



## The labour of ICT4D: Whither the separation of carriage and content?

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### abstract

Contemporary mainstream narratives about the relationship between technology and development often rhetorically construct technology as a symbol of modernity and a catalyst for further development. The argument developed in the pages that follow posits that revisiting the distinction between carriage and content as analytical constructs offers a useful means of investigating the power struggles at play in efforts to define what constitutes knowledge labour vis-à-vis the ICT sector in countries with restricted media environments. By extension, these power struggles over what constitutes 'productive' labour represent contesting views about development in general. Drawing on Malaysia as a case study, we examine how this distinction plays out on the ground and assess its implications for local knowledge labour.

But nowhere – and now we get to the heart of the matter – can we find a master narrative so deeply entrenched in popular imagination and popular language as in the mythic idea of progress, particularly technological progress. (Staudenmaier, 1994: 262-263)

Technology has come to 'form the basis of notions of modernity, the universal achievability and desirability of which underpin dominant development narratives. (Uimonen, 2001: 6)

### Introduction

Contemporary mainstream narratives about the relationship between technology and development often rhetorically construct technology as both a symbol of modernity and a catalyst for development. This vision suggests that technology is a driving force of history and that its relationship with society is unidirectional in nature (i.e., technology appears and does something to society). Within this context, acquiring the latest technology is synonymous with being modern; penetration rates of various information and communication mediums serve as quantitative proxies for the measurement of progress. The underlying premise here suggests that information and communication technologies (ICTs) may be understood as a panacea for a host of economic, political, and social ills.

Echoing the tenets of modernization theory, this view implies that the principal question to be asked is not if, or under what conditions, ICTs can help foster development, but

rather, how best to harness the power of these technologies to beget the economic, political, and socio-cultural betterment that will necessarily follow. Within much of the mainstream academic and policy discourse this perspective manifests itself in two ways. The first is reflected in the continued emphasis placed upon access and connectivity in many ICT for development (ICT4D) programs and policies. The resulting focus on providing the technical infrastructure required to connect people with the digital world ‘extricates information from communication processes’ (Pickard, 2007: 134; see also Garnham, 2000, 2002; May, 2002; Robins and Webster, 2001). Critics of this approach contend that it is erroneous to frame the physical presence of technology as the symbol of modernity and the primary cause of development given that such techno-fetishism fails to give sufficient consideration to a wide range of context-oriented variables that directly influence the extent to which digital opportunities may be realized (see, as examples, Garnham, 2000; Giddens, 1990; Heeks, 2002; Mansell, 2002; Marx, 1987, 1996; Sen, 1999; Weigel, 2004).

Second, it often is assumed that a technologically driven knowledge-based economy will necessarily guarantee the overall prosperity of developing and transitioning – also referred to as newly emerging or newly industrializing – economies in an increasingly competitive global networked system. A shortcoming with this line of reasoning is its grounding in the assumptions of modernization theory which suggest that, ‘following the trajectories of already established economic powers will produce similar results for less developed countries’ (Jarman and Chopra, 2008: 200-201).<sup>1</sup> While ICTs certainly offer the potential to facilitate economic, political, and socio-cultural development, myriad labour issues (as well as a range of other concerns) need to be addressed in order to reap the opportunities afforded by these technologies (Humphrey, et al., 2003; Paré, 2003, 2005; Smeltzer, 2008).

Taken together, the above two critiques of the developmental potential of creating a knowledge-based economy highlight the extent to which actualizing its potential benefits is contingent upon the specific types of policies and programs that are implemented at local, national, and international levels. Put simply, realizing the opportunities afforded by digital technologies is directly influenced by a host of economic and non-economic factors. Indeed, the most effective ICT-oriented programs and policies are those for which technology is not taken as a means or end of development, but rather as both a means and end (Drèze and Sen, 2002; Sen 1999, 2009).

