THE PHILLIPPINE LABOR MARKET: GETTING WIRED

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I. INTRODUCTION

The information revolution aided by the revolution in the telecommunications and institutional innovations initially promised to change the nature of the market altogether. The market's primary role as merely a place where buyers and sellers meet has now been revolutionised by the impact of the information revolution in its subsidiary role, i.e., as a transmission belt of information. Today a market is a place where there are no intermediaries between a seller of goods and their final buyer, to the mutual benefit of both parties (Sengupta, 2004). The internet and its enabled technologies (especially electronic commerce) have caused the costs of many kinds of market interaction to plummet (Saloner, 2001). Ecommerce also has the potential to stimulate growth and employment in industrialised as well as developing countries. Further, e-commerce allows economics agents (both buyers and sellers) to interact more effectively by creating new market opportunities (Mukhopadhyay, 2002). Thus, e-commerce has strong economic implications at both micro and macro levels.[1]

While e-commerce clearly has a positive impact on the business sector, doubts have been raised about its impact on the macroeconomic growth, particularly productive growth. Various studies show that e-commerce has an impressive performance particularly in terms of productivity growth (Solow, 1987; Liebowitz, 2003; Lichtenberg,

[1] (Sumanjeet, 2006, p. 1)

1995; Sichel, 1997; Brynjolfsson & Hitt, 1996; Berndt *et al,* 1992; Dedrick *et al,* 2003 and Parson *et al*, 1993). The US, which leads the world in IT and e-commerce, has had a notable economic performance, particularly in terms of productive growth, since 1995. But, the same has not happened with developing countries as they have failed to catch up technologically with the industrialised world. To assess the broader economic impact of e-commerce and the ramifications of whether or not developing countries can catch up, UNCTAD has conducted a quantitative analysis based on two scenarios: one in which the developing countries fall behind technologically and the other in which they catch up with the developed countries. The analysis is cantered on cost saving and assumes that e-commerce can reduce costs of services, particularly in retail and wholesale trade, transport and financials and business services. Cost savings in services are stimulated through a productive growth scenario, which allow for the analysis of such macro-economic variables as GDP, welfare, wages and terms of trade. The analysis is a unique application of a computable general equilibrium model to e-commerce at the global level.[2]

According to the report, under the first scenario developed countries would have welfare gains of $ 117 billion, while the developing world (excluding Asia) would lose welfare of $ 726 million. The Asian region, on the other hand, would gain $ 802 million, largely attributable to the transport services sector. Besides welfare and GDP losses,

[2] *(Sumanjeet, 2006, p. 53)*

developing countries would also experience a reduction in wages and deteriorating terms of trade.[3]

E-Commerce could therefore end up actually widening, and not narrowing, the gap between the developed and developing countries. Under the second scenario, however, if developing countries were to catch up with developed countries in productivity, they would increase output, wages and welfare. A 1% productive growth in the service sector in Asia, for example, would result in welfare gains of $12 billion, GDP growth of 0.4% and a 2 to 3% growth in the service exports. By reducing costs, increasing efficiency, and reducing time and distance, e-commerce could thus become an important tool for development.[4]

Business and economy are inextricably linked with the development and implementation of new technology (Tassabehji, 2003). Growth and development of any modern economy has been recognised by many economic theorists, such as Kondratieff, Schumpeter, Mensch and Porter, to be based on innovation of new technology. In the early twentieth century, the economist Kondratieff introduced his 'Long Wave Theory'[5] of economic growth. He detailed the numbers of years that the economy expanded and contracted during each part of the half-century long cycle, which industries suffer the

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[3] *(Sumanjeet, 2006, p. 54)*
[4] *(Sumanjeet, 2006, p. 55)*
[5] *The theory was based on a study of 19th century price behaviour, which includes wages, interest rates, new material, prices, foreign trade, bank deposits and other data. From this he suggested that a long order of economic behaviour existed and could be used for the purpose of anticipating future economic development. He mentioned that an economy goes through the phase of prosperity, recession and recovery in cycles of approximately 50-60 years.*

most during the ‘downwave’ and how technology plays a role in leading the way out of the contraction into the next ‘upwave’. Building on this theory, the economist Schumpeter (1961) assigned technological innovation an almost exclusive role, as an engine of economic development: the fundamental impulse that sets and keeps the capitalist engine in motion comes from new consumers’ goods, new methods of production or transportation, new markets, and the new forces of industrial organisation that capitalist enterprise creates. Mensch (1979) updates the Schumpeter theory, giving it an empirical base in history, where clusters of innovation take place and generate completely new sectors. Mensch stressed that only technological innovations can overcome depression and that governments must implement an aggressive innovation policy to stimulate the search for new and basic innovation. Further, Porter (1990) emphasises that the prosperity and competitive advantage of a nation no longer happens as a result of a nation’s natural resources and its labour force, but rather the ability of its industry to innovate and upgrade. This can be seen as a disruptive technology on a macro environmental level. And today, whether economic community subscribes to these economic theories or not, the impact of new technology on the economy of a nation is indisputable. Continuous growth of e-commerce is expected to have a deep impact on structure and functioning of economies at various levels and overall impact on macro-economy.[6]

As the impact of e-commerce becomes more widely felt through the community, its implications are becoming apparent to all sectors of society – even those which have

[6] *(Sumanjeet, 2006, pp. 55-56)*

hitherto tended to see the New Economy as irrelevant to their activities. Impact of computers and ICTs on business and economic growth and productivity in industrialized, and to a limited extent, in less industrialized countries, has been extensively discussed and documented. While some of these studies have shown that internet and especially e-commerce technology has positive impact on the business sector, doubts have been raised about its impact on macroeconomic growth, and labour market in particular.[7]

The emergence and growth of information and communication technologies (ICTs), in their diverse form (especially internet and e-commerce), are revolutionising the world of work, how organizations function, change and evolve and the nature of leadership, managerial roles and professional careers. They have become integral elements of business, industry and commerce, and thus driving the growth of modern economy. In fact, business and economy are inextricably linked with the development and implementation of new technology. Impact of computers and ICTs on business and economic growth and productivity in industrialized, and to a limited extent, in less industrialized countries, has been extensively discussed (Brynjolfsson and Hitt, 1998; Castells, 1996; ILO, 2001; Knights and Willmort 1988; Forster, 2006; Mitter and Rowborham, 1995; Sumanjeet, 2007; Pailwar, 2001; UNCTAD, 2005). While some of these studies have shown that internet and especially e-commerce technology has positive impact on the business sector (see Table 1), doubts have been raised about its impact on macroeconomic growth, and labour market in particular. There are very few studies which have focused on the impact of internet and e-commerce on the labour market. In

