The Digital Generation Reaches Maturity

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Brave New World Wide Web

By

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PREFACE

The thought process involved in writing this book is not only intellectually stimulating, but also involves an introspective look at our profession as research-informed academics. As with any analysis of a profession, certain elements clash with the reality of unexpected events arising, causing us to change course.

Above all, I would like to express my special thanks to my postdoctoral supervisor, Professor Kiane Goudarzi, for his advice and unwavering support in the different phases of my reflection. I particularly appreciate his vision of our profession and the active role we take in furthering scientific understanding.

My thanks also go to my colleagues worldwide who gave me their unconditional support in this process; our discussions on digital technology and user behaviour have, in part, shaped my thinking. I would also like to thank my IDRAC 'family', for their encouragement and ongoing support, as well as my former and current students, with whom I always enjoy discussing research. Finally, I extend thanks to my husband and children, without whom none of this would have been possible during all these years.

INTRODUCTION

Drawing from a selection of published research (see 'Overview of Publications'), this opening section gives an outline of Internet developments, highlighting key factors that have shaped (and continue to shape) Internet user behaviour. The focus is on identifying and explaining trends in the consumption of information and communication technologies (ICT), paying attention to the influence of cultural context and generation belonging. This knowledge is needed for a better understanding of the changing digital landscape, and for developing digital products and services that meet the evolving needs of individual users.

In recent decades, a number of concepts have been put forward to explain consumers' acceptance and intention to use new technologies – such as TAM (technology adoption/acceptance model) (Davis, 1986), Theory of Planned Behaviour (Ajzen, 1991), and UTAUT (Unified Theory of Acceptance and Use of Technology) (Venkatesh et al., 2003) – and are used for predicting user behaviour towards a given innovation. These models are framed by an *Anglo-centric* reading of Internet user behaviour, focusing on the adoption of technology systems such as word processors and email programmes. Over time, these theories have become firmly anchored in the literature relating to our understanding of Internet usage, and are widely used by practitioners. They propagate an incomplete and culturally biased view of ICT usage, which neither reflects nor predicts current practices related to Internet user behaviour.

While such concepts provide an explanation for interested parties (e.g., policy makers, businesses, scholars) to understand theoretical and practical aspects of ICT adoption, they only partly explain individual Internet user behaviour – owing to four main reasons:

(i) There is a tendency in the literature to disregard context by glossing over Internet user behaviour at a 'local' level. The five American tech companies known as *GAFAM* or Google-Apple-Facebook-Amazon-Microsoft (Smyrnaios, 2016) are *not* regarded as the epitome of technological progress in every country, particularly in countries where there is restricted Internet access such as Russia (Lichy, Kachour and Khvatova, 2017) or China.

Although Facebook, YouTube and WhatsApp are seen in the literature as global market leaders, many Internet users have adopted 'local' social networking sites (SNS) such as *Вконтакте* (*VKontakte*) in Russia) or 人人网 (*Renren*) in China.

(ii) Given the pace of technological evolution from early ICT (i.e., 'web 1.0') to social technologies (i.e., 'web 2.0'), it has become increasingly difficult to make sense of the changes taking place and to interpret the knock-on effects brought about by constant innovation. In the digital era, the 'consumer society' has embedded a cultural orientation that perceives the possession of certain goods and services*, including Internet access*, as the path to personal happiness, social status and success (Assad, 2007). The early notion of 'global Internet culture' reflecting a common user behaviour (Dickson, 2000) ignores the influence of cultural adaptation and generational segmentation on user behaviour. Differences in Internet usage have often been overlooked in research, in favour of projecting 'global Internet culture' (c.f., Burri, 2014).

(iii) Many studies of ICT usage reflect Anglo-centric perspectives; they are generally published in English and exclude views from other contexts. Language has often been used to shape the representation of economic and scientific activities, playing a crucial role in projecting an image and justifying a viewpoint (Léglise and Migge, 2007). Studies published in different languages need to be considered, in order to avoid framing and interpreting the realities of non-Anglophone countries through an Anglo-centric lens (see Bell and Willmott, 2015; Santello, 2015). By sourcing information from different national contexts, it is possible to remove the predisposition of the North American research lens (c.f. Emery and Trist, 1960), which suppresses sociomaterial and socio-technical differences in our understanding of the consumption of ICT.

(iv) Research has typically focused on younger generations of Internet users (Generations Y and Z), overlooking older users (Generation X and Baby Boomers). The proportion of Internet users in Europe aged over 50 with high disposable income is steadily increasing. New literature is needed on the Internet user behaviour of this demographic segment, as well as attempts at segmenting older users. Similarly, early concepts of teenage Internet usage and socio-spatial setting (i.e., neighbourhood) put forward by Hargittai and Walejko (2008) and supported by Zhao (2009) need to re-visited and updated to take into account Internet access via smartphone, which triggered a new culture of generation-specific Internet user behaviour. Prior studies have often focused on the commercial (monetized)

implications of engaging with ICT, rather than on furthering our understanding of individual user behaviour.

Despite the belief held in the marketing literature that demographic segments define generation-specific consumption patterns, given the accelerating pace of technological developments, it may be more realistic to use shorter time-spans such as 5 or 10 years (maximum) to designate an 'age bracket' of digital user behaviour. It is worth bearing in mind that the dates for each generation (every 20 years after WWII) are entirely random, with an arbitrary starting date. And by grouping individuals into generational brackets, much information is lost. Research and practice may benefit from a moratorium on time-based operationalisations of generations as units for understanding complex dynamics in digital user behaviour (underscoring the difficulty of turning an abstract concept into measurable observations). In reality, each generation is far from homogenous, as individuals age differently and are subject to numerous factors that shape their user behaviour. Demographics offer a rough proxy for expected behaviour; it would be more accurate to segment individuals based on their individual media and consumption habits (or experience), rather than by grouping them into segments that marketers assume are homogenous – i.e., a segmentation based on online and offline consumption.

