EMBRACING THE CONSUMERIZATION OF IT – BUSINESS INFORMATICS CURRICULUM (RE)DESIGN

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Abstract

The number of IT-savvy members of the net generation is on the rise among information workers. Their attitude towards enterprise IT significantly differs from what is traditionally assumed and taught at business informatics courses, due to a rapid, pervasive trend of consumerization of IT (CoIT) and demand for mobility. Net generation information workers have practically overtaken the role of prime movers of adoption of new technology from IT departments: they exert pressure for upgrading enterprise IT services to make them available 24/7 on privately owned mobile devices, such as smartphones, laptops and tablets, use social media, cloud services and mobile productivity tools/apps in their business tasks, and store business data outside the enterprise IT perimeter. Enterprise IT practice reshaped in such way, along with changes in criteria for valuing traditional enterprise information systems, raise the question regarding relevance of existing, classic business informatics curricula. Based on a literature review, this paper examines some of the most important aspects of CoIT, which should be incorporated into redesigned business informatics study programs in order to equip future professionals to successfully manage the gap between information workers and IT organizations.

Keywords: business informatics, curriculum (re)design, consumerization of IT.

1 INTRODUCTION

Estimates of the proportion of members of net generation in today’s workforce range from 10% to 50% [1]–[3]. Differences in estimates are caused by differences in years of birth and counties included in the research. The ranges of birth years vary from author to author: 1977–1994. [4, p. 526], 1980–1994. [5, p. 256], 1977–1988 [6, p. 43], and 1980–1999. [7, p. 12]. Hubschmid [7] also states that in transitioning countries, only people born after the changes that occurred during the 90s can be considered as members of the net generation. As a result of global demographic changes, members of the net generation will become a majority in the workforce, as soon as in 2020, and will consequently be dominant in white-collar positions [8]. Their generational traits, needs, expectations and engagements have already made a profound impact on the work environment, challenging business informatics courses taught based on traditional assumptions of the way IT operates and businesses run. Among these challenges is the so-called consumerisation gap [9]. It stems from the IT support’s struggle to come with the accelerating rate of adoption of privately-owned consumer IT in the enterprise. This phenomenon of consumerisation of IT (CoIT) is usually referred to as BYOD (Bring Your Own Device), BYOT (Bring Your Own Technology), CYOD (Choose Your Own Device), or BYOA (Bring Your Own Application). Furthermore, the available literature states that a group leading in terms of use of their smartphones/tablets/laptops for business are the information workers (iWorkers), people whose daily routine primarily involves creating, sharing and storing information.

Based on literature review, the paper provides a brief overview of the net generation’s characteristics and preferences that caused the proliferation of CoIT in business, along with an overview of several positive and negative aspects of application of CoIT in business, that should be taken into consideration in the development of business informatics study programs.

2 NET GENERATION WORKERS - DRIVERS OF CoIT ADOPTION

Several terms used to denote the net generation can be found in the literature: www generation, digital generation, N-generation, generation E, echo boomers, generation Y, cyber kids, Dot-com generation, Next generation, etc. [10]–[15]. Their generational specifics are a result of their birth and childhood taking place during a powerful dissemination of digital technology. Surrounded by computers, video games, mobile phones, network technologies from early childhood [16], they generally acquired an enviable level of skill in areas such as development of multimedia information, multitasking,
interactivity, networking, working in collaborative environments, and social media presence [17]–[20]. This all resulted in a specific learning habits and thinking patterns, and consequently, different expectations form the established education system, which, according to Jones [21], can be “...identified as a positive but threatening presence in relation to the existing academic order”. As they enter the workforce having completed their education, series of “binary distinctions” between “new generation or old generations; technically capable and inclined or technically challenged” [21] are shifting towards enterprises, leading to a discontinuity in the information processing manner [17], similar to one happening in education.