[7] *(Singh, pp. 2-3)*

fact, this domain of Internet activity has received relatively little attention. Therefore, it has become pertinent to analyze the implications of e-commerce and internet on the labour market. Impact of internet and e-commerce on the different segments of labour market is given as under:[8]

Table 1: Worldwide Growth of E-Commerce (in US $ Billion)

Countries	2000		2004			
	Level	%	Level	%	CAGR (%) 2000-04	%of total sales in 2004
Total	***657.0***	***100***	***6,789.8***	***100.0***	***58.4***	***8.6***
North America	509.3	77.5	3,456.4	50.9	47.9	12.8
United States	488.7	74.4	3,189.9	47.0	46.9	13.3
Canada	17.4	2.6	160.3	2.4	55.5	9.2
Mexico	3.2	0.5	107.0	1.6	87.7	8.4
Asia Pacific	53.7	8.2	1,649.8	24.3	85.6	8.0
Japan	31.9	4.9	880.3	13.0	82.9	8.4
Australia	5.6	0.9	207.6	3.1	90.3	16.4
Korea	5.6	0.9	205.7	3.0	90.1	16.4
Taiwan	4.1	0.6	175.8	2.6	94.0	16.4
All Other	6.5	1.0	197.1	2.9	85.3	2.7
Western Europe	87.4	13.3	1,533.3	22.6	71.6	6.0
Germany	20.6	3.1	386.5	5.7	73.3	6.5
UK	17.2	2.6	288.8	4.3	70.5	7.1
France	9.9	1.5	206.4	3.0	75.9	5.0
Italy	7.2	1.1	142.4	2.1	74.6	4.3
Netherlands	6.5	1.0	98.3	1.4	67.9	9.2
All Other	25.9	3.9	410.8	6.1	69.1	6.0
Latin America	3.6	0.5	81.8	1.2	78.1	2.4
Rest World	3.2	0.5	68.6	1.0	76.6	2.4

Source: Forrester, 2004
Note: Total may not equal sum of rows due to rounding

[8] *(Singh, p. 3)*

Impact of E-Commerce on Employment

Internet[9] and e-commerce have long been recognized as having an important impact on work, workers, and the workplace. It can contribute to better employment opportunities in especially for developing countries both through improved labour facilitation and direct employment. Studies revealed that E-Commerce activities, in general, will spur employment needs for workers involved in e-commerce systems and organizations and its website design. According to Worldcom study more than two third Americans have engaged in virtual work (Nancy, 2003). Vera, 2002 studied the impact of e-commerce on B2C e-commerce on Philippine Workers and revealed that e-commerce can generate almost 20 per cent additional jobs. Thus, e-commerce economy has huge potential to generate employment (Table 2).[10]

Table 2. Likely effect of e-business activities on employment requirements in selected occupations (in Thousands)

Occupation Likely effect	Employment (1998)	Likely Affect
All Occupations	140,514	
Executive, administrative, and managerial: Engineering, science, and computer and information systems managers	326	Stimulates
Management Analyst	345	Stimulates
Purchasing managers, purchasing agents, and wholesale and retail buyers.	547	Dampens
Professional specialty: Artists and commercial artist	309	Stimulates

[9] *A common misconception is that the Internet and World Wide Web are the same thing. However, from the technical perspective, Internet and World Wide Web are two separate activities. The Internet is a collection of wires, protocols and hardware that allows to electronic transmission of data over TCP/IP. Any data can be transferred over this collection of hardware and software components. Example includes email, video, voice and webpage. On the other hand, World Wide Web exists on the Internet. The web is composed of hypertext pages views by a browser, which are served from a web server over TCP/IP, web pages always begin with http:// or https://, signifying their contents, while internet is the infrastructure, the web can be thought of as an application for the Internet.*

[10] *(Singh, p. 4)*

Computer systems analysts, engineers, and scientists 1,530	15,30	Stimulates*
Designers	335	Stimulates
Writers and Editors	341	Stimulates
Technicians and related support: Computer programmers	648	Stimulates
Marketing and Sales	15,341	Stimulates
Administrative support workers, including clerical	24,461	Dampens
Customer service representatives (adjustment clerks)	479	Stimulates**

Note: *Except dampens for computer for computer support specialists in post sales technical support.
**but also dampens as more traditional duties are more self services.
Source: Hecker, 2001.

More computers workers are needed to set up, maintain, and oversee the additional hardware and software systems that e-commerce require.Among the workers needed are computers and information system managers, computer system analysts, computer engineers, computer support specialists, database administrators, computer scientists and computer programmers (Kuhn, 2000; Hecker, 2001; Borenstein and Saloner, 2001; Autor, 2001). E-Commerce activities also require more artist and commercial artists, designers and writers and editors. Added to this, global information revolution, which is largely derived by internet technologies, is making it possible for many service related jobs to be outsourced to the developing countries and for new forms of work outside the traditional office and new opportunities for self-employment and entrepreneurs.[11]

On the flip side, it has also been feared that the reduction in number of intermediaries and sales persons due to reduction in number of supermarkets and

[11] *(Singh, p. 5)*

showroom would reduce employment world over. The worst affected are expected to be the unskilled manpower. It is true that unskilled labour is getting displaced in a big way in the e-commerce economy. Internet and e-commerce by facilitating firms to employ home-workers on a contractual basis are seen to promote insecure employment opportunities. In India, as well as in the other low-income economies, the potential of e-commerce is seen to employment from the formal sector to small firms in the unorganized sector where employment is not protected by any legislation. Further, if this feature of e-commerce encourages the formation of small firms that are narrowly specialized, it also implies that there is less room for employee mobility within the firms, transforming the careers paths of employees (Francis, 1986). It is also important to note that the rise of Internet and E-Commerce has led to increase in women's presence in paid employment, reproduction of gender based discrimination within these segments notwithstanding (Mitter and Rowbotham, 1995).[12]

Philippine developments in e-commerce: E-commerce infrastructure

The ICT industry, in general, and e-commerce, in particular, got its initial boost from the liberalization of the telecommunications sector. By 1998, 87 percent of cities and municipalities have access to telephones (Mercado 2004) while teledensity increased from 2 phones for every 100 persons in 1995 to nine telephones per 100 persons by 2000 (Institute for Labor Studies- DOLE 2004).[13]

[12] *(Singh, p. 5)*
[13] *(Lacson, 2006, pp. 1-2)*

With the advent of mobile telephony, though, the rate of increase of fixed lines in the country started to slide such that by 2002, fixed lines actually posted a negative growth. On the other hand, cellular mobile phone penetration has maintained an uptrend. In 2000, there were about 6.45 million cellular mobile phone subscribers. Two years later, their numbers more than doubled and have swelled to 15.2 million (NTC as cited by Mercado 2004).[14]

Albeit at a slower pace, personal computer (PC) penetration and Internet penetration have also been increasing. PC penetration, in particular, increased from 1.69 in 1999 to 2.2 PCs per 100 people in 2001 (ITU as cited by Mercado 2004). While the exact data on the number of Internet users in the country are not available, the International Data Corporation estimates that there were about 4.31 million Internet users in the country in 2001, up from 2.88 million in 2000 (Mercado 2004). Parallel to this increase is the rise in the number of Internet service providers from barely more than 10 in 1997 to 56 by 2002 (Mercado 2004) and 177 by 2004 (Virola n.d.).

