United States (Mueller, 1993). At that time, universal service meant the interconnection of all telephone users into a single system, not by providing basic telephone service to all users (Mueller, 1993). However, nowadays, this concept has been considerably changed and constantly expanded (Alleman et al., 2010; Milne, 1998; Msimang, 2012). Universal service has been not only regarded as the provision of basic voice telephone (Garnham, 2001; Levin, 2010) at an affordable price, it is also being extended to include dial-up and broadband internet in its scope (Levin, 2010; Msimang, 2012). Furthermore, in some parts of the world broadband connection nowadays covers 100% of households (in Europe in 2013) and their next target has fastened the speed of broadband up to 30 Mbps or more for all by 2020 (European Commission, 2013).

The scope of universal service is evolving in some countries. Policies play a critical role in stimulating the development of ICTs in general and telecoms services in particular (Falch, 2007). The universal service policy is also a useful instrument to close the digital divide between users (low and high-income users) and areas (low and high-cost areas) in a nation (Blackman & Srivastava, 2011). According to the ITU, universal service has three fundamental characteristics: availability, accessibility, and affordability. The main target of universal service is to ensure individual accessibility to basic telecommunications services regardless of geography, gender, ethnicity, disabilities or other factors. Similarly, Laffont & Tirole (2000) posit that the objectives of universal service are redistribution towards low-income residents and provision of more potential benefits to rural areas (regional planning). They point out that universal service ‘ensures the quality of telecommunication services at affordable rates to consumers, including low-income consumers, in all regions of the nation, including rural, insular, and high-cost areas’.

To close the gap, there are various factors essential to explore. In other words, there are a wide range of ways that governments are able to pursue, such as market liberalization, promotion of competition, raising awareness of ICT benefits, improving the skill of ICT usage, and making it affordable and more attractive to users (Kelly & Rossotto, 2012). A number of authors have studied the role of the government (Falch, 2007; Gillett, Lehr, & Osorio, 2004; C. Lee & Chan-Olmsted, 2004; Picot & Wernick, 2007; Thai, Falch, & Williams, n.d.), some have presented new models (Falch & Anyimadu, 2003; Falch & Henten, 2010; Peha, 1999), and others have identified factors influencing the adoption of internet/broadband (Chaudhuri, Flamm, & Horrigan, 2005; Choudrie & Dwivedi, 2006; Flamm & Chaudhuri, 2007; LaRose, Gregg, Strover, Straubhaar, & Carpenter, 2007; Thai, Falch, & Salakpi, 2016). These studies implicitly or explicitly point out the way bringing more advance of ICTs for citizens.

Vietnam is an emerging economy with a unique political system. Vietnam has since 2005 emphasized on the provision of universal service. In 2006, Vietnam launched the “Program on the provision of public telecommunications services till 2010” (hereinafter called the Program 74). The Program 74 was implemented from 2005 - 2010, with the total budget of approximately 210 million euros. The Program achieved remarkably success, however it also revealed many unsettled issues. This paper analyses the Program 74 (it is also considered as a universal service policy in Vietnam) from an institutional perspective, with the empirical case from Vietnam. The paper is guided by the following research questions:

*Which and how institutional factors influenced the Program 74?*

*What policy lessons may be drawn for nations favouring a top-down approach similar to the one applied in Vietnam?*

The paper applies the Koppenjan & Groenewegen (2005)‘s four-layer model ‘levels of institutional analysis’ to look at the universal service policy in Vietnam. This model was designed by analysing the role of institutions in the context of complex technological systems. Moreover, this model is used to evaluate secondary documents gathered from Ministry of Information and Communications of Vietnam (MIC), Vietnam Public Utility Telecommunication Service Fund (VTF), and some data from ITU and the World Bank. The authors also conducted some interviews with officials working in MIC, VTF and DICs (Departments of Information and Communications) in July 2015.

The paper is structured as follows: Section 2 presents the theoretical framework and research method, section 3 analyses institutional layers in Vietnam, section 4 is discussion, and eventually section 5 provides conclusions.

**2 Theoretical framework and research method**

**2.1 Theoretical framework**

The concept of institutions is very diverse and depends on the way it is approached (King et al., 1994; Scott, 1987). According to Scott (2005), institutional theory looks at the processes and mechanisms that form structures, rules, and routines in order to explain social behaviour. He indicates that contemporary institutional theory consists of three main approaches: Rational-choice, Normative, and Cultural-cognitive approaches. Rational-choice approach views regulatory aspects or rule systems of institutions that are created by individuals to promote or protect their own interests. The most popular form of this approach is ‘transaction cost economics’ devised by Ronald Coase and developed by Oliver E. Williamson (Scott, 2005). Normative approach refers to shared norms and values that introduce a prescriptive, evaluative, and obligatory dimension into social life. And cultural-cognitive approach emphasizes the importance of widely shared assumptions and beliefs and the construction of social identities as the underpinnings of social order (Scott, 2005).