To address these gaps in knowledge, the three following chapters put forward 'brick-in-the-wall' research to present a reading of key milestones in Internet developments and user behaviour. Each chapter reflects a complete cycle of technological evolution and usage at a specific moment in time. Chapter 1 (Internet adoption) examines cultural and generational differences in acceptance and usage. Chapter 2 (Internet growth) focuses on the emergent consumption of Social Networking Sites (SNS). Chapter 3 (Internet maturity) identifies contemporary trends in the ICT usage. A summary of each chapter is now presented, to situate the reader in the chronology of ICT developments and user behaviour.

Summary of Chapter 1: Cultural & generational differences in Internet user behaviour

Chapter 1 provides an understanding of how the Internet has transformed business and society, offering new channels of communication and commerce. It draws attention to early Internet-enabled transformation, revealing the extent to which adoption and diffusion has been uneven and unequal, hampered by a variety of structural characteristics – such as lack

of infrastructure, human capital, economic resources, institutional frameworks and various complex factors related to language and culture.

In the early years of the first decade of the millennium, studies explored the introduction of e-commerce and e-business (Mishra, 2011), e-learning and the adoption of email (Anthes, 2018). The focus was on aspects of Internet technologies that can generate income and the implications of integrating Internet-driven business solutions. In other words, scholars overlooked the more subtle impact of Internet-enabled change in terms of the *individual user* – and society as a whole. There are gaps in knowledge regarding three key issues, namely, (i) Internet adoption and diffusion beyond borders, (ii) converging and diverging Internet user behaviour in online communities, (iii) adolescents online and socio-spatial disparity. Chapter 1 considers each area in turn.

Examining early Internet adoption, Lichy (2009) explains the impact of language and cross-cultural communication, to show how individuals are 'collectively programmed' by their cultural setting and the linguistic group(s) to which they belong. The views presented in the literature at that time failed to provide comparative insights into Internet user behaviour in different cultures and in different linguistic communities. This notion was the genesis of a doctoral thesis "*An investigation into Internet user behaviour in different cultures and linguistic communities*" (Lichy, 2010), which put forward a comparative analysis of Internet user behaviour during the first decade of the millennium. The thesis applies the notion of generation segmentation to explain how an age cohort can shape awareness and readiness to adopt new technology. Many of the early studies of Internet user behaviour were undertaken by and based on monolingual Anglophone users; researchers suggested that cultural frameworks (c.f., Hofstede, 2001) can be used to predict Internet usage. McSweeney (2002:102) challenges this notion, stating that Hofstede (2001) "fails to satisfactorily justify his claim that an average tendency based on questionnaire responses from some employees in a single organization is also the national average tendency". Despite the criticisms of cultural frameworks, however, it seems reasonable to assume that the globalisation of markets (online and offline) will lead to a certain degree of convergence in consumption patterns, particularly in the online environment where digital content is shared in real-time.

A more holistic perspective is needed for understanding the nature of Internet user behaviour beyond borders and across different generations. To this end, Lichy (2011) takes a socio-spatial approach to examine Internet user behaviour among 13-16-year-old teenagers. Hargittai and Walejko

(2008) and Zhao (2009) claim that an individual's social setting will influence their Internet usage, and how they relate to ICT resources. The concept is based on the idea that differently situated individuals (urban/suburban vs. rural/sub-rural) will consume Internet services in different ways for communicating, information search, online transactions and social networking. However, this concept has failed to stand the test of time, in terms of Internet developments in non-Anglo communities. Lichy (2011) found that the Anglo socio-spatial interpretation of adolescent Internet user behaviour cannot be applied in France, since French urban-suburban infrastructure is the reverse image. In other words, the Anglo-centric socio-spatial model is limited to Anglo communities.

In the second decade of the millennium, new ICT were adopted (such as social media messaging, texting and powerful collaborative tools), triggering new user behaviour. The growing importance of the Internet as a commercial medium and the increased volume of e-business marked a paradigm shift to a 'connected' society (Mishra, 2011). Scholars took an interest in explaining the changes taking place, as firms transformed offline 'brick-and-mortar' business models to partial e-commerce 'click-and-mortar' business models (Otero, Gallego and Pratt, 2014). At that time, research focused on how business can use the Internet to grow, to improve productivity and increase profit. Few studies focused on the individual's Internet user behaviour *per se*. To fill this gap, the publications discussed in chapter 1 contribute to the literature on the introduction of Internet technologies, highlighting the shift to a '24/7' connected society and extending existing research to explain individual Internet user behaviour *beyond borders* and *across generations.*

Table: publications cited in chapter 1

Lichy, Jessica (2009). Borders and Frontiers in the Information Age (lead article), *Global Business Languages*, Purdue University Press, Eds. Keck and Wood, 14(1), 2-16.

Lichy, Jessica (2010). *An investigation into Internet user behaviour in different cultures and linguistic communities.* PhD thesis. University of Portsmouth, UK.

Lichy, Jessica (2011). Internet user behaviour in France and Britain: exploring socio-spatial disparity among adolescents, *International Journal of Consumer Studies*, 35(4), 470-475.