While e-commerce does not change the essence of commercial transactions, it radically modifies its form, allowing real-time exchanges among businesses, consumers, and client governments regardless of spatial distance. If this cross-national nature brings a host of advantages, it also poses a number of jurisdictional and legal issues, highlighting the importance of harmonizing laws across countries. Toward this goal, the United Nations (UN) introduced the UN Commission on International Trade Law

[14] *(Lacson, 2006, p. 2)*

(UNCITRAL) Model Law on E-commerce in 1996. Several countries have adopted it since, including the Philippines.[15]

The law introduces three major principles: functional equivalence, media and technology neutrality, and party autonomy. The first mandates that electronic data be given the same level of recognition as information on paper; the second requires equal treatment of transactions and techniques, whether electronic or paper-based, regardless of whether it is done through email, fax, short message sending, or the Internet. Finally, the third upholds the freedom of parties to decide whether and how to use e-commerce according to their required level of security (UNCTAD n.d.).[16]

The Philippine's E-Commerce Law of 2000 basically follows the UNCITRAL Model Law and its major provisions although regulations on service provider liability were added based on Singapore's Electronic Transaction Act. But while the E-commerce Law is widely hailed as the landmark legislation for ICT in the country, it only provides the basic framework for e-commerce transactions. In general, the law (1)legalized electronic transactions and e-banking; (2) gave legal recognition to electronic signatures, documents, data, and contracts; (3) mandated government use of ICT; and (4) criminalized piracy and hacking. However, in order to speed up the passing of the bill, it left out issues of intellectual property rights, certification, digital signatures, privacy, domain names, and jurisdiction. Clearly, much remains to be done to get the country's

[15] *(Lacson, 2006, p. 2)*
[16] *(Lacson, 2006, p. 2)*

legislative framework up to par with the realities and advances in ICT. The E-Commerce Law is merely the first step.[17]

The scale of e-commerce in the country

In 2005, e-commerce in the country was estimated at US$3.5 billion (Torral n.d.). The bulk of these transactions are business-tobusiness exchanges (B2B) involving major retailers (e.g., ShoeMart and Makro) and multinational corporations (MNCs) such as Nestle and Unilever. As early as July 2001, barely a year after the E-commerce Law was passed, online market trading involving B2B transactions amounted to as much as US$40 million. Bayan Trade, a site devoted to e-procurement, dominates the e-marketplace. A joint venture among six major conglomerates (i.e., PLDT, Aboitiz, Ayala Corp., United Laboratories, JG Summit, and Benpres), Bayan Trade boasts of a buyer base of 150 companies supplied by 350 other corporations (Lallana et al. 2002). The medical and pharmaceuticals industry, meanwhile, also has its own e-marketplace in Asiarx.com while Philippine cooperatives trade online at B2Bpricenow.com (EIU n.d.)[18]

Business-to-consumer (B2C) transactions, on the other hand, are dominated by book and software purchases that are mostly processed through international sites such as amazon.com. Unlike B2B transactions, B2C transaction is particularly hampered by the limited number of credit card subscribers in the country (i.e., only 3 million) although a number of online malls (e.g., estoreexchange.com, ayala.com, and infinitymalls.com) are now offering alternative modes of payment through reloadable e-cards, COD, bank

[17] *(Lacson, 2006, p. 3)*
[18] *(Lacson, 2006, p. 4)*

deposits, and ATM cards through PayFree, Load.com.ph, and Payplus or mobile phone payment through Globe G-Cash, SmartPadala, PayFree, and Load.com (Torral n.d.)[19]

Aside from online shopping, a number of other B2C transactions have emerged through the years. PinoyAuctions.com and Bidshot.com offer online auctions similar to eBay. Rustan's and SM Department Store offer online grocery shopping. LoyolaPlans sell life and nonlife insurance online while Philippine Airlines, Cebu Pacific, and Air Philippines allow online booking and ticketing for international flights. Finally, as of February 2006, 45 banks in the country offer online banking and financial services, Allowing clients not only to inquire about their balances but also to pay bills and transfer funds through the Internet (EIU n.d.)[20]

Despite these developments, however, ecommerce in the country is still underdeveloped and highly concentrated in big conglomerates and major companies (Toral n.d.). Quite a number of establishments still do not use ICT resources (e.g., computers, Internet, ICT personnel such as a programmer or webmaster). In the 2002 Survey of Information and Communication Technology, foremost among the reasons given for the nonusage of ICT resources are lack of capital to finance ICT use, lack of equipment, low priority given by management, and lack of technical expertise.[21]

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[19] *(Lacson, 2006, p. 4)*
[20] *(Lacson, 2006, p. 4)*
[21] *(Lacson, 2006, pp. 4-5)*

In 2001, among industries, electronic selling was being done in manufacturing, wholesale and retail trade, telecommunications, and computer and related services. Even then, the propensity to sell online was only 2.2 percent of all ICT business users. Revenue from e-commerce was also quite small. Sixty-nine percent of those who engaged in e-selling had less than 15 percent of their sales from it (UNPAN 2003).[22]

Online purchasing is slightly higher than e-selling. Almost 3 percent of ICT business users purchase online—against only 2.2 percent of e-selling activity. Those industries that do e-selling also do e-purchasing but other industries such as ICT education, motion picture, radio and TV also participate in e-purchasing. Apart from them, those engaged in health and social work; agriculture; and electricity, gas, and water practice e-purchasing but to a lesser degree. Of total ICT users, though, 70 percent of those who report purchasing online indicate that their e-purchasing constitutes only less than 15 percent of their total purchases (UNPAN 2002).[23]