Given the technical, functional, and corporate re-convergence that has taken place in the media and communication sector over the last quarter century, it should come as no surprise that this phenomenon has been accompanied by the discursive conflation of carriage and content. Yet, as our discussion of Malaysia – a transitioning country seeking to establish itself as a high-tech Asian hub in the global knowledge-based economy – illustrates, the information and communication policies and programs

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1 Expounding on this notion, Jarman and Chopra (2008) argue that the World Bank has actively pushed periphery and semi-periphery countries to strive toward establishing Western-oriented knowledge-based economies, while downplaying socio-economic, historical, and socio-political considerations.

advanced by the government appear to maintain, and in some cases actually promote, a functional separation of carriage and content issues.<sup>2</sup>

As is the case in many other countries, Malaysia's government extols carriage-oriented labour that is associated with knowledge-based economic activities. Hardware development and production, implementation of computers and internet access points are seen to create an IT-savvy citizenry. It also lauds content-oriented labour in the areas of software research and development, back-office work, and grey-collar activities<sup>3</sup> that contribute to the government's vision of a productive and lucrative knowledge-based economy. The common link in both instances is an adherence to the 'old' regulatory distinction between carriage and content in which knowledge labour is associated foremost with work that is oriented toward market production.

An increasingly prominent facet of the global knowledge economy, however, is an acknowledgement that content-related work now combines the above type of labour plus a range of non-market information producers. In addition to its potential social implications, non-market information production is becoming an important economic phenomenon in its own right with information, knowledge and culture morphing into some of the most prominent high-value-added economic activities. As Benkler notes,

Social behavior that traditionally was relegated to the peripheries of the economy has become central to the most advanced economies. Nonmarket behavior is becoming central to producing our information and cultural environment. Sources of knowledge and cultural edification, through which we come to know and comprehend the world, to form our opinions about it, and to express ourselves in communication with others about what we see and believe have shifted from heavy reliance on commercial, concentrated media, to being produced on a much more widely distributed model, by many actors who are not driven by the imperatives of advertising or the sale of entertainment goods. (2006: 56)

Yet, content-oriented knowledge-based labour activities that extend beyond a narrow economic understanding of national development engender a very different reaction from many governments around the world. The federal authorities in Malaysia, for instance, typically depict the knowledge labour of political bloggers, critical non-governmental organizations (NGOs), and online alternative and independent media as detrimental to Malaysia's bid to become a fully developed nation. The argument

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2 At an international level, perhaps the clearest example of how the rhetorical conflation of carriage and content influences efforts to define what constitutes progress and development may be seen in how the tenets of the information society ideology underpinned the events leading up to, and the outcome of, the World Summit on the Information Society (WSIS). As a result, the WSIS deliberations ultimately focused largely on infrastructure-related issues, sidelining discussions about public and community media systems, global media conglomeration, and meaningful access to, and usage of, ICTs. In the words of one observer, 'information technology, convergence and connectivity... set the stage for the Summit, thus promoting the idea that technology and infrastructure would *in themselves* contribute to the realization of the UN Millennium Development Goals' (Padovani and Nordenstreng, 2005: 267, emphasis added).

3 Within the context of service industries, of which software research and development is a part, the phrase 'back-office work' refers to administrative and other work-related functions that take place without direct customer contact. Grey-collar activities refers to occupations and tasks that incorporate aspects of blue- and white-collar work and/or occupations that differ significantly from the two latter categorizations. High-tech sectors, for example, often are referred to as grey-collar industries.

developed in the pages that follow posits that revisiting the distinction between carriage and content as an analytical construct offers a useful means of investigating power struggles between these various actors within the Malaysian context to define what constitutes valued labour and, by extension, what constitutes progress and development writ large.

## **Blurring boundaries in ICT4D**

While ICT4D often is associated with the notion of implementing ICTs in the very poorest of countries, this narrow view is misleading. At its core, ICT4D is fundamentally an issue of defining the means by which citizens and states achieve economic, political and socio-cultural objectives in a global networked economy. As such, ICT4D has important implications for transitioning economies like Malaysia, as well as marginalized communities within industrialized and developing countries.