Summary of Chapter 2: Growth of Social Networking Sites (SNS)

Chapter 2 explores the growth in the consumption of Social Networking Sites (SNS) among an important demographic: Generation Y. Empowered by Internet-enabled services, Gen Y are portrayed in the literature as a relatively homogenous cohort of heavy Internet users, driving trends in using SNS for sharing information, interaction and collaboration. Studies suggest Gen Y commonality extends into offline consumer behaviour – for example, the consumption of technological devices, fast-food, entertainment, apparel and environmental issues. However, it is important to bear in mind that the cohort is far from homogenous, owing to differences in individual circumstances – such as self-identity, personal factors, and the user's conception of themselves that originates from other individuals (family, peers, etc.), all of which influence how Gen Y consume ICT.

Building on existing studies (e.g., Meier and Crocker, 2010; Batat, 2014) of Gen Y behavioural traits, Lichy (2012) raises the question of integrating SNS into teaching and learning. At the time of writing, many Gen Y were in higher education or about to enter the workforce. Comparing Internet user behaviour in France and Russia, Lichy (2012) adds to the literature on cross-cultural Internet usage among Gen Y, by providing evidence of an emerging divide in the consumption of the Internet. Lichy (2012) found that the disparity in Internet user behaviour is leading to a new type of digital divide: a 'second-level digital divide', which refers to how and why Internet users have embedded ICT differently. While some users will develop a reliance upon Internet-enabled solutions for undertaking routine activities, other users will reject or reluctantly accept Internet services if there is no alternative. In the case of teaching and learning, Internet-enabled solutions include ICT tools that are used to create, disseminate, store, communicate, and manage information. At the time of writing, few studies examined the impact of cultural context on the perception and motivation to integrate new ICT; there was an assumption that access to technology would automatically lead to having the knowledge (or motivation) to use it. This last point is the main finding of a study by Lichy, Pon and Khvatova (2014) in which the idiosyncrasies of ICT usage in a cross-cultural environment are identified and explained. The study furthers our understanding of Internet-enabled knowledge transfer, by identifying barriers to widespread use of technology in higher education through a comparison of undergraduate programmes in France and Russia. Lichy et al. (2014) found differences in the perception and usage of Internet technology, and the impact on Internet-enabled knowledge

transfer. The study serves as a reminder of proceeding with caution when integrating new technology, to avoid over-generalising the needs of users.

Focusing on emerging trends, Lichy and Kachour (2014a) undertake cross-cultural research into SNS consumption to explore the growing lassitude reported in the literature. The research was undertaken in an era of massive growth in messaging apps and other online networks. Lichy and Kachour (2014a) found that users are becoming weary/cynical of global SNS and are turning to more informal channels such as micro-blogs and forums where privacy/security is easier to maintain. The findings demonstrate two key points: firstly, that there is converging user behaviour in the way Gen Y consume SNS regardless of culture and language, and secondly, that the increasing speed of technical change interacts with transnational convergence and globalisation to generate new consumer behaviour in the online environment, which is not nationally differentiated. This finding was developed further by Lichy and Stokes (2018) in a later study which questions the validity of using essentialist frameworks in the digital era.

Extending the notion of digital transformation, Lichy and Kachour (2014b) then explore how SNS have brought about new business models to generate new business opportunities through online channels. In line with *Diffusion of Innovations* theory and the literature on Gen Y Internet user behaviour (Li and Bernoff, 2008; McMahan et al., 2009; Barzilai-Nahon and Mason, 2010; Meier and Crocker 2010), this study tests the claims put forward regarding the adoption and usage of SNS by Gen Y. Lichy and Kachour (2014b) reveal a decline between 2010 and 2012 in the consumption of SNS that can be attributed to a general lack of interest, growing concerns about data privacy, abundance of networks, a migration towards blogs and forums, and the rapid growth in mobile apps.

While a large body of literature offers insights into Gen Y Internet user behaviour, few studies focused on comparing Gen Y with other generations in the workforce. To address this gap, Lichy (2016) identifies the key characteristics of Internet user behaviour of the four generations that constitute the working population (Baby Boomers, Gen X, Y and Z), to offer management insights into inter-generational and intra-generational trends. The study outlines how each generation has its own behaviour, interests, attitudes, beliefs and lifestyle – and therefore a different level of *technology readiness* (i.e., propensity to embrace and use new technologies) (Son and Han, 2011) and *technology acceptance* (i.e., people's perceived usefulness and perceived ease of use) (Davis, 1986). There are differences in the extent to which ICT are central to the lives of different age groups, and the contexts

in which they are used (Van Volkom, Stapley and Amaturo, 2014). Managers need to be aware of how employees from different generations interact with ICT in different ways; and how their expectations and behaviour evolve when new ICT are introduced, through 'step change' (e.g., the first iPhone, launched in 2007) and 'incremental change' (e.g., each subsequent new model of iPhone).

Lichy (2017) brings together the topics discussed in chapter 2 in a special issue focusing on 'Advanced business models for management education in the twenty-first century: international perspectives'. The special issue contributes to the studies on the growing consumption of SNS – specifically, the adoption and usage of SNS across different cultural contexts and by different generations of users.

Table: publications cited in chapter 2

Lichy, Jessica (2012). Towards an international culture: Gen Y students and SNS?, *Active Learning in Higher Education*, 13(2),101-116.