Not surprisingly, SMEs lag behind multinationals and large enterprises in terms of ecommerce transactions. In fact, while nearly all of the SMEs surveyed by Lallana et al. report using telephones (99%) and facsimile machines (94%), only 69.7 percent own PCs with Internet access (although 90% have computers) and only 42.6 percent own PCs with local area networks. Also, although 85 percent of those surveyed say that e-commerce is at least important today, only 27 percent (95 firms out of 352) of those who

[22] *(Lacson, 2006, p. 5)*
[23] *(Lacson, 2006, p. 5)*

use the Internet use it to sell or purchase goods and services online. This reveals that despite perceiving the significance of online transactions, most firms would rather not participate in e-commerce. Of those who use the Internet for online selling and purchasing, 43 percent are in Metro Manila, 44 percent are in Cebu, and 13 percent are in Davao, partly revealing the urban concentration of ecommerce transactions. Of those who use the Internet for selling their products, less than 20 percent allow online payment while majority of companies using the Internet prefer to stay at the bottom rung of the e-commerce ladder and merely promote the company or the product online (Lallana et al. 2002).[24]

Reasons abound with regards to SMEs' reluctance to fully participate in commerce transactions. Apart from their hesitance to join an e-commerce site, concerns over security—whether of information, payment, or delivery—dominate. Other reasons include the lack of resources, either human capital to construct, manage, and maintain the necessary infrastructure, or financial capital to fund the e-commerce venture. Although the liberalization of the telecommunications industry led to significant price deflations in fixed line services, the cost of getting a server and maintaining a bandwidth is still high. Yehey.com, one of the country's major search engine and e-commerce sites, uses servers located abroad because of the cheaper rates despite the fact that maintenance and management would be easier had these servers been located domestically.[25]

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[24] *(Lacson, 2006, pp. 5-6)*
[25] *(Lacson, 2006, p. 6)*

Apart from the low adoption of e-commerce by SMEs, the dearth of information on consumer-to-consumer transactions is also a problem. This is despite the fact that a number of websites such as tsikot.com and eBay Philippines allow private individuals to auction off, purchase, or sell products from other private individuals.[26]

Is the Philippines Asia's most promising e-commerce opportunity?

In a 2013 article, (Segovia, 2013), he described the prospects of growth of e-commerce as:

> With 34 million internet users, the country is the largest English-speaking online market in East Asia. It's also growing fast. In Kleiner Perkins' 2012 State of the Internet Report, the country was pegged as one of the world's top 5 fastest growing internet markets.
>
> And if you're familiar with former Philippine First Lady Imelda Marcos and her 3,000 pairs of shoes, then it wouldn't come as a surprise that Filipinos love to shop. The case of Kim and Jen above suggests that the growth in disposable income is exceeding the growth of physical retail space.
>
> This is why many local brands have built their following online. At AVA.PH, a curated e-commerce platform for premium, beautiful products

[26] *(Lacson, 2006, p. 6)*

from over 130 brands, more than half of our partners are emerging local brands who crave for more distribution and presence online.

Though Indonesia was the region's tech darling for the past two years due to its bigger market, local entrepreneurs and foreign investors have now fully realized how immensely complex and frustrating it is to scale an e-commerce venture in a market where consumers are distrustful of online shops, possess no universally accepted payment methods, and require complex logistics.

Those concerns certainly exist in the Philippines, but it has a few other things going for it, which combined, I'd argue represent a compelling risk-adjusted market opportunity:

English Speakers. Lots of them: The Philippines is the 5th largest English-speaking country in the world. This makes Filipinos more intuitively familiar with new products coming out of Silicon Valley. Despite having no local presence, Amazon ranks as one of the top 20 most visited sites among Filipinos.

Consumption-driven: Over 70 percent of Philippine GDP is consumption, driven by USD 21B in overseas remittances that continued to grow throughout the global financial crisis. This greatly exceeds Indonesia's USD 6.7B in remittances. Its macro-story is pretty compelling

too. With GDP projected to grow 6-7 percent in 2012, it's among the top the 10 fastest growing economies in the world.

Mobile Adoption: There was a time early last decade when the volume of text messages sent in one day in the Philippines eclipsed that of the European Union in a month. Today, there are over 75 million mobile phones in the Philippines. The number of smartphones with 3G access now number 10 million, growing at a 45 percent clip in 2012.

Mobile has become a discovery tool for e-commerce, and with increasing mobile penetration, expect a deeper level of engagement with users on their smartphones and tables. We're already seeing signs of this. At AVA, 50% of our users first open our weekly email newsletters through a mobile device.

Social Commerce: Not only does the Philippines boast the highest Facebook penetration in the world, it also ranks the highest in share of time spent on social networking. When young entrepreneurs want to start a business, the first place to set up shop online is Facebook.

The Philippines is probably one of the few countries where sellers are so highly accustomed to using the world's biggest social network to market their wares. For merchants, this is obviously a suboptimal solution, indicating a massive untapped opportunity for e-commerce players.

Customer acquisition is still cheap – with average CPC 35 percent lower than Indonesia's.

Among the youngest demographics in Asia: 70 percent of Filipino internet users are 15-34 years old. According to AC Nielsen, internet penetration among consumers aged 15 to 19 was close to two-thirds (65 percent), while half of those in their 20s are online (48 percent). So expect faster growth in the next 5 years as this cohort starts generating higher disposable income.

Maturing infrastructure: Although with less than 8 million credit cards in circulation, payment providers have innovated on linking online transactions with offline payments. Online shoppers can now pay via ATM machines, direct debits, and prepaid cards. Many online shops offer cash-on-delivery options. Delivering goods via third party logistics providers have become increasingly cheap (USD 1-3 within Manila) and reliable (with the presence of foreign players like FedEx and DHL).

The major hubs of Metro Manila, Cebu and Davao have adequate supply of warehouse real estate as the economy shifts from manufacturing to services, with commercial real estate prices one of the lowest among major Asian cities.

Fragmented retail market: There's a high incentive for both new and established brands to form a web and mobile strategy. Increasing

online and mobile usage aside, the country is also an archipelago of 7,000+ islands, making it more capital intensive to set up bricks and mortar shops all over the country.

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So why is the Philippines never on the e-commerce map? Blame data. In my conversations with US angels and VCs in the past 2 years, the Philippines almost always never registers as a potential e-commerce play. This information asymmetry, I believe, has something to do with the way market sizing data is captured and analyzed.

Most investors and entrepreneurs rely on published figures to see how big the e-commerce market is. The problem is that no widely-accepted figures exist for the Philippines. And if they do, they will most likely be understated.