While the specific policy opportunities and constraints afforded by ICTs in these contexts may differ from those presented historically by broadcasting and telecommunication networks, the fundamental principles at stake with regard to development are not new. Defining and implementing governance mechanisms to realize societal objectives has always been the core issue within communication and media policy. These objectives may be divided into three broad categories that pertain to achieving some interpretation of the public interest: economic welfare, political welfare, and socio-cultural welfare (Melody, 1990; van Cuilenburg and McQuail, 2003; van Cuilenburg and Verhoest, 1998). Traditionally, the pursuit of these goals in the communication realm was premised on a distinction between regulating the carriage of communication signals and regulating the content of the signals. Issues of carriage tended to fall under the purview of telecommunication policy and centered on concerns relating to technical infrastructures and market conditions. Broadly speaking, this avenue of communication policy usually was grounded in an understanding of the public interest that privileged issues of economic welfare.

By contrast, issues of content were directly associated with media policy (i.e., broadcasting, newspapers, and other forms of information distribution to the public) and tended to be addressed through media-specific laws and regulations. While the underlying policy considerations vary across national contexts, areas of concern in this domain have usually focused on questions of accountability, diversity, freedom, and quality of content. In other words, the regulation of content has largely been oriented toward a notion of public interest that gives primacy to issues of political welfare and achieving socio-cultural objectives.

A key component of the technical/functional and corporate re-convergence that took place throughout the late 1980s and 1990s was the literal and rhetorical bundling of carriage and content. The distinction between carriage and content can still, however, be seen in the two dominant approaches toward implementing ICT4D initiatives. At one level ICT4D is fundamentally an issue of managing, implementing, and diffusing technological infrastructure. This includes implementing internet backbones and mobile telephony networks, providing computer and internet access, managing internet service

and mobile telephony providers, and overseeing spectrum allocations. The focus of this mainstream approach is on fostering market conditions to support the rollout of technologies that are expected to facilitate economic growth by reducing barriers to trade, enhancing access to information, and expanding social networks. Rooted in a mainstream information society ideology, the underlying assumption of this carriage-oriented approach is that the increased adoption and implementation of ICT infrastructures, combined with a sufficiently liberalized and privatized market environment, will lead to the free-flow of information and knowledge. It is hypothesized that this will, in turn, translate into citizens producing and consuming content that will ultimately foster broader development.

At another level, ICT4D is understood as being fundamentally an issue of addressing economic, political, and socio-cultural considerations (e.g., capability/skills, traditional and computer literacy, gender, geography, income, motivation, and commercial and regulatory environments) that may facilitate or constrain the realization of digital opportunities among different population segments, regions, and countries (see, as examples, Boyle, 2002; Sen, 1999; Warschauer, 2003). This content-oriented approach to ICT4D focuses attention foremost on contextual factors that influence the production and consumption of information and knowledge, and posits that achieving successful outcomes in the ICT4D domain is contingent on much more than simply facilitating physical access and connectivity to ICTs. Specifically, it requires recognition that development is intrinsically a communication phenomenon.

Hence, the conventional, mainstream approach to development-oriented ICT practices may be understood as operating within what Mansell calls an ahistorical exogenous framework that treats technologies ‘as if they are objects isolated from the social, political and economic environment in which they are produced and consumed’ (2008: 3). By comparison, the alternative view of the relationship between ICTs and development may be seen as operating under an endogenous framework that ‘accommodates analysis of the opportunities and constraints offered by innovative technologies’ and thus encourages an economic, historical, political, and socio-cultural contextualization of ICT4D initiatives (Mansell, 2008: 5). This dichotomy reflects a clash between the paradoxical ‘role of communications as both the raw resource for citizenship, governed by criteria of need, rights and communality, but also as commodities for consumers, governed only by market power’ (Golding, 2000: 180).

Certainly, significant overlaps do exist between carriage and content in today’s global networked environment. The type of content citizens can produce and consume, for instance, is limited by the infrastructure available to them and whether one has the capabilities and motivation to use it. Likewise, government authorities may elect to employ technological or other measures aimed at restricting or limiting the production and consumption of content they deem inappropriate (see, for example, Goldsmith and Wu, 2006), as is the case for Malaysia. Nevertheless, conflating content-related considerations under the auspices of carriage risks depoliticizing and decontextualizing the role(s) played by ICT production and consumption in different contexts. It also risks obscuring the complex dynamics and power relations at play in efforts to define what constitutes development and, concomitantly, the implications for so-called knowledge labour. Focusing on Malaysia, it is to this issue that our attention now turns.