From an economic approach, North (1990:3) defines institutions as ‘the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction’. Institutions are formed to guide human beings into interaction and to reduce uncertainty in their daily life (North, 1990:6). North (1990:35) also asserts that a model of institutions has three characteristics: informal constrains, formal constrains, and enforcement. Informal constraints are codes of conducts, norms of behaviour, and conventions and are a part of culture. Formal constraints are formal rules, from constitutions, to statute and laws, to bylaws, and to individual contracts. Formal rules are created and evolved along with increasingly complex societies, and can complement and increase the effectiveness of informal constrains (North, 1990). Enforcement deals with how effectively parties are enforced to obey contracts or agreements. More importantly, North (1990:53) concludes that in order to develop an institution, we should put them together to look at. A mixture of these three factors will define the choice set and result in outcomes.

Also, looking at institutions/organizations from an economic perspective, Oliver E. Williamson emphasizes transaction cost economics - exchanges of values among individuals, and economics of property rights in the New Institutional Economics. In his research (Williamson, 1998, 2000), he illustrates the establishment of the New Institutional Economics via four layers: Level 1 - Embeddedness: Informal institutions, like: customs, traditions, norms, religion; Level 2 - Institutional environment: Formal rules of the game, like: property (polity, judiciary, bureaucracy); Level 3 - Governance: Play of the game, like: contract (aligning governance structure with transactions); Level 4 - Resource allocation and employment (prices and quantities, incentive alignment). In this model, the higher level imposes constrains on the immediate lower, and the lower level gives feedback to higher levels. Basically, in this model he explains economic relations/transactions among actors implemented via contracts that are devised to govern the transactions (level 3). As the transactions become more complex, the cost of negotiating and policing contracts increases. It is necessary to construct contract laws and mechanisms, such as property rights, organizational hierarchies, political regimes (level 2) - in order to manage and enforce the transactions. However, the construction of rules of the game is affected by customs, traditions, norms, and religion (level 1). The task of the institutional scholar is to determine what types of governance structures are best equipped to address what types of transaction costs (Scott, 2005). He also calls more study on technological and organizational innovation in a combined manner (Williamson, 2000).

Based on the Williamson’s four-layer model, Koppenjan & Groenewegen (2005) also introduce a four-layer model that is considered in processes of institutional design. In their research, they define institutions as ‘a set of rules that regulates the interaction between parties involved in the functioning of a (technological) system’. They argue that in the design/redesign of complex technological systems, it is necessary to look not only on technological challenges involved, but also to analyse the institutional structure that coordinates the positions, relations, and behaviour of the parties in the system. This will make these systems more stable and reduce the transaction costs between parties.

In the Koppenjan & Groenewegen’s four-layer model, the first layer is the level of individual actors (like firms and households) and their interactions in the context of a complex technological system in order to create and influence provisions, services, and outcomes. The second layer includes formal and informal institutional arrangements of socio-technological systems. At this level, agents in networks create regimes or mechanisms to coordinate the transactions relating to labour, capital, intermediate goods, information, and so on. Formal arrangements are contracts, joint ventures, strategic alliances, etc. Informal arrangements are codes of conduct, norms, and relations. The third layer of the model is legal rules that are the formal rules of the game. This layer determines the legal positions of the players of the game and the mechanism available to coordinate transactions. The last layer includes elements such as culture, values, norms, and attitudes. They constitute the informal institutional environment and they influence significantly the mind-set of actors in networks in layer 1. This layer determines the kinds of incentive structures which are acceptable and effective.

In this model, these layers interact and influence each other. The higher layers constrain and shape the lower ones and the lower layers influence the development of the higher ones (Figure 1). This model differs from the Williamson’s four-layer model in two points: Firstly, all layers are connected to each other, and secondly the layer of actors and their strategies is added to transaction cost approach (Koppenjan & Groenewegen, 2005).

*Layer 4: Informal institutional environment of socio-technological systems*: norms, values, orientations, codes (informal institutions, culture)

*Layer 3: Formal institutional environment of socio-technological systems*: Formal rules, laws and regulations, constitutions (formal institutions)

*Layer 2: Formal and informal institutional arrangements of socio-technological systems*: Gentlemen agreements, covenants, contracts, alliances, joint-ventures, merges, etc. Informal: rules, codes, norms, orientations, relations

*Layer 1: Actors in socio-technological systems:* Actors/agents and their interactions aimed at creating and influencing (infrastructural) provisions, services, and outcomes

**Figure 1:** The four-layer model (Koppenjan & Groenewegen, 2005)

This framework has been developed as a conceptual framework for analysing the institutional design in the field of privatization of public infrastructures, such as telecommunications, and is widely used in analyses of telecom and broadband policy (Howell & Sangekar, 2009; Lemstra & Melody, 2014). Howell & Sangekar (2009) apply this framework to analyse the participants’ actions in telecommunications markets in New Zealand and Finland to identify the factors explaining the big differences in the development of telecommunications markets in these two countries. In the book titled ‘The dynamics of broadband markets in Europe’ Lemstra & Melody (2014) apply the four-layer model to identify factors regarding history, markets and institutional structures influencing broadband policies and their outcome in Europe.