At AVA, 30% of our transactions are via cash-on-delivery or bank transfers. For more mid-market sites, this figure could be as high as 70% *[Editor's note: Oliver has declined to reveal the number of transactions his site receives]*.

These offline transaction methods won't be captured by published figures. What this means is that analysts will almost always understate the size of this market. Anecdotally, a leading local bank indicated that it has

processed over USD 1B worth of e-commerce transactions over Visa and Mastercard in the past 12 months, including transactions at overseas websites. The demand for Amazon-priced goods have increased so much that services that help Filipinos ship Amazon purchases back home have thrived.

So what's next? Admittedly, we're still at the beginning stages. E-commerce players still need to drive adoption and increase basket sizes. The signs are encouraging. At AVA, our average transaction values hovers around USD 100. And we're seeing greater interest among merchants on growing their e-commerce capabilities every day. Customers are coming into the market for the first time. Payments are becoming more seamless.

While consumer internet start ups in the US are finding it harder to raise new rounds in the later-stage venture markets and adopt to rapidly accelerating customer acquisition costs, the Philippines is becoming one of the last few bastions of growth in e-commerce.

Based on the above disquisition, the growth of e-commerce worldwide is undeniably on the rise. Its growth rate may at best be described as exponential. As the Philippines has slowly, as described in the early 2000s, interconnected with the rest of the world, e-commerce has shown tremendous growth potential. The Philippines is seen as one of the few remaining areas of growth for e-commerce due to recent improvements in the physical infrastructure and legal framework. This paper will present the impact of e-

commerce in the labor market, its legal framework in the Philippines and recommend areas for development.

II. DISCUSSION

Employment effects of e-commerce

At this point, it should be useful to present a framework that shows the employment effects of e-commerce development. First, e-commerce will affect the employment in a wide range of industries. Its employment impact will be the net effect of new jobs created—directly or indirectly—and traditional jobs destroyed and substituted by jobs arising from e-commerce activities. Directly affected is the logistics sector—i.e., consisting of firms offering trucking, packaging, warehousing, and management services— since e-commerce provides a new channel of supplying and delivering goods and services. Here, the creation of jobs due to the increase in deliveries of goods ordered online may only be partially offset by the decrease in the delivery of print documents—such as contracts and architectural designs—thanks to the wonders of the internet.[27]

Indirectly affected are industries with firms that either supply inputs to or use the products of e-commerce companies. These are: (a) information and communication technology (ICT) industries—such as firms in data networking/telecommunication equipment, internet service providers, internet security equipment, and software—that build and maintain the infrastructure of ecommerce; (b) content-related industries that

[27] *(Vera, 2006, p. 20)*

produce digital products such as firms in applications software, enterprise and related software, internet/online consulting and development; and (c) transactions-related industries where firm operations are affected by the size and type of economic transactions. Examples of these industries are organization/aggregation, online services/ information services, publication, transaction processing, financial services, and online commerce.[28]

These industries take a sizeable employment share. For example, they respectively account for about one-third and one-fourth of total employment in the US and the European Union (EU). They exhibit a wide range of employment growth rates and skill composition. In terms of relative contribution to total employment growth, the 1996 US and EU shares are 2.2 percent and 0.5 percent, respectively. In terms of skill composition, the financial sector typically has a higher share of high-skilled workers than the other industries but these shares vary widely across the five countries selected—US, Canada, Finland, France, and Japan.[29]

E-commerce will have both direct and indirect effects on employment. E-commerce's direct employment impact will be in terms of the balance among complementarity, substitution, and market size. For example, e-commerce may create jobs in online activities such as web design, call support, and software design that complement the jobs supporting traditional offline activities. In the long run, these online

[28] *(Vera, 2006, p. 20)*
[29] *(Vera, 2006, pp. 20-21)*

jobs may substitute the offline jobs when the activity goes totally online, especially in the case of services and digitized information products such as videos, music CDs, software, and round-trip airline tickets. However, in other industries (say, the auto and appliance industries, where cars and washing machines are still delivered and serviced offline), ecommerce jobs complement and will not totally substitute the latter.[30]

Since the internet enables collaborative work, e-commerce creates new markets and extends its reach, which in turn creates new jobs. In other words, e-commerce—typically of a business-to-business type—makes it easier for firms to tap foreign markets as well as link themselves to a global supply chain. For example, there is a small but growing group of local firms that receive the audio files of doctors' medical orders from US hospitals through the internet. These audio files are transcribed into an electronic word processing document file and then sent back through the internet to the US hospitals where they are printed, ready to be endorsed by the physicians—all at a fraction of the cost had the project been done in the US.[31]

On the other hand, indirect employment effects result from downstream and upstream interlinkages of e-commerce activities with the rest of the economy. For example, a firm supporting an ecommerce channel will spend on (1) infrastructure to support an online payment scheme; (2) print and radio advertising to draw consumers to its website; and (3) delivery and warehousing services provided by a logistics firm. This spending will create jobs indirectly and will depend on the effect of the volume of

[30] *(Vera, 2006, p. 21)*
[31] *(Vera, 2006, p. 21)*

electronic transactions on prices, costs, and productivity. The magnitude of the effect of e-commerce transactions on the demand for goods in industries such as software online services, audio-visual music, and publishing will depend on their price elasticities.[32]

Within the context of the framework above, it might be useful to present the jobs created or destroyed in selected industries. As mentioned earlier, both high and low-skilled workers will be affected by these employment changes. The magnitude of these job losses and gains are questions to be answered by future research.[33]

Information services and content industries. These include firms in software, media, motion picture, audiovisual, and publishing industries. **Jobs destroyed**: those connected with the physical delivery of media such as CDs and printed text. **Jobs created**: positions connected with the online delivery of information.[34]

Internet industry. Since the provision of internet services is not labor intensive, job creation is not expected to be great. Jobs destroyed will be due to changes in technology and will most likely be minimized through retraining.[35]

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[32] *(Vera, 2006, pp. 21-22)*
[33] *(Vera, 2006, p. 22)*
[34] *(Vera, 2006, p. 22)*
[35] *(Vera, 2006, p. 22)*

Tours and travel agencies. **Jobs lost**: those connected with transaction tasks of selling standardized round-trip tickets. **Jobs created**: personnel needed to man the virtual travel agencies catering to niche markets.[36]

Postal offices. Although the more widespread use of email is reducing the demand for mail handlers and related workers, the increased demand for parcel deliveries due to the spread of ecommerce may create an even greater demand for these workers. Moreover, the spread of e-commerce for tangible goods will create jobs for the soon-to-boom logistics industry.[37]