## Building a high-tech k-economy: Malaysia's knowledge workers

Given its restricted media environment, Malaysia offers a fruitful state-level example of how knowledge labour is categorized by different actors on the ground in accordance with a traditional carriage/content dichotomy. Malaysia's federal government has poured significant economic and political resources into building the infrastructure it considers necessary for producing a domestic knowledge-based economy and society. One of its primary goals in this regard is to 'lessen its dependence on low-wage export manufacturing' through the widespread implementation and diffusion of ICTs' (Elias, 2009: 470). This focus on creating an ICT-oriented knowledge-based economy, or simply k-economy as it is often referred to in country, as a means for competing internationally is neither surprising, nor unique to Malaysia. As Ong writes, for emerging and transitioning countries around the globe 'the World Bank has prescribed "political entrepreneurialism", or a shift from a focus on the production of goods (already underway for decades) to the production of educated subjects' (2007: 5). The MSC Malaysia project – formerly known as the Multimedia Super Corridor (MSC) – is illustrative of this shift and demonstrates well how Malaysia's government has rhetorically constructed ICTs as both a symbol of the country's modernity and as a catalyst for further knowledge-based development.

In the mid-1990s, then Prime Minister Mahathir Mohamad embraced the knowledge economy paradigm as a means for promoting national development, launching the MSC in the hope of creating an international high-tech hub akin to California's Silicon Valley. Mahathir expected that this initiative would enable Malaysia's domestic high-tech sector to 'leapfrog into leadership in the Information Age', and thus engineer a new model of non-Western modernity' (Wong, 2003: 296).<sup>4</sup> Building a globally attractive domestic knowledge economy became a primary focus in Malaysia's economic policy making after the 1997 economic slowdown and carried on as a prominent theme in the government's 2001-2010 Third Outline Perspective Plan (Elias, 2009). According to the Plan, which charted the socio-economic future of the country, the government promised that:

The knowledge-based economy will provide the platform to sustain a rapid rate of economic growth and enhance international competitiveness... the economy will be characterized by knowledge-based activities and high-technology industries accounting for a significant share of employment, Gross Domestic Product (GDP) and exports. Besides being a factor of production, knowledge will become a commodity to be traded. (NITC, 2001: 5.03)

Despite the initial optimism surrounding this undertaking, it has been clear for some time now that the MSC Malaysia project failed to live up to expectations. Rather than being on the cutting edge of research and development for ICT carriage and content, firms have instead played more of an intermediary role, primarily performing economically oriented content-related undertakings such as back-office and technology-support functions (Jarman and Chopra, 2008). Nevertheless, the Malaysian government

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4 For an extensive overview of transformations in Malaysia's labour market post-independence (1957), see Khong (2010).

continues to promote the importance of the knowledge worker to the country's modern future. Correspondingly, the 2006-2010 Ninth Malaysia Plan (the government's budget blueprint) outlines that 'efforts will be intensified to develop knowledge workers who are competitive, flexible, dynamic and performance-oriented' (Malaysia, 2005: 259). As current Prime Minister Najib Razak remarked in June 2009,

we have become a successful middle income economy, but we cannot and will not be caught in the middle income country trap... We need to make the shift to a high income economy or we risk losing growth momentum in our economics and vibrancy in our markets. (Quoted in Chance, 2009a)

Fear of slipping in the global economy ranks has recently been compounded by the United Nations Conference on Trade and Development (UNCTAD) World Investment Report 2010, which indicates that foreign direct investment (FDI) in Malaysia dropped 81 percent between 2009 and 2010. According to Rajah Rasiah, the Khazanah Nasional chair of regulatory studies at the University of Malaya, Malaysia lacks enough highly skilled technologists and scientists to create the type of economy the government wants, and boasts only about one tenth of what China, India, Taiwan, Vietnam and Singapore have in terms of R&D talent (cited in Yap, 2010). As a result, although the government would like to see MSC Malaysia attract and incubate high-end white-collar enterprises, it also has promoted the stepping-stone job creation benefits of the grey-collar work of call centres, financial services, and human resources that have kept the initiative alive (Jarman and Chopra, 2008).