**2.2 Research method**

This paper applies the four-layer model of Koppenjan & Groenewegen (2005) to identify which institutional factors influenced the formulation and deployment of the Program 74 in Vietnam from 2000-2010[[1]](#footnote-1).

The Program 74 defines the term ‘universal service’ as standard telephone service (PSTN telephony service), standard Internet access service (dial-up/broadband internet access service), and mandatory services such as emergency calls. This concept of ‘public telecommunications service’ is used in the definition of universal service in this paper. The rural or under/unserved areas provided demanding universal services are areas with a tele-density below 2.5 percent.

The paper recruits the qualitative method to analyse secondary documents such as documents of the Vietnamese governments (the data was mainly collected from Vietnamese Ministry of Information and Communication and the Vietnam Public Utility Telecommunication Service Fund), and some data from ITU and the World Bank. The documentary analysis is appropriate to examine public and private documents, and ‘enables a researcher to obtain the language and words of participants at a convenient time’ (Creswell, 2009). Moreover, to complement the documentary analysis, the authors also conducted interviews with officials working in MIC, DICs, and VTF in July 2015. The list of interviewees is described in Table 1 below:

|  |  |
| --- | --- |
| **Interviewees** | **Organizations** |
| An official | MIC’s Department of Finance and Planning |
| A vice director | DIC in Thanhhoa province |
| A chief of Trading Division | VNPT’s branch in Thanhhoa province |
| A chief of Telecommunication Division | DIC in Haiduong province |
| A chief of Technological Division | FPT’s branch in Haiduong province (One of major internet service providers in Vietnam) |
| A former Director | VTF (just discussion) |
| A former Chief of Planning and Funding Division | VTF |
| A vice chief of Project Appraisal Division | VTF |

**Table 1:** List of interviewees conducted

**3 Analysis of institutional layers in Vietnam**

**3.1 Overview of the Program 74**

Before 2005 Vietnam delivered universal service under the cross-subsidy regime that was mandated to VNPT, the incumbent operator. In compliance with the Bilateral Trade Agreement signed with the United States, and international commitments on competition from the World Trade Organization (WTO) and General Agreement on Trade in Services (GATS) on basic telecommunications (Ha et al., 2005), in 2005 the government had to give up the price support regime and look for other tools to deliver universal service.

In 2006, Vietnam launched the ‘Program on the provision of public telecommunications service till 2010’ (the Program 74). The Program 74 was implemented from 2005 - 2010. The total budget of Program 74 was approximately 210 million euros mainly collected from telecom providers (part of them, 4 million euros, came from the budget of ministries and provinces)[[2]](#footnote-2). The main targets of the Program 74 were[[3]](#footnote-3):

* a tele-density of 5 lines per 100 inhabitants;
* at least 1 tele-centre in all communes;
* at least a public internet access centre in 70% of the communes;
* access to the emergency telephone services for all citizens.

To reach these targets, the Program 74 provided subsidies to develop infrastructure; to establish and operate public telephone and internet access service centres; and to offer fixed telephone and/or internet access services to rural users. These initiatives focused on all inhabitants and households living in areas having the tele-density below 2.5 sets per 100 inhabitants.

The form of provision of universal service was solely implemented by ‘order place’ or ‘plan assignment’[[4]](#footnote-4) imposed on incumbent operators, no bidding to select the carriers demanding the lowest subsidies was made. This implies that MIC had to rely on its budget and price/cost of provision of universal services and/or telecom providers’ capability to order or assign provision of universal service to them. Based on the amount of universal service delivered, VTF would transfer the telecom providers funding.

After five years (2005-2010), the Program 74 achieved remarkably successes: the number of fixed telephone subsidized was 2.648.492 subscribers made the tele-density reached 16 lines per 100 inhabitants (increased threefold from the initial objective); the number of internet subscribers subsidized was 113.025 subscribers made the penetration of the internet reached 0.32% in 2009 (increased almost twofold compared to that in 2004); the number of public telephone and internet access centres financed to maintain their activities was 3,211 attributed to 97% of communes across the country having at least a public telephone centre, and 55% of communes having a public internet access centre[[5]](#footnote-5).

**3.2 Analysis of universal service in Vietnam**

Applying the four-layer model of Koppenjan & Groenewegen (2005) institutional factors affecting the Program 74 have been identified.

|  |  |
| --- | --- |
| **Layer** | **Description** |
| Layer 1: Actors and games | MIC, VTF, DICs, telecom providers (VNPT, Viettel, ETC, and Vishipel), and rural users (inhabitants or households) in implementing the provision of universal service |
| Layer 2: Formal and informal institutional arrangements | The administrative mechanism (regulated at the Circular 05/2006/TT-BBCVT) |
| Layer 3: Formal institutional environment | The Directive 58; the Bilateral Trade Agreement between Vietnam and the US; requirements from WTO; the Ordinance on Post and Telecommunications; the Decision 191 and the Decision 74. |
| Layer 4: Informal institutional environment | The Western notions. |

**Table 2:** Institutional factors affecting the Program 74

*3.2.1 Layer 1*

The actors in this layer range from the national level to local level (Thai et al., n.d.), these include MIC, VTF, DICs, telecom providers (VNPT, Viettel, ETC, and Vishipel), and rural users (inhabitants or households). MIC is in charge of both regulatory and policy making in terms of telecom, post, frequency radio, spectrum license, and the press. DICs are the provincial government entities in charge of the same field as MIC. VTF is a body belonging to MIC and was responsible for collecting financial contributions from telecom providers as well as providing them with subsidies in compliance with MIC’s plans. Telecom providers delivering universal service were state-owned companies providing both telecommunications services and networks.