Financial services and banking. The shift from retail to internet banking will certainly lead to losses of job such as tellers and other frontdesk workers. These personnel can be retrained quickly to act as customer service personnel in the bank's call support centers. Online securities brokerage services, in the case of Charles Schwab and Co., have actually seen an increase in their workforce.[38]

Retail. **Jobs destroyed**: those connected with sales, merchandising, and cashier tasks. Similar to the banking industry, these workers can, however, be retrained to man their customer support department.[39]

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[36] *(Vera, 2006, p. 22)*
[37] *(Vera, 2006, p. 22)*
[38] *(Vera, 2006, p. 22)*
[39] *(Vera, 2006, p. 22)*

Skills needed in e-commerce will be mainly those that can support its infrastructure, produce its digital goods and services, and deliver these products electronically and physically. Certainly, there will be an increased demand for high-skilled IT workers for sophisticated design and networking tasks. However, most companies will require well-trained workers that are steeped in the use of information technology. The logistics industry will increasingly need medium to low-skilled workers who will probably need to handle user-friendly handheld scanners and computers.[40]

Three Consequences of the Internet for Labor Markets

How Workers and Firms Search for One Another

Workers use numerous avenues to locate jobs, including personal referrals, direct employer contacts, union and professional registers, private employment agencies, and newspaper advertisements. Added to this list recently are: Internet job boards, which are websites offering searchable databases of job listings and resumes; corporate websites permitting on-line job applications; and employer initiated employee searches that target promising ("passive") candidates via their on-line credentials.[41]

Little is known about the importance of on-line job applications or direct employer-initiated contacts with potential candidates. However, on-line job posting has grown spectacularly. Job boards can also take an active role in matching: rather than

[40] *(Vera, 2006, p. 23)*
[41] *(Autor, 2001, p. 26)*

waiting on workers or firms to find one software can parse posted job listings and resumes to identify plausible matches and notify both parties. Some matching algorithms also learn from workers' behavior, noting the jobs for which a particular worker applies and adapting their recommendations accordingly. In addition, whether over a job board or another on-line connection, employers can use the Internet to administer skills or personality tests at the point of application.[42]

Internet job search is already commonplace. About 15 percent of unemployed job seekers regularly used the Internet as a means of job search in 1998, quite comparable to the fraction that placed or answered traditional help-wanted ads, according to data from the Current Population Survey (Kuhn and Skuterud, 2000). In the medium term, job boards are likely to displace newspaper advertisements as the leading conduit for job listings. For example, companies surveyed by Li et al. (2000) project a 31 percent decline in print recruitment advertising by 2004 as compared to a 52 percent increase in on-line advertising.[43]

Job boards and other Internet labor market connections should increase the efficiency with which workers are matched to jobs. In part, greater efficiency arises simply because more initial meetings between potential employees and workers are possible. Greater efficiency might also arise from on-line candidate screening.

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[42] *(Autor, 2001, p. 26)*
[43] *(Autor, 2001, p. 27)*

Labor market search theory predicts that lowering the cost of job search will raise productivity (Mortensen, 2000; Pissarides, 1990). Because workers and firms can consider more potential matches more rapidly, their reservation match quality—the minimum productivity an employer will tolerate, or equivalently, the minimum wage a worker will accept—both rise. Higher match quality raises output, and worker earnings and firm profits rise accordingly. In general, lower search costs will also reduce unemployment. In addition, better job matches should reduce workers' incentive to separate from their employers. Conversely, since the Internet may make it substantially easier for workers to seek better job offers while employed—and for employers to seek their replacements when they depart—this may induce more job separations.[44]

While it is difficult in the present economy to disentangle the impact of decreased search costs from the temptations of bountiful job opportunities and a business culture that has become more willing to carry out layoffs, it will be important to explore whether employers who search for workers on job boards versus help-wanted ads find workers faster, and find better workers—and similarly for workers who job search on-line. The Internet also provides an opportunity to collect more and possibly better labor market data. In contrast to conventional research data sources that provide a point-in-time snapshot of the labor market, the "transaction history" generated by web-based job boards, job applications, and other on-line artifacts may provide a new tool for studying labor market dynamics.[45] Internet job boards gather data from the applicants. It

[44] *(Autor, 2001, pp. 27-28)*
[45] *(Autor, 2001, p. 28)*

must be pointed out that applicants voluntarily provide their personal data. In the Philippines, such data falls under the coverage of the Data Privacy Act.

How Labor Services are Delivered

The Internet is likely to change how some workers deliver labor services. For example, falling telecommunications costs mean that call center employees can handle telecommunications traffic regardless of where it originates ("Call Centres," 1997; Uchitelle, 2000). Improvements in communications and control technology likely mean that people who monitor equipment or other workers can perform their tasks at greater physical remove. Remote access to e-mail and company documents will enable many workers to perform some or all of their work from home or elsewhere. Close to 10 percent of the labor force was engaged in some form of telecommuting as of 1997, and that penetration was growing at 15 percent annually (National Science Foundation, 1998, Ch. 8).[46]

One potential source of efficiency gains from delivering services remotely is that hours spent in unproductive commuting may be replaced by rapid on-line delivery. However, evidence suggests that telecommunications and face-to-face interactions are complements rather than substitutes (Gaspar and Glaeser, 1998), in which case telecommuting and physical commuting may rise in tandem. Survey data find that workers who use the Internet extensively at home have increased working hours at home

[46] *(Autor, 2001, p. 28)*

without decreasing their time in the office (Nie and Erbring, 2000). One reason may be that by increasing the productivity of working at home, telecommuting may induce substitution from leisure to production.[47]

A related observation is that along with changing how workers supply skills, the Internet may change how they acquire them. A vast economic literature beginning with Becker (1964) emphasizes the importance of skills training to worker earnings and mobility, and recent evidence confirms that the majority of employers spend substantially on both informal and formal workplace skills training (Frazis et al.,1998). Skills training delivered over the Internet has the potential to reduce substantially the cost and increase the convenience of ongoing skills development. However, at this point the efficacy of on-line training is unproven.[48]

How Local Markets Shape Labor Demand

When the work product is primarily information, improvements in information and communications technology enable firms to transmit the work to the workers. For example, check-processing at U.S. bank branches—a low-skilled, labor-intensive task—had historically been carried out in near physical proximity to bank branches due to federal regulations requiring rapid turnaround of physical paper checks (within 48 hours for in-state checks). With the advent of digital imaging, banks discovered that they could