Lichy, Jessica; Pon, Kevin & Khvatova, Tatiana (2014). Engaging in digital technology: one size fits all, *Journal of Management Development*, 33(7), 638-661. (CNRS/FNEGE rank 4)

Lichy, J. & Kachour, M. (2014a). Understanding the culture of young Internet users in a rapidly changing society, *International Journal of Technology and Human Interaction*, 10(4), 1-18. doi: 10.4018/ijthi.2014100101 (CNRS rank 4)

Lichy, J. & Kachour, M. (2014b). Business Models & Social Networking Sites: 50 Shades of Generation Y, Mar, N°5 de la revue *Question(s) de Management*, ISSN 2262-7030, pp.59-71. (FNEGE rank 4)

Lichy, Jessica (2016). Chapter 8: Managing Internet user behaviour within organizations: Inter and intra-generational trends, in Organizational Management Approaches and Solutions (co-authored with Peter Stokes et al.), Kogan Page Limited http://www.koganpage.com/article/changing-paradigms

Lichy, J. (2017) Guest Editor for *Journal of Management Development*. Special Issue: Advanced business models for management education in the twenty-first century: international perspectives, 36 (6), http://www.emeraldinsight.com/toc/jmd/36/6 (CNRS/FNEGE rank 4)

Lichy, J. & Stokes, P. (2018) Questioning the Validity of Cross-Cultural Frameworks in a Digital Era: The Emergence of New Approaches to Culture in the Online Environment, *International Studies of Management and Organization*, 48(1), 121-136 (CNRS/FNEGE rank 3)

Summary of Chapter 3: Contemporary trends in the consumption of ICT

The Internet is now over half a century old, and has entered the maturity stage in Anglo-centric markets (King and Liou, 2004; Bock, Lee and Li, 2007). The adoption and usage of Internet-enabled devices has been uneven and unpredictable across the globe. Our current understanding of *technology readiness* (Son and Han, 2011) and *technology acceptance* (Davis, 1986) is no longer sufficient to explain user trends. Kozinets (2016) highlights the diversity of ICT usage and the multiplicity of user needs. To further our understanding, chapter 3 sets out to explain a number of contemporary user trends.

The literature offers insights into the acceptance of digital channels as a facet of post-modernity, but fails to explain the intangible and subjective nature of individual user behaviour. ICT provide opportunities for users to connect with communities of like-minded individuals, anonymously or otherwise, driving self-confidence and reaching out to others who share similar norms, values and consumption practices (Zhao, 2005). With the exception of Panteli and Marder (2017) who examine how different age groups construct and enact normality within SNS, researchers have tended to focus on *general* user behaviour (see Lomborg, 2017) or the use of SNS in business, for example for recruitment (Fondeur and Lhermitte, 2006). Relatively less research has been undertaken on the reasons behind the choice of ICT and the different types of user behaviour within higher education.

Extending the work of Folorunso et al. (2010) on students' attitudes and intention to use SNS, Lichy and Kachour (2016) investigate the use of SNS to provide space and opportunities for teaching and learning in France. The findings show that students prefer using basic web 1.0 tools (email and corporate intranet) for communicating with faculty and administrative staff. Yet, they will use web 2.0 tools (social media and SNS) for communicating with peers. Their choice of ICT is intuitive and unprompted, confirming the notion that 'the medium is the message' (McLuhan and Fiore, 1967). Of

particular interest is the finding that the students communicate asynchronously, rather than interactively in real-time. This is an important detail, since in other national contexts, web 2.0 tools are being used interactively for collaborating, co-creating and sharing knowledge across diverse student communities (Gan, Menkhoff and Smith, 2015). However, Lichy and Kachour (2016) found the use of email and corporate intranet is being perpetuated by faculty and administrative staff who favour one-way channels for disseminating resources and information, rather than using SNS. The findings reveal the need for ongoing research into ICT usage in non-Anglo-centric markets, and underscore the second-level digital divide and inter-generational disparities in user behaviour. More recently, Lichy and Merle (2019) undertook a comparative study of ICT usage for knowledge transfer in the UK and France; their findings show how culture is an enabler for the former but (still) a barrier for the latter.

As ICT transitioned from the early adoption phase into the growth phase, academic interest shifted from a late 20th century focus on Internet usage towards a 21st century focus on data, currently crystallized in 'Big Data'. To shed light on key ramifications of digital transformation affecting business and society worldwide, Lichy (2019) put forward a special issue on managing change in the 21st century.

Answering calls for research by Warf (2011) on the need for more investigation into Internet censorship, and by Erevelles, Fukawa and Swayne (2016) on the impact of Big Data, Lichy, Kachour and Khvatova (2017) examine perceptions and interpretations of Big Data applications in a censored environment, Russia, from the perspective of the individual Internet user. The findings reveal that many individuals lack a clear understanding of how Big Data tools are used. Acknowledging that the pursuit of knowledge sometimes requires researchers to identify 'lack of awareness' (i.e., ignorance), this study underscores the need to raise awareness of Big Data at the level of the individual Internet user, to explain the benefits (commoditization of data) and drawbacks (data surveillance).

The growth of global infrastructure and transnational cosmopolitanism have blurred the boundaries across national cultures and economies (Ger, 1999). While consumers worldwide are becoming more homogeneous as a result of marketing standardization, researchers suggest that consumers within individual countries are becoming more culturally heterogeneous (Carpenter et al., 2012). Rather than segmenting at the individual country level, Cleveland and Laroche (2007) advocated segmenting consumers across markets, based on *acculturation to the global consumer culture* (AGCC).

However, little empirical work exists to explain the role played by social media. To fill this gap, Dutot and Lichy (2019) investigate the extent to which social media are accelerating the process of AGCC. The findings show that, firstly, social network, social influence, cultural novelty and economic rewards significantly accelerate the process of acculturation; and that, secondly, social media play a mediating role on social networks, cultural novelty and trust. The study makes a contribution to theory by developing and testing a social media based model that provides a more holistic overview of the process of AGCC.