These forms of semi-skilled heterogeneous waged knowledge labour support an increasingly sophisticated international division of labour that is predicated upon the use of digital technologies to strategically (re)locate around the world various segments of production processes. This segmentation process places workers in a precarious position and arguably helps to keep Malaysia (and other similarly transitioning economies) in a position of dependence vis-à-vis more technologically advanced economies. Other labour concerns within the Malaysian context revolve around the government's history of actively encouraging anti-unionism<sup>5</sup>, allowing the exploitation of foreign migrant labour, and the gendering of low- and increasingly semi-skilled labour specifically in the technology sector (Elias, 2009: 475-76; Khong, 2010; Turner, 2006).<sup>6</sup> In 2010, the government raised the stakes, proposing controversial amendments

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5 According to the Malaysian Trades Union Congress (MTUC), which advocates for stronger trade union rights and enhanced collective bargaining, only 6.3 percent of Malaysia's workforce is unionized. Moreover, this unionization is highly fragmented and segregated by industry, region, and occupation, making any sort of cohesive, broad-based bargaining practically impossible (Malaysian Trades Union Congress, 2010a).

6 As Elias describes, these latter concerns address 'the types of work available to women in the knowledge economy – notably, the rise of call-centre employment as a new 'hi-tech' form of low-wage feminized employment' (2009: 478). It also is important to note that Malaysia's long-standing and contentious racial, ethnic, and religious politics have played a central role in domestic labour issues. The Barisan Nasional (BN) coalition, led by the ruling United Malays National Organisation (UMNO) party, has actively intervened in the market to support the allegedly disadvantaged Malay population. Interventionist actions in this multi-racial, -ethnic, and -religious country (composed primarily of Malay, Chinese, and Indian citizens) have included a racially based quota system for government education institutions, housing discounts, greater access to public service employment,

to three of the country's key labour laws: the Employment Act (1955), Industrial Relations Act (1967), and the Trade Unions Act (1959). Among other things, the amendments would give employers additional powers to dismiss employees without cause, thereby placing labour – especially already marginalized workers – in an even more unstable position (Malaysian Trades Union Congress, 2010b).

## Malaysia's other knowledge workers: Alternative visions of development

Alongside its high-tech industry goals, the government of Malaysia promotes – with varying degrees of success – the competitive advantage of an IT-savvy citizenry through a range of ICT4D programs and policies, with the aim of achieving a country-wide 50 percent broadband household penetration rate by the end of 2010 (The Star, 2010b).<sup>7</sup> At the same time, the government emphasizes Malaysia's so-called Asian Values<sup>8</sup> and the need for political stability as a precursor to economic growth. The latter serves as a principal rationale for maintaining strong control over broadcast and print media, and for curtailing the domestic use of ICTs for purposes that might be seen to challenge the status quo and/or run counter to the government's socio-economic and political priorities. Put simply, Malaysia's government actively seeks to control how, where, about what, and with whom citizens communicate.<sup>9</sup> The 2001 – 2010 Third Outline Perspective makes the government's position clear in this regard. It states: 'With the advent of the Global Information Age, a new code of ethics is needed to ensure that the knowledge which is freely and readily available is positively used to bring well-being and prosperity rather than create havoc and destruction' (NITC, 2001: 5.57).

Given that labour appears to be understood purely in terms of market-oriented waged labour by the Malaysian government, it follows that it views knowledge workers as constituting labour that produces goods and services that are deemed to contribute directly to the advancement of economic growth, regardless of whether such labour falls on the carriage or content side of the equation. Such a perspective is par for the course

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government loans, and business tenders for the majority Malay population (Khoo, 2001; Khong, 2010; Turner, 2006).