[47] *(Autor, 2001, p. 29)*
[48] *(Autor, 2001, p. 29)*

ship images of paper checks electronically to out-of-state facilities, thus disaggregating the information and paper processing tasks into separate jobs performed in different locations and coordinated by networked computers (Autor, Levy and Murnane, 2000b).[49]

As this example suggests, businesses are likely to leverage the Internet to subdivide work into component parts, ship subtasks electronically to sources of labor supply, and use information technology to coordinate the geographically dispersed production process (Brynjolfsson and Hitt, forthcoming). These forces will augment the trend towards greater outsourcing of business services (Abraham and Taylor, 1996). Firms may find it less necessary to hire workers whom they only use infrequently, reducing transaction costs. This will in turn increase the extent of the market for specialized skills, yielding accompanying gains from specialization of labor.[50]

Which tasks and associated jobs are likely to be outsourced in response to these technological opportunities is a worthwhile question for research. On the one hand, the work products of professional and technical workers most lend themselves to electronic delivery. On the other hand, the routine information processing tasks performed by many clerical and service workers, such as the banking employees discussed above, may require limited in-person contact and hence can be easily coordinated and monitored over electronic networks (Autor, Levy and Murnane, 2000a).[51]

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[49] *(Autor, 2001, p. 29)*
[50] *(Autor, 2001, p. 29)*
[51] *(Autor, 2001, p. 29)*

The impacts of e-commerce on labor outsourcing and specialization have counterparts in the product market. By allowing consumers to shop for products and services from distant suppliers, e-commerce effectively separates the storefront from its physical operations. Consequently, suppliers of goods have less incentive to locate near demanders of goods (Kolko, 1999). Freed from some of the constraints of proximity, labor (and product) demand and supply implicitly operate in larger markets.[52]

Trade theory suggests that integrating labor markets that were geographically (semi-)independent has substantial benefits. By redistributing work to places where labor is comparatively cheap, firms reduce costs and regions exercise comparative advantage. Producers realize scale economies that were infeasible in small markets, thereby raising productivity and wages, and consumers gain specialized services that were previously only available in large markets.[53]

The combination of increasingly mobile labor demand and increasingly flexible labor supply means that the labor supply and demand facing any given geographic region become effectively more elastic. Because firms can more readily arbitrage regional wage and price differentials (both intra- and internationally), workers with similar skills in different locations should receive (more) similar wages. While this is bad news for those who have been hiring labor in slack labor markets, it can also mitigate regional pockets of unemployment and even reduce aggregate inflationary pressure. The impacts may be

[52] *(Autor, 2001, pp. 29-30)*
[53] *(Autor, 2001, p. 30)*

particularly significant for less educated workers, who are substantially less likely to relocate in response to regional booms and busts than are their college-educated counterparts (Bound and Holzer, 2000). At present, much anecdotal evidence suggests that firms are leveraging the decline in communications costs offered by the Internet to arbitrage regional labor market differentials (Uchitelle, 2000; Verhovek, 2000).

Based on the above consequences of the Internet on the labor market, in the Philippine setting, e-commerce's impact on the labor market operates within a legal framework which is a combination of various special laws such as the Data Privacy Act of 2012 which will deal with the data collected by the internet job boards; as regards the delivery of services, such is covered by the Labor Standards provisions of the Labor Code of the Philippines; and, as to shaping the labor demand, of relevance is the Wage Rationalization Act.

Data Privacy Act of 2012

The declaration of policy under the Data Privacy Act provides, "It is the policy of the State to protect the fundamental human right of privacy, of communication while ensuring free flow of information to promote innovation and growth. The State recognizes the vital role of information and communications technology in nation-building and its inherent obligation to ensure that personal information in information and communications systems in the government and in the private sector are secured and protected."

An applicant in filling up the online forms in an internet job board website is providing *personal information*[54]. The internet job board website is a *Personal information controller*[55]. Thus, the administrator of an internet job board website is within the coverage[56] of the Data Privacy Act as regards the possession of the personal information of the applicants. Therefore, the administrator of an internet job board website cannot process *sensitive personal information*[57] except:

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[54] *Any information whether recorded in a material form or not, from which the identity of an individual is apparent or can be reasonably and directly ascertained by the entity holding the information, or when put together with other information would directly and certainly identify an individual.*

[55] *A person or organization who controls the collection, holding, processing or use of personal information, including a person or organization who instructs another person or organization to collect, hold, process, use, transfer or disclose personal information on his or her behalf.*

[56] *SEC. 4.* Scope. *– This Act applies to the processing of all types of personal information and to any natural and juridical person involved in personal information processing including those personal information controllers and processors who, although not found or established in the Philippines, use equipment that are located in the Philippines, or those who maintain an office, branch or agency in the Philippines…xxx*

[57] *Sec. 3, Par. L: (1) About an individual's race, ethnic origin, marital status, age, color, and religious, philosophical or political affiliations;*

(2) About an individual's health, education, genetic or sexual life of a person, or to any proceeding for any offense committed or alleged to have been committed by such person, the disposal of such proceedings, or the sentence of any court in such proceedings;

(3) Issued by government agencies peculiar to an individual which includes, but not limited to, social security numbers, previous or cm-rent health records, licenses or its denials, suspension or revocation, and tax returns; and

(4) Specifically established by an executive order or an act of Congress to be kept classified.

SEC. 13. *Sensitive Personal Information and Privileged Information. –* The processing of sensitive personal information and privileged information shall be prohibited, except in the following cases:

(a) The data subject has given his or her consent, specific to the purpose prior to the processing, or in the case of privileged information, all parties to the exchange have given their consent prior to processing;

(b) The processing of the same is provided for by existing laws and regulations: *Provided,* That such regulatory enactments guarantee the protection of the sensitive personal information and the privileged information: *Provided, further,* That the consent of the data subjects are not required by law or regulation permitting the processing of the sensitive personal information or the privileged information;

(c) The processing is necessary to protect the life and health of the data subject or another person, and the data subject is not legally or physically able to express his or her consent prior to the processing;

(d) The processing is necessary to achieve the lawful and noncommercial objectives of public organizations and their associations: *Provided,* That such processing is only confined and related to the *bona fide* members of these organizations or their associations: *Provided, further,* That the sensitive personal information are not transferred to third parties:

Provided, finally, That consent of the data subject was obtained prior to processing;

(e) The processing is necessary for purposes of medical treatment, is carried out by a medical practitioner or a medical treatment institution, and an adequate level of protection of personal information is ensured; or

(f) The processing concerns such personal information as is necessary for the protection of lawful rights and interests of natural or legal persons in court proceedings, or the establishment, exercise or defense of legal claims, or when provided to government or public authority.