The online environment plays host to numerous diverse subcultures or communities of Internet users who can be identified by their consumption patterns; they are made up of people who consume similar products and services, with a feeling of shared well-being, shared risks, common interests and common concerns. Researchers have investigated consumption patterns in offline communities and in online communities – but little is known about the interface between online and offline. McLeay, Lichy and Major (2019) explore the online-offline interface, to identify and explain co-creation in the ski chalet community *experiencescape.* This study contributes to the fast-growing and fragmented literature on communities by refining the understanding of its dimensions and situating it in a network of conceptual relationships, then putting forward a framework for explaining the 'augmented community' *experiencescape*, at the online-offline interface. The works discussed in chapter 3 make a contribution to the literature on perceptions of Big Data from the perspective of the individual user and on how individuals consume social media based communities.

Table: publications cited in chapter 3

Lichy, Jessica and Kachour, Maher (2016). Understanding how students interact with technology for knowledge-sharing: the emergence of a new 'social' divide in France, *International Journal of Technology and Human Interaction*, 12(1), 90-112. (CNRS/FNEGE rank 4)

Dutot, Vincent and Lichy Jessica (2019). The Role of Social Media in Accelerating the Process of Acculturation to the Global Consumer Culture: An Empirical Analysis. *International Journal of Technology and Human Interaction,* 15(1), 65-84. (CNRS/FNEGE rank 4)

McLeay F., Lichy, J. & Major, B. (2019). Co-Creation and the Ski Chalet Community Experiencescape, *Tourism Management,* 74, 413-424. (CNRS rank 2/ FNEGE rank 1)

Lichy, J. & Merle, K. (2019). Clicks & Tweets in Continuing Professional Development: A cross-cultural comparison of ICT usage, *Management International*, 24 N°5, 1-17. (CNRS rank 3/ FNEGE rank 2)

Lichy, J. (2019). Guest Editor *Journal of Management Development.* Special issue: 'Managing Change in the 21st Century', available at: https://mc.manuscriptcentral.com/jmd (CNRS/FNEGE rank 4)

Taken as a whole, the 3 chapters explain the impact of cultural context and generation belonging on Internet usage, focusing on the consumption of ICT, social media and SNS, by tracing adoption (chapter 1), growth (chapter 2) and maturity (chapter 3). The unabridged chapters offer detailed insights into Internet user behaviour in the 21st century, paying attention to emerging disparities at an individual level.

These insights lead to a 2-part concluding section covering: (i) a retrospective on the past decade and a prospective on the next decade, (ii) research-in-progress focusing on Internet developments and Internet user behaviour in China, highlighting the bifurcation into a Chinese-led Internet and a non-Chinese Internet led society.

CHAPTER 1

CULTURAL & GENERATIONAL DIFFERENCES IN INTERNET USER BEHAVIOUR

1.1 Transnational Internet adoption and diffusion

In 2009, Purdue Research Foundation published "*Borders and Frontiers in the Information Age*" (Lichy, 2009) as the lead article highlighting transnational dimensions of Internet usage – c.f. article 1 in 'Overview of Publications'. The article made a break with the literature of that era; as prior studies had been undertaken from a monolingual and/or mono-cultural approach, and therefore offered a predominantly Anglo-American interpretation of Internet usage, overlooking the impact of socio-linguistics and context on how the Internet is consumed in different national contexts.

The purpose of the article was to investigate emerging trends in ICT developments at a specific moment in time (i.e., prior to the advent of web 2.0) to draw attention to the need to broaden our understanding of Internet user behaviour beyond borders. The article explains early Internet user behaviour to develop a sense of the past and, with that, the ways in which new user behaviour came about. The intention was to put forward an explanation of Internet user behaviour in the era immediately preceding the widespread adoption of social media. The article drew from early interpretations of ICT usage, which enabled scholars to establish knowledge in the field and to define Internet usage in different contexts, during the phase of Internet adoption and diffusion.

However, researching Internet user behaviour is problematic, owing to the scope of the topic. For example, many of the early studies analysed data within a national setting, which introduced biased or unreliable explanations of Internet user trends. Similarly, researchers often employed an ethnographic approach, which can foster a close relationship with local agents, causing them to lose sight of the larger context. As the understanding of Internet usage is anchored in socio-cultural norms, concepts of Internet usage will differ from one context to another, hence the need to take into account scholarly publications from different national sources.

The stimulus for this article was the emerging popularity of communicating and sharing information beyond borders over the World Wide Web, both in a professional and social context. There is an abundance of early literature on the impact of ICT, much of which is chronicled and discussed from an Anglo-American perspective, thus oversimplifying the idiosyncrasies of how the Internet is consumed in other cultures and linguistic communities. National differences generate different ways of perceiving, interpreting and consuming ICT. Thus, while there are many broad similarities in Internet user behaviour from one country to another, certain differences merit closer investigation.

In this study, two comparable European countries, France and Britain, provided an ideal setting to illustrate commonality and disparity in Internet user behaviour. Differences in ICT developments and Internet usage can be partially explained by the respective business environments in each country, generating a different approach to introducing ICT (MacLean, 2002). While Internet adoption was largely top-down in France (through government initiatives), it was bottom-up in Britain (through consumer demand and business pressure). Public and private campaigns to encourage Internet uptake therefore had greater impact in Britain than in France (Acaud and Lakel, 2003).

Acknowledging the abundance of business literature relating to ICT, few studies have attempted to explain differences in ICT developments and Internet usage with respect to language legislation. Since the introduction of the 1975 law *Bas-Lauriol* in France, no foreign words can be used in official communication if a French equivalent exists. In 1994, this law was modified as part of the *Loi Toubon* to underscore the notion that the language of the Republic is French for every citizen living in France (Bentz, 1997). The Court of Justice of the European Union (CJEU) considers that certain dispositions of EU law contravene the *Loi Toubon* (decision 12/9/2000); the interpretation of the EU regulations could also be considered contradictory (decree n° 84-1147). Despite this controversy, the French State remains reluctant to modify the existing legislation that regulates the French language.