The interactions among these actors enhanced the provision of universal service in under or unserved areas. In their study, Thai et al., (n.d.) argue that all of these actors played a role in implementing the Program 74. Especially MIC had a central role as they created the rules of the game. MIC designed the Program 74 and submitted it to the Prime Minister for approval. After being approved, MIC clarified the Program 74 by issuing a series of decisions or legal documents to instruct and guide other actors to implement the program. In an interview, an official of MIC who participated in managing and supervising the Program 74 said that ‘Apparently, MIC played an important role in building up and instructing other actors to implement the Program. Besides, the role of telecom providers was also critical’.

According to him, DICs as a provincial body at provinces governing ICT activities could have played an important role in deploying the Program 74. Due to DICs’ jurisdiction, they could have designed provincial initiatives of providing universal service that would been appropriate with their own conditions and guided local operators to implement them. However, in the first stage of the Program 74, their role was ignored and not embraced. Local telecom providers relied on their own business strategies as well as the instructions from MIC and their mother company to implement the Program 74.

*3.2.2 Layer 2*

According to Koppenjan & Groenewegen (2005), actors at this level make institutional arrangements or mechanisms to coordinate transactions. In this case, the mechanisms were administrative orders issued by MIC to direct VTF, DICs, and telecom providers to operate. No auctions or any market based regimes were applied. In this regard, the key legal document issued by MIC was the Circular 05/2006/TT-BBCVT (the Circular 05).

According to the Circular 05 (as demonstrated in Figure 2), MIC requested telecom providers who were keen on providing universal service to prepare their plans and submit them to MIC for approval. Telecom providers’ plans should document their capabilities and budget needed to deliver universal service. These plans also included estimated numbers of fixed lines, of internet connections, and of public internet access centres that would be developed.

On the other side, VTF was requested to submit to MIC for approval with information on how much of the subsidy to be allocated to telecom providers and how much of incumbent providers’ annual revenue to be collected[[6]](#footnote-6). Based on the approved plan, VTF provided funding to the telecom providers. The interactions between VTF and telecom providers were partly established through credit contracts that were signed to provide these operators with low-interest loans within a certain period for developing infrastructure.

Another actor participating in making the institutional interaction was DICs. DICs were involved in the Program 74 by supervising telecom providers’ provision of universal service within their respective provinces[[7]](#footnote-7). DICs were mandated by MIC to verify telecom providers’ plans to ensure they were consistent with other ICT plans within the local area[[8]](#footnote-8).The role of DICs was relatively modest. They acted as an observer of the implementation of the Program 74 rather than as a rule-maker, a financier or an infrastructure developer (Gillett et al., 2004). They could not supervise telecom providers to execute the provision of universal service or to adjust the Program 74, if the Program did not fit with rural inhabitants’ demand in their province. As an official of MIC said: ‘the participation of DICs in verifying the kind of universal service to be delivered by telecom providers was late (due to lack of detailed instructions from MIC). Hence, this impacted on supervising and delivering subsidies to telecom providers’. Additionally, a vice director of a DIC in an interview in July 2015 said ‘Many of our ideas or opinions in terms of improving the provision of universal service were not considered by MIC. Consequently, a part of the universal service provided was not in line with the needs of the rural users’.

**DIC**

**MIC**

**VTF**

**Telecom Providers**

**Rural Users**

**Figure 2:** The interactions among actors (Circular 05/2006/TT-BBCVT)[[9]](#footnote-9)

Figure 2 illustrates that there was no direct interaction between MIC, or VTF, or DICs and the rural users, and only one-way communication between telecom providers and rural users. Rural users were the main objects and beneficiaries targeted by the Program 74[[10]](#footnote-10). MIC, or at least DICs, should have interacted with the rural users (for instance organizing seminars or conducting surveys), and considered their preferences and skills (e.g. ability to use a computer and the advantages of the internet). The government focused on improving aggregate key benchmark parameters such as the penetration rate of telephone and internet access subscribers instead of focussing on the needs of the rural users (e.g. mobile phones and PCs, and provision of IT training courses to improve their acknowledge about the benefit of using the internet (Long, 2010)). Thus, many rural users gave up using telephony and the internet access, when the government stopped to pay subsidies[[11]](#footnote-11). According to the vice director of the DIC ‘the main reason for a low uptake was lack of demand. Rural users, particularly those who lived in isolated and mountainous areas were not aware of the benefits of the internet. Public internet access centres were mainly used for playing games’.