7 According to the Malaysian Communications and Multimedia Commission, some 59 percent of Malaysians are Internet users. However, significant disparities in access exist between urban and rural locales (Malaysian Communications and Multimedia Commission, 2008). By comparison, in the third quarter of 2008, mobile phone penetration had reached 93.9 percent in the country (Malaysian Communications and Multimedia Commission, 2008).

8 Among the key proponents of the Asian Values thesis are the former president of Singapore, Lee Kuan Yew, and the former president of Malaysia, Mahathir Mohamad. This perspective maintains that there exists a distinctively Asian set of core values that emphasize collectivism, and which manifest themselves through political and social practices that are anathema to Western-style liberal democracy. Critics of this thesis counter that it merely uses cultural difference as a pretext for promoting authoritarianism and/or semi-authoritarianism. See, for example, Sen (1999) and Jacobsen and Bruun (2000).

9 Reflecting these control mechanisms, in 2010 Malaysia ranked 141<sup>st</sup> of 178 countries by the Reporters without Borders' Press Freedom Index.

in Asian milieus of development where ‘neo-liberal thinking is directed toward the promotion of educated and self-managing citizens who can compete in global knowledge markets’ (Ong, 2007: 6). Therefore, the Malaysian government’s approach to carriage-related issues continues to center foremost upon expanding and enhancing the country’s technical infrastructure (e.g., connecting citizens and providing high-speed access for MSC Malaysia status companies) and on market considerations (e.g., telecommunication interconnection rates, competition policy, anti-trust issues). By contrast, its approach to content-related matters is taken up by media-specific laws and regulations that target broadcasting, newspapers and, increasingly, the digital distribution of information to the public. When understood through the lens of liberal-democratic thought, the government’s actions in this regard indicate that it is less concerned with serving the public interest than with controlling what the public does with politically oriented information.

Myriad government bodies and laws are tasked with this managing and controlling of what citizens do with ICTs in Malaysia. The country’s telecommunication, broadcasting, and Internet sectors are regulated by the Malaysian Communications and Multimedia Act, 1998 (MCMA) and the Communications and Multimedia Commission Act, 1998 (CMCA). Pursuant to Section 211(1) of the MCMA, the Malaysian Communications and Multimedia Commission – the national regulator of information and communication industries – is authorized to oversee online speech to ensure that ‘No content applications service provider, or other person using a content applications service, shall provide content which is indecent, obscene, false, menacing, or offensive in character with intent to annoy, abuse, threaten or harass any person’ (Malaysian Communications and Multimedia Commission, 2010). Control over speech also is manifest in a host of other ways, including annual license renewal requirements for broadcasting and print publications, the Malaysia Police Act of 1967 that requires citizens to obtain permits for public gatherings of four or more people, the constant threat of other laws regulating media content being extended to the online domain, and media ownership patterns that reveal direct links between media outlets and the Barisan Nasional coalition, which exercises significant direct and indirect control over the content of both public and private media. In sum, the Malaysian government actively seeks a high-tech economy and an IT-savvy society devoid of contentious politics that could challenge its authority (Anuar, 2005, 2008; Brown, 2005; George, 2006; Kenyon, 2010; Sani, 2005, 2008; Seneviratne, 2007).

Nevertheless, as part of its strategy for attracting domestic and international companies, in the mid-1990s the government pledged not to censor the Internet, giving a burgeoning online community room to grow. Over the past few years the domestic blogosphere and other Web 2.0 applications – especially Facebook, which became the number one website in Malaysia in 2009 (Alexa 2010) – have become quite vibrant, with political information, discussions, and debates that hitherto have been unavailable at any mass level within the country (George, 2006; Gong, 2009; Kenyon, 2010; Smeltzer, 2008; Smeltzer and Keddy, 2010; Tang, 2006). While certainly not everyone in Malaysia engages in such online activities, increasing numbers of citizens are using these ‘new’ spaces for political and apolitical activities alike. In response, the government regularly contravenes its no-censorship pledge, publicly censoring, threatening, and even arresting producers of politically oriented online information.