Language legislation regulates the use of French in official government publications, advertisements and commercial contracts, but it does not concern private, non-commercial communications, such as non-commercial user-generated content (UGC). The French language is considered a compulsory condition to ensure the principle of equality. Realistically, however, it is impossible to preserve language purity in the digital era, given

that the diffusion of web content is independent of editorial control. Despite the complexity of regulating a language, various non-legislative measures have been taken to promote and preserve the purity of the French language online. The continued efforts to increase French-language web content seem colossal and yet the results have been neither successful not sustainable. The article gives examples of abandoned projects, including the *Chaîne d'Information Internationale*, designed to rival the dominance of online English-speaking news, namely CNN and the BBC. Similarly, the search engine, *Quæro*, was developed to challenge Google. At that time, Google was perceived to be too Anglo-centric, thus portraying a distorted view of French culture (Croft, 2005). These illustrations highlight not only the importance of cultural identity in the online environment but also the notion of 'communication context' as defined by Hall (1976). The habitual medium-to-high context communication style so common in France is somewhat mismatched with the predominantly low-context philosophy of Internet communication. Consequently, as ICT favours extensive interpersonal communication online, both top-down and bottom-up, it runs counter to the established channels of hierarchical communication traditionally found in France (Stoner, Freeman and Gilbert, 1995).

The article focuses on the relatively homogenous online community of early Internet users (although nowadays there are numerous, diverse online communities). International mobility and global forces have changed the traditional channels of communication. Diverse sub-cultures now co-exist, each with different perceptions and practices of using ICT. Two of the largest sub-cultures in France (many of whom use French as a second or third language) include the international expatriate communities (Crystal, 2012) and 'Third-Culture Kids' (Lam and Selmer, 2003) – referring to adolescents who have lived at least one of their formative years in another country. For these groups, the Internet provides a vital connection to other like-minded individuals of a similar cultural background, and a valuable source of multi-lingual information – c.f. article 15 in 'Overview of Publications'.

In terms of acculturation, technology can contribute to reducing *psychic distance*, which describes the different perceptions of cultural value systems between the 'home' and the 'foreign' country (Hallén and Wiedersheim-Paul, 1984). The higher the level of psychic distance, the greater the time and effort required to develop successful and sustainable relationships. ICT can facilitate the process of integration and assimilation into mainstream society – c.f. article 14 in 'Overview of Publications'. Furthermore, ICT can enable individuals to connect with like-minded others – c.f. article 15 in

'Overview of Publications'. However, while ICT brings users together interactively, having access to ICT does not automatically lead to constructive or effective use, as highlighted by the 'second-level digital divide', which will be discussed further in chapter 3.

Ongoing technological change is accelerating, bringing about a constant stream of new trends in user behaviour. The changing landscape of ICT developments represents a challenge for researchers to keep pace. At best, studies can focus on narrow aspects – such as the impact of user diversity – but there are numerous dimensions of ICT that are being overlooked because their impact has not yet been detected or noticed. The wider effects of Internet usage will not be apparent until later, owing to the so-called '*rear-view mirror effect*' (McLuhan, 1964), which describes how the impact cannot be identified until it has finished having an effect and is in the past. It is nevertheless clear that ICT have enabled users worldwide to communicate and share information across languages, cultures, national borders and social classes. ICT have given Internet users access to vast volumes of information (that were previously withheld or unobtainable), generating new opportunities and real-time interactivity.

In the decade that followed the inception of the World Wide Web in 1995, Internet developments evolved from web 1.0 (asynchronous messaging, email and blogging) towards the next generation of technology, characterised as participatory, interactive, pervasive and integrated: the era of web 2.0 (Valcanis, 2011). Web 2.0 tools multiplied opportunities for Internet users to establish contact with other users worldwide, offering superior-quality graphics and high-speed data transmission for communicating, collaborating and sharing information. Today's *global village* is typified by a vast array of virtual platforms (blogs, chats, forums, instant messaging) enabling 24/7 communication between Internet-enabled devices (desktop, laptop, tablet computers, smartphones). Each mode of communication transforms the nature of the content, confirming the notion that the medium *is* the message (McLuhan and Fiore, 1967). Effective communication requires an understanding of language, as well as an awareness of the non-verbal aspects of communication that are part of every speech community (Ferraro, 1994). Online communication remains problematic owing to the lack of widespread high-speed stable Internet connection 24/7 and response delay. Furthermore, as any Internet user can publish content online, there is a risk for both individuals and organisations when controversial or defamatory content is published. Monitoring the veracity of content is unmanageable in the online environment, since greater interactivity is generating greater diversity of ideas and content. As increasing numbers of Internet users

engage in far-reaching online interaction (Rainie and Wellman, 2014), further diversity can be expected as the online population continues to fragment into different user groups united by shared values.

Multi-lingual online content is a relatively recent phenomenon, which emerged gradually as non-English speakers began to create and consume content (Pimienta, Prado and Blanco, 2010). In certain parts of the world, cultural and linguistic diversity online is not permitted. Repressive governments have taken radical measures to prevent access to GAFAM products, or have installed sophisticated software to filter, block and monitor hundreds of thousands of sites (e.g., Tunisia, Iran, Saudi Arabia, Cuba, China). Internet users will continue to risk long prison sentences for disclosing views online that allegedly violate Islamic tradition (e.g., Middle East and North Africa). Such segmentation in the online environment is a stark reminder that the Internet is not a culture-free product. Users are culturally 'formatted' to engage with social networks in different ways, depending on the national context and the occurrence of major events. For example, during the Arab Spring uprising and Ukraine's Euromaidan protests, social networks were used to disseminate propaganda (both for *and* against the regime), to display the massacres of certain regimes and to organise manifestations against these regimes. Although popular media narratives are likely to have exaggerated the impact of social media, the protests nevertheless generated a substantial amount of social media activity. Furthering our knowledge of Internet usage in countries ruled by repressive governments is essential for understanding ICT usage worldwide. This theme is further developed in the section on research-in-progress.