On the other side, due to the lack of cooperation among DICs, telecom providers, and VTF in supervising the provision of universal service led to overlapping provisions. One household could receive subsidies from two or three providers for installing and using telephony service (one household could subscribe to two or three telecom providers). In this way, the government spent a double or triple to subsidise to connect one household (Lam, 2013).

Although telecom providers received funding from the government to provide users with universal service, they did not clearly declare in their promotion programs whether the service came from government subsidies or from their own budget[[12]](#footnote-12). They made rural dwellers understood that all the subsidies came from telecom providers’ budget and not from the government.

*3.2.3 Layer 3*

Layer 3 is a formal institutional environment of socio-technological systems. It includes legal rules, laws and regulations, and constitutions that introduce the formal rules of the game (J. Koppenjan & Groenewegen, 2005). Formal rules relating to universal service was not in existence in Vietnam before 1995 (Lam, 2013). Telecommunication services at that time were not prevalent and only used by state-owned enterprises and other organizations (Lam, 2013).

Vietnam began the reformation and liberalization of telecommunications market in 1995 by splitting up the regulatory and business function from the Department General of Post and Telecommunications - DGPT (a governmental body, predecessor of MIC today), establishing a state-owned company - VNPT, and granting licenses to new entrants (Viettel and SPT).

Along with the telecommunication liberalization, in 1995 universal service was initially considered, however, the definition was quite simple and no specific objective was addressed[[13]](#footnote-13). The regulatory framework for universal service has been gradually built up since the Bilateral Trade Agreement between Vietnam and the United States was signed in 2000 (Lam, 2013 : 154), and American telecom providers were entitled to invest in the Vietnam telecom market. The telecommunication market was opened up for foreign and domestic competitors. All telecom providers were on a level playing field, and the government could not allow VNPT (the first state-owned telecom-post company in Vietnam) to apply the cross-subsidy regime to deliver universal service. Furthermore, in the light of international commitments on competition from the World Trade Organization (WTO) and General Agreement on Trade in Services (GATS) on basic telecommunications (Ha et al., 2005), in 2005 the government had to give up the price support regime for state enterprises and look for other tools to finance universal service (by setting up VTF and introducing the Program 74).

In 2002, the Standing Committee of National Assembly passed the Ordinance on Post and Telecommunications (43/2002/PL-UBTVQH10) in which regulation of universal service was addressed. Although a more precise definition of universal service was offered, no type of universal service was addressed at all[[14]](#footnote-14). Up to 2006 the government issued a plan to provide universal service (the Program 74) and at that time universal service was clearly defined as PSTN telephone, dial-up/broadband internet, and emergency calls. Based on this MIC introduced a package of legal documents and decisions to guide its subsidiaries (VTF and DICs) and telecom providers to implement the Program 74 (around 40 different documents within 5 years 2006-2010[[15]](#footnote-15)).

In this formal institutional environment, the Program 74, the Decision 191/2004/QD-TTg (Decision 191) and the Circular 05 could be seen as the most important regulations providing a policy framework for the interactions between actors (as analysed in level 2) as well as the tasks that these actors had to perform. The Decision 191 permitted MIC to establish VTF to manage and supervise subsidies as well as to collect financial contributions (mostly from telecom providers). The Circular 05 regulated all tasks that VTF, DICs, and telecom providers had to do for the provision of universal service (as described at Level 2).

However, the utmost important factor here influenced all these law and legal regulations mentioned above was directives of the Communist Party of Vietnam-CPV (Lam, 2013). CPV is not a legislative body, neither an executive entity, and nor a judicial branch, however Article 4 of the Constitution promulgates that CPV leads the State and society[[16]](#footnote-16). Hence, their policies affect all aspects of the society, from the highest legislative body (the Vietnamese National Assembly) and the highest administrative body (the central government) to the lowest administrative level (communes). Chief officials at all levels are selected and appointed by CPV (Lam, 2013). Policies in the telecom sector are also influenced by policies of CPV. In 2000, CPV introduced the Directive 58-CT/TW (Directive 58), namely “Enhancing the application and development of ICT to support the national industrialization and modernization”[[17]](#footnote-17) in which CPV addressed targets that basic telecommunications (and postal) services would be achieved by the end of 2010. Based on this directive, the central government built up telecommunication and post developments strategies as well as other social - economic development strategies (Decision 158/2001/QD-TTg)[[18]](#footnote-18)(Lam, 2013:173). It can be said that this Directive paved the way for Vietnam to open its telecom market.

*3.2.4 Layer 4*

Layer 4 is an informal institutional environment of social-technological systems including the informal rules (culture, values, norms, and attitudes) of the game and they have influences on the mind-set of actors in level 1 (J. Koppenjan & Groenewegen, 2005).