Delivery of Labor Services

As pointed out, delivery of labor services may be remote. The employee may not necessarily be at the designated workplace so that the hours spent may be considered as compensable. As suggested, the employee may be more productive and will be able to maximize his working hours as he is able to avoid the loss of time arising from commuting. This is most especially true in Metro Manila wherein traffic consumes a significant numbers of waking hours of a worker thereat.

On the other hand, Article 84 of the Labor Code provides: "**Hours worked.** Hours worked shall include (a) all time during which an employee is required to be on duty or to be at a prescribed workplace; and (b) all time during which an employee is suffered or permitted to work. Rest periods of short duration during working hours shall

be counted as hours worked." Thus, there is a requirement that in order that the hours worked by the employee shall be compensable, the employee must be on duty or at prescribed workplace so that he may be compensated. While the provision of law provides for the exception, there is a requirement that the hours spent must be spent actually working. This will necessarily require an employee monitoring system. At present, Philippine laws or rules do not provide for an acceptable monitoring system. Thus, such system may be agreed upon by the employer and the employee either individually or collectively.

Article 82 of the Labor Code provides for field personnel and although an employee working remotely may be considered as field personnel, such may result in the diminution of benefits of the employee as field personnel are excempted from the coverage of Title 1 of Book 3 of the Labor Code. Thus, the remote worker will be deprived of overtime pay, night shift differential pay, holiday pay, premium pay, service incentive leave and service charges.

Wage Rationalization Act

Wage fixing in the Philippines is governed by the Republic Act No. 6727 otherwise known as "Wage Rationalization Act". The said law was enacted to rationalize the fixing of minimum wages and to promote productivity-improvement and gain-sharing measures to ensure a decent standard of living for the workers and their families; to guarantee the rights of labor to its just share in the fruits of production; to enhance

employment generation in the countryside through industry dispersal; and to allow business and industry reasonable returns on investment, expansion and growth; promote collective bargaining as the primary mode of settling wages and other terms and conditions of employment; and whenever necessary, the minimum wage rates shall be adjusted in a fair and equitable manner, considering existing regional disparities in the cost of living and other socio-economic factors and the national economic and social development plans.[58]

The law provided for the creation of Regional Tripartite Wages and Productivity Boards[59]. The regional wage boards fix wages per region based on a certain set of criteria, to wit:

> **Art. 124. Standards/Criteria for minimum wage fixing.** The regional minimum wages to be established by the Regional Board shall be as nearly adequate as is economically feasible to maintain the minimum standards of living necessary for the health, efficiency and general well-being of the employees within the framework of the national economic and social development program. In the determination of such regional minimum wages, the Regional Board shall, among other relevant factors, consider the following:

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[58] *Section 2, R.A. No. 6727.*

[59] ***Art. 122. Creation of Regional Tripartite Wages and Productivity Boards.*** *There is hereby created Regional Tripartite Wages and Productivity Boards, hereinafter referred to as Regional Boards, in all regions, including autonomous regions as may be established by law.*

a. The demand for living wages;

b. Wage adjustment vis-à-vis the consumer price index;

c. The cost of living and changes or increases therein;

d. The needs of workers and their families;

e. The need to induce industries to invest in the countryside;

f. Improvements in standards of living;

g. The prevailing wage levels;

h. Fair return of the capital invested and capacity to pay of employers;

i. Effects on employment generation and family income; and

j. The equitable distribution of income and wealth along the imperatives of economic and social development.

The wages prescribed in accordance with the provisions of this Title shall be the standard prevailing minimum wages in every region. These wages shall include wages varying with industries, provinces or localities if in the judgment of the Regional Board, conditions make such local differentiation proper and necessary to effectuate the purpose of this Title.

Based on the Wage Rationalization Act, there is no uniformity of wage rates on a national scale based on the same skill set. With the advent of e-commerce and the reduction of communication costs which enables workers to work from remote locations, the regionalization of wage rates appears to be no longer relevant. The remote location

by which a worker can perform his job renders geographical location as regards creation of demand for labor vis-à-vis the cost of living trifling. A worker may be remotely based in Iloilo but actually performing work for a company based in Metro Manila. The cost of living will be in Iloilo but the wage rates he will receive will be that of in Metro Manila.

Thus, the purpose of the law in promoting job creation in the countryside may no longer applicable as regards industries which service the e-commerce sector or existing with the broader business concept of the internet.

III. CONCLUSION/RECOMMENDATION

The growth of internet and the use of e-commerce are not reversible. Companies change the way they do business to suit the business model of internet/e-commerce use. Considering that labor is a variable cost in doing business, definitely the widespread and extensive use of internet/e-commerce, it has a great impact in the labor market.

In the Philippine setting, the three logical consequences of the use of internet/e-commerce such as how employees and employers are matched, how labor services are delivered and how the local market shape the labor demand operate within the legal framework, in a broad sense, the E-Commerce Act and more specifically within the Data Privacy Act, Labor Standards (Book III) provisions of the Labor Code and the Wage Rationalization Act.

The Data Privacy Act is more or less comprehensive in application as regards the handling of personal information by personal information controllers such as internet job board websites. Perhaps since the law was enacted only 2002, there is absence of data as regards the awareness by firms of the said law, and the growth spurt of e-commerce is fairly recent, it is recommended that the Department of Labor and Employment conduct programs to promote awareness and compliance with the law.

As regards the classification of remote workers as provided under Book III of the Labor Code, the provisions on Article 82 and Article 84 should be amended to recognize the existence of remote workers. Perhaps the definition of field personnel should be amended to expressly exclude remote workers so that there will be no dispute as to whether remote workers will be exempted from the coverage of Title 1 of Book III of the Labor Code. In the event, that the definition of the field personnel is amended to specifically include remote workers, the Department of Labor and Employment should come up with rules as regards employee monitoring systems that shall guarantee the workers' right to privacy but as well as guarantee that they are indeed and actually working.

The Wage Rationalization Act should be amended to provide a national wage level for industries servicing e-commerce or operating within the internet business model. Providing for a national wage rate for such workers will prevent disparity in the wage level of workers possessing the same skills set and promote equitable distribution of job opportunities and prevent discrimination due to geographical location.

Presently, since there is no exact provision of law applicable to the classification of remote workers as field personnel, as the whether they are entitled to the benefits under Title 1 of Book III of the Labor Code, and as regards a national wage rate for workers possessing the same skills set, it is recommended that the same shall be governed by contract either individually or through collective bargaining.

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