1.2 Convergence and divergence in online communities

Continuing with the theme of Internet user behaviour beyond borders, the doctoral thesis *"An investigation into Internet user behaviour in different cultures and linguistic communities"* (Lichy, 2010) examines the evolution of Internet usage in France and Britain – c.f. article 2 in 'Overview of Publications'. This investigation was undertaken during a period in time when rapid developments in ICT were re-shaping the long-established ways of thinking and working. The findings of the thesis were re-tested a decade later in a post-doctoral study to offer a contemporary update of cross-cultural differences in ICT usage – c.f. article 16 in 'Overview of Publications'.

The thesis contributes to knowledge in three distinct ways. Firstly, it traces key developments in Internet usage to further our understanding of how individuals adopt, adapt and 'consume' (i.e., engage with) ICT. It captures a critical period in Internet history marked by radical technological evolution and changing consumer behaviour. An analysis of the data gathered in a survey (administered in 2005) and interviews (undertaken in 2009) shows strong signs of increasing convergence in Internet user behaviour, and that *age* (rather than gender or national characteristics) was the main influence governing Internet usage at that moment in time. The findings demonstrate how the Internet was used by both men and women of all ages in the early years of the millennium, in contrast to the earlier studies of Internet usage that suggest young English-speaking male users dominate the Internet. Moreover, age difference noticeably correlates with certain Internet user preferences (i.e., engaging in social networks and undertaking financial transactions online). The findings underscore growing convergence in Internet user behaviour and, more importantly, how the increasing pace of technical change interacts with transnational convergence and globalisation to generate new consumer behaviour in the online environment, which is not nationally differentiated.

A second contribution of the thesis is that the findings challenge the existing explanatory frameworks and models that use notions of culture to predict national difference. In other words, the data indicate that the essentialist view has no predictive value in today's online environment. The early notions of cultural difference put forward by Hofstede (2001), Trompenaars & Hampden-Turner (1997) and Hall & Hall (1995) which are taught to scholars worldwide now appear inadequate for explaining Internet usage beyond borders. The notion of predicting that 'the French' will behave differently from 'the British' merely because of national difference is simply not borne out in ICT usage. The theories have failed to stand the test of time. They may have been briefly true when national identity was stronger but probably, *even then*, it was over-claiming to state that 'the French' (as a group) reacted in one single way. In terms of relevance, these mandarin theories of culture are not only outdated but also inapplicable in the global online world. In a later study, Lichy and Stokes (2018) return to this idea to test the validity of using essentialist frameworks in the digital era – c.f. article 12 in 'Overview of Publications'. The ongoing pace of change exemplifies both the dynamic nature of Internet technology and Internet usage.

Lastly, this thesis breaks with common practice in Internet studies by employing a largely offline mixed-methods approach to data collection; an

online survey was carried out to extend a face-to-face survey, followed by a second phase of field research using in-depth interviews by telephone. The belief supporting this approach was that Internet user data needs to be gathered in different ways (face-to-face, online and telephone) to attract participation from different profiles of Internet users. This approach overcomes the problem of relying on secondary data that are often outdated by the time they are published, due to rapid Internet developments and evolving user behaviour. Therefore, it can be claimed that this thesis provides a wider sample than most online enquiries, and is a more reliable sample than many of the Internet studies available in the public domain or in the wider academic community.

The thesis captured a moment in time when Internet users were in the process of shifting from using asynchronous web 1.0 tools (mainly email and blogging) to more interactive communication (such as social networks and forums). Although the shift was a gradual evolution spanning several years, the adoption of interactive tools contributed to a paradigm shift in attitudes towards divulging personal and financial information in the online environment. Moreover, while the literature reported that language and culture would influence consumption, generating context-specific behaviour, there were in fact very clear similarities in activities undertaken online in each national setting; particularly for communication and information-based services.

Acknowledging converging Internet user behaviour, it is worth noting that divergence was apparent in the adoption of social media and undertaking online financial transactions. This finding appeared to stem from generational (i.e., age) difference. While there was a degree of convergence in Internet usage between Gen X and Gen Y in France and Britain (e.g., in the consumption of free Internet services), there was divergence among older generations (at that time, participants aged over 40) regarding the use of social media and online financial transactions. French consumers were more reticent than their British counterparts about, firstly, divulging personal and financial information in return for accessing certain online services, and secondly, about adopting web 2.0 tools for undertaking online financial transactions.

The thesis predicted certain outcomes as a result of ongoing developments in technology standardisation[1]. Firstly, it was expected that the standardisation

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[1] i.e., the 'interoperability' of platforms to exchange information in transparent fashion (Larher, 2002).

of Internet norms and offers across Europe would create more homogeneous patterns of Internet user behaviour. Secondly, it was assumed that Internet standards would lead to a new consumer market, characterised by a range of products and services that people would choose to consume online in preference to offline. This view was based on the belief that, in time, users will adopt similar behaviour, irrespective of 'local' consumer behaviour, language and national difference – though it would be unrealistic to assume that convergence would continue to spread to Internet users worldwide.