The rule of law in Vietnam was influenced by a complex mixture of neo-Confucian concepts of ‘virtue’, French colonial legality, and revolutions (Gillespie, 2007:137). The main idea of the Confucian concept is that if people lived in harmony and morally together, laws were unnecessary (Gillespie, 2007:139). According to Gillespie (2007:140), this idea affected the Vietnamese elite via ritual principles and draconian panel laws in controlling social behaviour. Even leaders of CPV used a revolutionary morality to interpret and lead the state and society (Gillespie, 2007: 142). As the French invaded Vietnam last century, they set up a law system based on their ideas in order to maintain colonial administration (Giao & Ng, 2011:284). Although, Vietnam today has gone out far away from the war and adopted a rule of law state, Confucian virtue ideas still influence norms and orientations in society (Giao & Ng, 2011:284).

The administration system in Vietnam, affected by French colonial legality, is divided into three levels: province, district, and commune[[19]](#footnote-19). At the provincial and the district level, they have departments or divisions that manage and supervise all activities relating to society, economy, security, culture, etc. within in their jurisdiction [[20]](#footnote-20). As such, DIC as a department of provincial governments is responsible for all ICT activities in their province (each province has one DIC).

Furthermore, the precept of law and legal regulations in Vietnam was also significantly influenced from the Soviet legal systems in 1960s, and the Western capitalist economy since 1986 (Gillespie, 2007). In which Marxist-Leninist perspective praised public needs over individual interests, treated laws as tools to maintain social order, and prefered top-down control approach (Gillespie, 2007;142). In 1986 Vietnam faced big challenges of society and economy that could lead to the fall of the country. On this background they unleashed the private sector and introduced the Western ideas of legality (Gillespie, 2007:146).

With regard to formulating universal service policies, it seems that the Western ideas had an influence on level 3 (formal institutional environment) rather than the other ideas. However, the most influence was the pressure of the integration of the world economy. This is illustrated via the Directive 58. Due to the concern of lagging far behind other countries in Asia, CPV introduced the Directive 58 to strengthen the competence of companies as integrating with the world economy. CPV called for buiding up policies to facilitate competition and promote various actors to participte in the market (Section II.4 of the Directive 58). They requested the Vietnamese government to must legalize their initiatives for development of ICT in order to apply nationwide, and control tightly the deployment (Section III of the Directive 58). They also asked leaders of CPV at lower levels[[21]](#footnote-21) to must formulate strategies to implement this Directive (Section III of the Directive 58). Based on this Directive, the central government built up telecommunication and post developments strategies (Decision 158/2001/QD-TTg).

**4 Discussion**

The issue of promoting Internet access and other telecom services has been a policy issue in almost any country. According to UN at least 134 different plans were in force in 2013 (Liu, 2016). The approaches in these plans differ from country to country, but provision of universal service in rural areas is generally addressed, and it is widely recognized that some kind of public intervention, e.g. in the form of public funding, is needed in order to solve the issue. In US and the European Union efforts are made to minimize direct intervention and leave as much as possible to the market forces. Still there are a substantial number of public funded programmes offering public support for development of telecom in less favoured regions.

East Asian countries have a tradition for more direct government intervention than what is seen in US and in Europe. This applies not only to socialist countries such as China and Vietnam, but also to market economies like the ones in Japan, Singapore and South Korea.

In the case of Vietnam, it can be said that the formal institutional factors at Level 3 played a critical role in formulating universal service policies in Vietnam, in which the international agreements (Bilateral Trade Agreement signed with the US and commitments from WTO) played a leading role and the CPV’s directives played a guarantee role. In the other words, universal service policies in Vietnam was deeply rooted from the international agreements and the directives of CPV. Under the pressure of the integration of with the world economy Vietnam had to open up their telecommunication market for foreign and domestic competitors, and gave up the cross-subsidy mechanism and establish VTF to support providing universal service. However, to switch from a monopoly regime controlled by one party to a competition regime with various actors entering the market the role of CPV was critical. As a former General Director of DGPT said that the Directive 58 removed concerns of CPV’s leaders and the State about national security. As a guarantor, it backed up for the government to negotiate with the United States and WTO later to open the Vietnamese telecommunication market[[22]](#footnote-22). This Directive encouraged the application of ICT into all fields of economy and society, from production and management to reducing poverty. Moreover, he also said that many ideas of this Directive were reflected in the Ordinance on Post and Telecommunications in 2002 (now replaced by the Law of Telecommunications in 2009).

The ruling party’s directives seemed to be extremely important for boosting the execution of policies in countries favouring a top down approach with an administration-based mechanism, like Vietnam and China where these parties appointed officials and administrators both in government entities and key state-owned-enterprises at various levels. Here, success or failure in implementing the parties’ policies remarkably affected enterprise leaders’ political career (Liu, 2012). Hence, on the one hand, provision of universal service may develop much further when these state-owned-enterprises are under pressure from the party. This idea is demonstrated in the case of Vietnam and China. As the communist parties had policies on development of ICT in Vietnam (the Directive 58), or the project of ‘New Socialist Countryside’ in China, the entire governmental systems had to carry out instantly. In Vietnam, the Prime Minister specified the Directive by issuing the Program 74, and then MIC introduced the Circular 05 to deploy the Program 74 and ordered state-owned-telecom providers to provide universal service. In China, Ministry of Information Industry launched the ‘Village Access Project’ and assigned six state-owned-carriers and provinces to execute as well as to seek funding (Jayakar & Liu, 2014). As a result, two countries achieved significantly success in short time: Vietnam, after five years, reached 16 lines per 100 inhabitants (increased threefold from the initial objective); the penetration of the internet was 0.32% in 2009 (increased almost twofold compared to that in 2004); 97% of communes had at least a public telephone centre; in China, after almost four years, 99.5% of its total administrative villages were connected (Xia & Lu, 2008).