Successive prime ministers and various ministers have repeatedly warned citizens to be cautious in their online reporting and opinion pieces, or face serious repercussions (Smeltzer, 2008). In 2008, the government went so far as to shut down the Malaysia Today website, detaining its editor and operator, Raja Petra Kamarudin, under the Internal Security Act for ‘allegedly being a threat to security, peace and public order after he published a series of political commentaries on the site’ and subsequently charged him with defamation (Ong, 2008).<sup>10</sup> More recently, in January 2010, Information, Communication and Culture Minister Rais Yatim publicly commended the Commission for,

nauling those who used Facebook, Twitter and SMS [Short Message Service] for the wrong reasons. As a former analyst of the law in the country, I wish to advise the people that they cannot escape from the law for their actions. (quoted in The Star, 2010a)

The citizens involved in these kinds of content-oriented online activities represent non-market information producers and consumers. They engage in a form of knowledge labour that is oriented foremost toward enhancing the public sphere through communicative action. However, their actions promote an understanding of socio-political development that runs counter to the Asian Values perspective advanced by the Malaysian government. Through their use of digital technologies, which are more producer-friendly than traditional forms of media, these citizens produce and consume politically oriented content, and engage in discussions about the country’s social, political, and economic future. Some bloggers, online newspaper personnel, and members of NGOs with a web presence labour part-time and may or may not receive financial remuneration for their work; others do it as their full time jobs. The key point here is that this type of knowledge labour need not, but may nonetheless be market-oriented, depending upon the motivations underpinning the production of information.

These types of digital activities, regardless of whether they are turned into something of tangible market value, clearly are not viewed as knowledge labour by most of Malaysia’s political and economic elite precisely because they do not appear to directly contribute to the country’s economic growth and prosperity. Instead, such activities are depicted as detrimental to the local economy insofar as they are presented as examples of efforts to encourage internal political divisiveness that reflect poorly on the country and, thus, undermine attempts to attract foreign investment (Smeltzer and Lepawsky, 2010). The government therefore views ICTs as tools that can be used for either ‘good’ or ‘bad’ knowledge-based political purposes depending on the content and user (Smeltzer and Keddy, 2010). Indeed, many politicians in the ruling Barisan Nasional coalition have their own blogs and Facebook profiles (including the prime minister), and the government has hired a contingency of pro-government ‘cybertroopers’ to counteract what it considers to be politically contentious information online.<sup>11</sup>

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10 At the time of writing, Raja Petra lives in self-imposed exile in the United Kingdom, concerned that he will not receive a fair trial in Malaysia.

11 Also of note, many of Malaysia’s foremost bloggers also have (or have had) ‘real’ waged jobs as white- and grey-collar knowledge workers in the country’s high-tech sector, which not only helps to explain why they represent some of the country’s earliest Web 2.0 adopters, but also blurs lines between what the government would describe as valuable and detrimental forms of knowledge work.

In sum, the tensions described above are emblematic of a larger political and rhetorical battle. The government has set up ‘ICTs for economic prosperity’ and ‘ICTs for political purposes’ as binary opposites wherein the former is promoted as guaranteeing progress and development while the latter is claimed to foster political instability and even possibly economic regression. As Reuters’ Bureau Chief for Malaysia comments,

Malaysia wants to be as economically advanced as Singapore and South Korea, wants foreign investment and to produce a high-skilled ‘knowledge economy.’ Can it do this and seemingly adopt political restrictions on a par with China and moral restrictions like those of Saudi Arabia? (Chance, 2009b)

At its core, this is a contest over who gets to decide what constitutes progress and development for Malaysia. The government’s narrow view of development, with its underlying emphasis on encouraging high-tech ICT-oriented apolitical labour, promotes false alternatives insofar as it positions the politicized use of ICTs in the pursuit of rights and liberties as a direct impediment to economic growth and development. As noted by Sen however, ‘economic needs depend crucially on open public debates and discussions, the guaranteeing of which requires insistence on basic political liberty and civil rights’ (1999: 148). These are precisely the types of freedoms and rights for which the vast majority of the politically oriented knowledge workers described above advocate. They represent a broader understanding of development (i.e., not just economic growth) and offer potential opportunities to pursue myriad forms of socio-cultural, political, and economic activities that may lead to development writ large. In Sen’s terms such opportunities are both ‘constitutive of development and instrumental to it’ (1999: 3).