The growth of the Internet has been spectacular, brought about by both 'step change' and 'incremental change'. The Internet was designed to support communication between computer systems in academic and scientific communities; it was not designed to cope with an ever-growing population of networked, mobile users and apps. The structural limitations of the Internet are now apparent and its future is being discussed. Today's challenge is to make the Internet more robust, versatile and equipped with suitable governance models, calling for ongoing investigation on a global scale. Cross-cultural studies are required for understanding the evolution of Internet user behaviour, particularly among younger users, the managers of tomorrow. For this reason, attention now turns to a study of the 'digital savvy' cohort to explore how they engage with social networks for collaboration, learning and recreation in different national contexts – and the extent to which they are driving change.

1.3 Adolescents online and socio-spatial disparity

The assumptions raised in the thesis (discussed above) have stood the test of time, as evidenced by Lichy (2011) – c.f. article 3 in 'Overview of Publications'. Responding to calls for further research on younger Internet users, this article explores the extent to which the frameworks (put forward in the first decade of the 21st century) are reliable for predicting Internet user behaviour in different national settings.

As Internet users gradually adopted web 2.0 technology to perform everyday activities, it became apparent that its diffusion and adoption had been uneven. Studies published in the first decade of the millennium on digital inequality had been mainly undertaken in Anglo-American communities. Few studies had explored digital inequality from a socio-spatial perspective – i.e., by looking at Internet usage within different neighbourhoods, rather than an urban vs. rural comparison. This gap in knowledge and methodology highlights the complexities of gathering comparable data on Internet user behaviour beyond borders and across

different language communities. Reflecting on studies of cross-cultural and/or inter-generational ICT usage, the reliance on partial knowledge and middle-class cultural and political bias has pointed to the need within the field for reflection on how and why empirical realities are studied in the ways that they have been – and may benefit from rethinking traditional research methods of inquiry. In order to enhance the understanding of cultural difference and diversity as a shared human experience, therefore, it is constructive to use an interpretive approach, based on the assumption that social reality is not singular or objective, but instead is shaped by human experiences and social contexts (ontology), and is therefore best studied within its socio-technical context.

In an attempt to redress the balance, Lichy (2011) takes a multidisciplinary approach to investigate emerging trends in Internet usage across different neighbourhoods (inner-city vs. suburban, rather than urban vs. rural), employing in-depth interviews with young Internet users aged 13-15 years old in France and Britain. The objective was to provide a more holistic understanding of the way in which teenage Internet users behave online, comparing different neighbourhoods. The investigation revealed a number of converging trends that are common to France and Britain – in addition to certain unexpected disparities.

At that moment in time, our knowledge of Internet user behaviour across different neighbourhoods was influenced by research undertaken in Anglo-American contexts. In particular, a study undertaken by Hargittai and Walejko (2008) proposed that the extent to which young adults share creative materials online (video, music, writing and artistic photography) is directly related to a person's socio-economic status, as measured by parental schooling. Thus, it was suggested that the children of families living in the suburbs tend to benefit from the greater affluence and encouragement of their parents to explore and make use of ICT. Inversely, it was found that inner-city children have comparatively lower ICT access. The general consensus was that despite new opportunities to engage in the distribution of content, relatively few people were taking advantage of developments in ICT. If valid, these findings implied a long-term challenge for society by perpetuating the digital divide, in addition to problems for curriculum design and teaching. Moreover, they challenge the literature, which claims that differences in Internet user behaviour are diminishing (Wasserman and Richmond-Abbot, 2005; Bouwman et al., 2008), in other words, that converging Internet user behaviour is replacing divergence in the online environment.

In a similar manner, Zhao (2009) suggested that there is an inner-city vs. suburban differential in the adoption of *killer applications*[2] by teenagers. The theory puts forward that suburban teenagers (usually middle class) are more likely to be earlier adopters of the latest technological devices than inner-city users (often from low-income families). In other words, inner-city teenagers (assumed to have limited communication skills) would prefer to use photo-based *MySpace* (rather than the written word). It supposes that suburban teenagers (assumed to be more educated) would prefer to use word-based *Instant Messaging* (such as MSN), which requires a higher level of digital literacy plus dexterity to read and write at high speed.

Consequently, the literature of that era articulated the notion that the barriers to disseminating material in the online environment had been lowered by the adoption of web 2.0 tools (compared with earlier ICT), but that a new digital divide was emerging that could be explained by disparity in socio-spatial setting. The assumption was that inner-city teenagers would have a more basic grasp of using ICT than suburban teenagers. However, given that the work of Hargittai and Walejko (2008) and Zhao (2009) was undertaken in Anglo-American contexts, it is reasonable to question the extent to which their findings can be generalised to a European setting and, in the case of France, to a non-Anglophone context.

When exploring the validity of urban-suburban disparity in Internet usage within British and French neighbourhoods, urban geography is a major factor to take into account. In terms of etymology, the French term for 'suburb', *banlieu* (ban + lieu), has a historic context: literally 'excluded' from the city proper, yet 'subject to the authoritative dictates of [its] power structure(s)' (Fielder, 2001:271). In France, many schools in the *banlieu* struggle with limited financial and human resources. French mainstream media draw attention to the poverty and depravity of the *banlieu*, depicting the area as beyond the cultural periphery (and the *périphérique*) of mainstream society. Conversely, in the English language, 'inner-city' is often used to describe 'social unrest'. In this respect, there is a certain resemblance between the suburbs in France and the urban (or inner-city) communities in Anglo communities. This view is supported by urban initiatives that advocate community-wide technology projects to encourage civic participation, engagement and empowerment, in an attempt to reduce the disparity between the marginalised and the affluent districts.

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[2] An application or service that is reason enough to buy a device or sign up to a subscription.