However, on the other hand, the ruling party’s directives also caused some issues. In other words, a top-down approach not based on a market-oriented mechanism could lead to a gap between universal service provided by central planning and local needs. In Vietnam, at Level 2 the interactions among the actors based on the administrative mechanism, lack of contractual relations (Williamson, 2000) based on the market principles between MIC/VTF/DICs and telecom provider (except the credit contracts between VTF and telecom providers) and insufficient delineation of responsibility between MIC and DICs (or the dependent of DICs on MIC’s directives on the deployment of the Program 74). It led to the gap between the universal service delivered with rural users’ need[[23]](#footnote-23). Besides, one household could receive subsidies from two or three operators for installing and using the service. In China, these issues also occurred. The central government focused on increasing rural income and introducing advanced agricultural technology, meanwhile the provincial governments favoured providing advanced information services (Ting & Yi, 2013), and the fragmentation between ministerial or provincial initiatives led to incompatibilities between these initiatives’ outcome (Xia, 2010).

In other countries with a more market-led approach, like South Korea, Japan or Singapore, the central government also played a critical role and intervened directly into the market. In all these countries government officials are able to exercise strong direct influence on strategies and decisions made in private industry. Here, a top-down approach has been supplemented with the use of market-oriented mechanisms. In addition to direct intervention, other remedies such as: facilitating competition; the participation of private sector, and research institutes and universities; and paying much attention to users (Choudrie & Lee, 2004; Lee et al., 2003) have made a big contribution to the success of South Korea. A similar success has not yet been seen in Vietnam. The deficiency may probably explain for the gap between universal service provided by central planning and the local needs in Vietnam where there was no direct interaction between the central government and rural users. The participation of private sectors could reduce the government’s budget deficit and deliver better services at lower costs (Koppenjan & Enserink, 2009) and the participation of users may ensure that the provision of the universal service actually fit with current needs.

**5 Conclusions**

Based on the four-layer model of Koppenjan & Groenewegen (2005), the paper points out that formal institutional factors (the international agreements and the directives of CPV) remarkably influenced on the formulation and implementation of universal service policy (the Program 74) in Vietnam, in which the international agreements played a leading role and the CPV’s directives played a guarantee role. This research also shows that the interactions between these actors in deploying the Program 74 were transacted via administrative orders, no contractual relations, however their cooperation was quite loose. The formulation and implementation of the universal service policy were mainly concentrated on action at levels 2 and 3.

The ruling party’s directives in an administrative regime seem to efficient with regard to force State-controlled actors (governmental entities and State-owned providers) to deploy universal servicee programs and to reach predefined targets. However, there is a to the gap between universal service delivered and the users’ needs and the objectives of the central government. Therefore directives seem to be inefficient with regard to meet market needs, and the results may turn out to be unsustainable in the long run.

In Asia, many countries like South Korea and Japan have been more successful in their policies as they have supplemented a top-down approach with other initiatives such as promotion of competition, participation of private actors and research institutes and universities, and paying attention to end-users.

In countries like Vietnam, where one party controls the government and the society, all major telecom providers are state-owned enterprises, the participation of the civil society is limited, and there are no checks and balances. In this circumstance, from institutional views, the government should ensure the participation of the private sector, research institutes and universities, and rural users. The private sector has a stronger incentive than the public sector to reduce costs and improve quality or innovate (Shleifer, 1998) – especially in a competitive environment. Hence, their involvement will improve the efficiency of universal service programs. The government should therefore deregulate and decentralize approaches towards implementation of a universal service program in order to reduce the costs of the transactions and remove barriers of entry to the market.

These recommendations are in line with recommendations for liberalisation made in other countries as well. However, they collide with parts of the existing institutional framework in Vietnam – especially at informal institutional environment at level four. It is therefore important to support a buttom-up approach with clearly defined contractual relations.

The government should set up and force the contractual relations between governmental entities (like DICs or VTF) and telecom providers, in order to promote both competition and provision of universal service. Establishment of the contractual relations will enable the implementation of the contracts between actors as well as increase the enforcement in providing universal service. In other words, the contractual regime strengthens the rules of law by forcing actors follow the rules that is the weakness in developing nations (Laffont, 2005).