## Myths of technology and development

Vincent Mosco (2004) argues that powerful stories – or what he refers to as myths – about the progressive and emancipatory powers of technology work because, quite simply, people want them to work.<sup>12</sup> It is not a matter of whether a myth is true or false, right or wrong. Rather, the determining factor of a myth’s worth is whether it can be kept alive. Myths about the powers of new forms of technology remain alive because, like every era before us, people today want to feel like they are on the precipice of a unique time in history and that the digital revolution and information society represent a radical break from the past (see also Standage, 1998; Marvin, 1990). These myths, therefore, do exactly what myths are supposed to do; they lift ‘people out of the banality of everyday life’ and bond them together in a common pursuit of overall progress, betterment, and development (Mosco, 2004: 3).

Within the Malaysian context, the information society myth advanced by the government, in conjunction with the high-tech sector and mainstream media, conveys the message that unless the country adheres to a technologically driven vision of the future, it risks slipping back into the status of a developing country. The same type of myth continues to drive other mainstream policy and academic work insofar as the dominant message conveyed to developing and transitioning countries is that their

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12 See also Winner (1986).

foremost priority should be to embrace an ICT-based capitalist mode of production and to cultivate a technologically savvy citizenry if they hope to compete, or even survive, in the global networked economy. Of course the labour opportunities afforded by the technology sector at blue-, grey-, and white-collar levels have been beneficial to Malaysia's local, regional, and national economies. As Jarman and Chopra note, it would be unfair 'to say that the IT strategy has been a failure in Malaysia', not least because the call centre industry, for example, employs 'university graduates and provides training and human capital development in a number of areas...the business services industry is an integral part of the knowledge economy, albeit at the lower end' (2008: 201). As we argue in this paper, there are, however, other types of development-oriented knowledge labour that need to be protected.

With the advent of the information society ideology throughout the 1990s, the distinction between carriage and content was claimed to no longer be suitable to the realities of the global networked economy. Accordingly, much of academic and policy discourse has veered away from viewing communication and information as public goods, toward the notion that communication is largely a technological phenomenon that falls predominantly under the auspices of private sector considerations that the state often facilitates. In the case of Malaysia, the government set up the MSC Malaysia project, created high-tech export processing zones with enticing incentives to attract local and international enterprises, and granted the private sector contracts to develop the country's internet backbone and access points. Although the private sector is central to creating a knowledge-based economy, its role should not be seen as substituting for, or overriding the importance of, the state in servicing and protecting the communication and information needs and desires of citizens. Lest citizens be equated with consumers, the state must serve and protect the rights of citizens to engage in knowledge work that may not be directly geared toward economic growth and which may, in fact, challenge the political and economic status quo as it advances other aspects of a society's overall development.

By analytically separating carriage and content, one can see how both are managed on the ground for different political and economic reasons. Moreover, this exercise demonstrates that market-oriented and non-market-oriented knowledge labour cannot and should not be viewed as exclusive categories. And this, in turn, helps to explicate the multifaceted relationship between ICTs and development by illustrating that ICT4D is not about either carriage or content, but rather both. While technologically mediated economic growth clearly is a means of advancing development goals, the realization of these goals is contingent upon an array of contextual variables not the least of which is the ability for citizens to access, consume, produce, and diffuse information and knowledge they consider to be of value to their personal and professional lives. In other words, for sustainable and equitable socio-economic and political development to take place, citizens must have access to technological devices, their related infrastructures, and the freedom to communicate in the pursuit of economic, political, and socio-cultural ends that they have reason to consider valuable within or outside a capitalist system.

Knowledge labour exists in manifold forms in Malaysia, as it does elsewhere around the world. While much of what often is thought of as knowledge labour entails carriage-

and content-related work that is oriented toward market production, there is a need to avoid the pitfalls associated with failing to acknowledge the developmental contributions arising from the knowledge labour of non-market information producers. Within the Malaysian context, the activities of the latter are largely aimed at advancing an important counter-balance to the narrow vision of national development advanced by the government.

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