Practitioners’ articles [8], [22]–[25] are in agreement that net generation workers differ significantly from predecessors. They express a greater need to incorporate social and digital technologies into both their personal and professional lives. In such way, they augment their already advanced collaborative skills [23]. They demand more workplace conversation, collaboration, as well as a free flow of information [22], [23]. Used to instant feedback in their private lives, they also expect frequent and immediate business feedbacks. Impatient and used to thing being “on-demand” available [24] they demand that companies provide technology and alter existing or introduce new business processes that will enable efficient collaboration, conversation, and constant feedback. In a lack of enterprise-owned technology, they are prepared to use their own devices. Workplace flexibility and a ‘whatever works best to get the job done’ mindset are among their prominent traits [8].

They prefer mobile-first communication channels. Their mobility is incomparable to the previous, pre-digital generations. Mobility aids them significantly in maintaining a balance between personal and professional lives [23], while greatly relying on technology for accomplishing personal and professional goals. They expect their devices to function flawlessly, in both personal and enterprise environment [8].

They are accustomed to using readily available, inexpensive (often free), software tools and solutions, offering intuitive, easy-to-use functionalities and attractive user interfaces, and are also easy to install without the assistance of IT support (often even without consulting with them about it).

3 ENTERPRISES - THE ONES WHO STRUGGLE WITH CoIT

A wide range of available IC technology, fundamentally different expectations, cultural changes that the net generation initiated in organisations through their frictionless use of technology, as well as the net generation’s readiness to accept use of privately-owned devices for business purposes generate significant challenges, not just related to IT-related decision making and usage patterns, but to financing as well. There is a gap in adoption of technology between employees and employers, with the first leading significantly. Gens et al [26] states that the trend of adoption of consumer technologies in business, embodied in BYOD, is happening faster than IT perceives, and is bound to happen, with or without their support. The same author states that any further increase of the consumerisation gap affects not only employees’ performance, but also the enterprise’s competitive position, given that CoIT is becoming an organic part of B2C and B2B communication.

There are different assessments of the number of companies that allow use of personal devices for work purposes. Lockley [25] reports that around 50% of companies allows use of personal devices for work purposes, 25% do not, while others plan to allow it in the following year. Data produced by Lellis [9] suggest that even 87% of companies look with favour on use of privately-owned devices in the workplace, while 77% of them expects this percentage to increase soon. According to the same source, although 58% provided their employees with apps for mobile access to critical enterprise systems, 59% of employees regard their employers’ efforts on this matter as not agile enough. It is logical to assume that such critical attitude is typical to non-desk remote workers, working in a multitude of environments—home, office and on site. Mobile nature of their jobs (but private lives as well), is a potential source of communication gaps that can be successfully overcome with the flexibility enabled by mobile internet. Therefore to them, mobile internet is “the normal internet” [8].

Adoption of the BYOD trend, as most things, has both positive and negative effects.

Positive ones, among other things, involve increase in productivity, improvement of perceived work-life balance, job satisfaction, as well as reductions of costs associated with device purchases and training. Smartphones, laptops and tablets are established in daily lives of net generation, who usually possess up-to-date devices. Familiarity with them practically flattens the learning curve for their use in business, which makes training unnecessary.
Research suggests that BYOD has a positive effect on productivity: according to some researchers, 82% of employees feel that smartphones positively influence their productivity [25]. Somewhat more than half of executives (53%) agree with this, as they attribute the 34% increase in their employees productivity to apps [9]. In his research of the effect on productivity, Lockley [25] reports data on a positive effect—reduction of time required to complete tasks, resulting from integration of fragmented data on a single (mobile) device. The same author [25] states that even 78% of employees feel that use of a single mobile device helps in achieving better work-life balance. Thanks to mobile devices, workers can also receive and process work-related information during commute time and downtime. Gens et al [26] mentions “work snacking”—working in short periods of several minutes in the free time between private commitments. The same source [26] reports that thanks to consumer technologies, 50% of information workers were to some extent engaged in work activities on their vacations, 29% while in bed, 20% in traffic, and a 5% of them even while in a place of worship.

Workplace flexibility provided by BYOD is one of the important factors of work satisfaction among the members of the net generation. Increased satisfaction leads to better engagement, greater loyalty, reduction in sick days, as well as lower turnover. In addition to this, workers following the latest IT trends motivate their employers to do the same [8].