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1. In this research, the Program 74 (the universal service policy) is considered as a complex technological system. The policy has also four characteristics as a complex technological system does, such as: a technological component is important, but does not determine the functioning of the system; multiple parties involved; both public and private parties involved; and complex technological systems can be influenced by both market forces and government regulation (Koppenjan & Groenewegen, 2005). [↑](#footnote-ref-1)
2. Telecom providers had to pay 5% of the mobile services revenue, 4% of the revenue of international telephone services and international leased - line service, and 3% of the revenue of domestic long distance telephone services and domestic leased - line service (since 2008 these rates were reduced to 3%, 2% and 1% respectively - Decision 186/2007/QD-TTg). The financial contribution would be collected by VTF every quarter. Decision 186/2007/QD-TTg, available at http://mic.gov.vn/vtci/Pages/ThongTin/114206/Cac-van-ban-lien-quan.html [↑](#footnote-ref-2)
3. Decision 74/2006/QD-TTg, available at <http://mic.gov.vn/vtci/Pages/ThongTin/114206/Cac-van-ban-lien-quan.html> [↑](#footnote-ref-3)
4. ‘Order place’ meant that authorized-state-entities based on their budget and price of provision of universal service to address subsidy and sign contracts with enterprises to deliver the service. ‘Plan assignment’ meant that authorized-state-entities based on their budget and state-owned-enterprises’ capability and business plans to assign these enterprises to deliver universal service (Decision 256/2006/QD-TTg). [↑](#footnote-ref-4)
5. Report on the results of the Program 74:pg 15, MIC-2012 [↑](#footnote-ref-5)
6. Telecom providers had to provide VTF financial contribution that relied on their annual revenue (Decision 191/200/QD-TTg, and 186/2007/QD-TTg). Available at <http://mic.gov.vn/vtci/Pages/ThongTin/114206/Cac-van-ban-lien-quan.html> [↑](#footnote-ref-6)
7. Circular 05/2006/TT-BBCVT. Available at <http://mic.gov.vn/vtci/Pages/ThongTin/114206/Cac-van-ban-lien-quan.html> [↑](#footnote-ref-7)
8. Ibid [↑](#footnote-ref-8)
9. Circular 05/2006/TT-BBCVT: Guidelines for deploying the program on provision of public telecommunications service till 2010. Available at

   <http://mic.gov.vn/vtci/Pages/ThongTin/114206/Cac-van-ban-lien-quan.html> [↑](#footnote-ref-9)
10. Decision 74/2006/QD-TTg [↑](#footnote-ref-10)
11. The government funded rural dwellers end devices (telephone sets, or modems to connect to the internet), and part of installation and monthly subscription fee of universal service. However, due to no having demand they stopped using telephone and the internet service when the government ended the subsidy (Report on the results of the Program 74:pg 27, MIC-2012) [↑](#footnote-ref-11)
12. Ibid [↑](#footnote-ref-12)
13. Article 13 section 2 of the Degree 51/CP only regulated that: VNPT enables provision of basic telecommunication services in whole country (including the isolated and mountainous areas). [↑](#footnote-ref-13)
14. Article 49 of the Ordinance of Post and Telecommunications stated that ‘universal service/public telecommunication service includes universal telecommunications service and mandatory telecommunications service. Universal telecommunications service is telecommunication services that are provided to all people and have to follow the standard of quality and price ruled by state-authorized agencies. Mandatory telecommunications service is telecommunications services provided by the government’s request in order to facilitate the social - economic development and enable security and defense’ [↑](#footnote-ref-14)
15. At <http://mic.gov.vn/vtci/Pages/ThongTin/114206/Cac-van-ban-lien-quan.html>. [↑](#footnote-ref-15)
16. The Vietnam Constitution in 2013 [↑](#footnote-ref-16)
17. Available at <http://mic.gov.vn/Pages/vanban/chitietvanban.aspx?IDVB=10191> (in Vietnamese). [↑](#footnote-ref-17)
18. Decision 158 issued on October 18th, 2001 by the Prime Minister - Approving the national development strategy on Posts and Telecommunication to 2010 and orientation to 2020. Available at: <http://mic.gov.vn/Pages/vanban/chitietvanban.aspx?IDVB=9477> (in Vietnamese). [↑](#footnote-ref-18)
19. Law on Organization of Local Administration (77/2015/QH13). [↑](#footnote-ref-19)
20. Ibid [↑](#footnote-ref-20)
21. CPV members occupy all senior management positions at government entities and state-owned enterprises. [↑](#footnote-ref-21)
22. Available at: <http://ictnews.vn/kinh-doanh/ho-so/mo-cua-thi-truong-vien-thong-vua-ly-tri-vua-tinh-cam-31105.ict> [↑](#footnote-ref-22)
23. MIC offered universal service they had (such as voice telephony services and dial up internet access), not service inhabitants needed (such as mobile phone services and PC; or delivering them IT training courses on the benefit, knowledge, and skills using IT (Long, 2010). Finally, many households gave up using telephone service when Program 74 stopped funding. As a vice director of a DIC said ‘MIC could not understand rural dwellers’ preferences and characteristics as DICs do. The provision of universal services would have been more effective if MIC had decentralized their budget and rights in deploying the program’. [↑](#footnote-ref-23)