Negative aspects of BYOD, among other things, are related to vulnerability of corporate data, legal compliances, IT support’s being overwhelmed with the trend of consumerisation and being always contactable.

Each loss or theft of a device bears a potential security risk. Even data encryption and password protection do not guarantee complete protection from unauthorized access to company’s software, and even misuse or destruction of corporate data. This risk is even greater if a significant number of employees fails to use security features of their devices or do not download security updates. Mobile devices are also vulnerable when they are connected to unsecured Wi-Fi hotspots. Workers themselves can also be a source of potential problems. If the device with access to corporate data is used for personal purposes, there is a risk of harm to the company’s reputation (and associated subjects) form (in)advertent publication of corporate date. Situations in which there is no option to access a terminated employee’s private device in order to perform a wipe of corporate data are particularly delicate. Renumeration of costs associated with use of a private device for business purposes is yet another challenging and complex issue [8].

Scope, volume, and complexity of support and management provided by IT departments grow exponentially with the increase in numbers of devices and applications that workers use to access company software and data. While the scope and the complexity of IT departments’ work increases, there are fewer possibilities for control the when, where, and how a device or software is used by an employee. The fact that employees use their mobile devices not just to access company software and data, but also install productivity tools (e.g. spreadsheets) for processing corporate data and use different cloud services, without IT departments’ approval and supervision raises additional concerns. This places company data resources outside the traditional enterprise perimeter, as well as out of control of the company’s IT department. From the IT’s standpoint, situation becomes absurd if we assume that IT’s reluctance to accept the BYOD trend will eventually cause users to bypass the IT department, which is supported by several studies [27]. The network effect exerts additional pressure on the IT department: the more employees adopt the BYOD trend, they will have greater perceived benefits of it and will be reluctant to accept restrictions or forfeit the possibilities it provides.

It was said that access to corporate software and data in employees’ preferred time and place contributes to better work-life balance. However, is such way, an employee is always connectable, which creates a possibility for abuse by the employer or co-workers. Over the last years, more and more people feel that vague work-life boundaries degenerated the idea of “flexible work boundaries” into “work without boundaries”, which raises serious health and social concerns. In an attempt to prevent burnout and overwork, several countries initiated legislation on “right to disconnect” [28], [29], primarily pertaining sending and receiving business emails outside the working hours and during holidays.

There is also a possibility of misuse of data stored on a personal device by the employer. Private phonebook, call log, photos, videos, notes, browsing history, financial and health data, social security numbers, GPS data, credit card numbers, etc. are vulnerable during monitoring by the IT department.

Positive and especially negative aspects of BYOD make drafting of a suitable BYOD policy. Such policy should consider all stakeholders’ points of view—employees, employers, IT, legal department
etc. Use of company software and data should be conditioned by acceptance of clearly defined terms of use. Some of the key features which should be defined by the policy are [30], [31]:

- Categories of employees who are permitted to use their own devices,
- Types of privately-owned devices, software, and situations where it is suitable to use them,
- Type, purpose, and means of monitoring, backup, device maintenance, rules regarding data modification and deletion as well as software installation or deinstallation by the employer, with clear indication of private information which is to be accessed, modified or erased under certain condition,
- Record-keeping of privately-owned devices used for business purposes and logging of access to company’s software and data,
- Clear security procedures (passwords, locking, antivirus, backups, updates, etc.).

4 CONCLUSIONS

Adoption of CoIT in business is typically realised though so-called BYOD, and is mostly accepted by the members of the net generation. Positive effects of BYOD include increased productivity, reduction of costs associated with training and device purchases, better work-life balance, increased job satisfaction, and increased loyalty. Negative aspects of BYOD are related to security and legal compliance concerns, as it creates possibilities for misuse for both employers and employees.

BYOD has reshaped the enterprise IT practice and put IT departments in an unenviable situation. They are overwhelmed by support request BYOD imposes on them. Further proliferation of BYOD will occur with or without IT support, with a real threat from a further increase in the consumerisation gap. This paper outlines some aspects of CoIT, which will be the subject of authors’ further research aimed at redesigning business informatics study programmes.

REFERENCES


