

Baby Boomers: The Use of Technology to Support Learning

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Abstract: Baby Boomers are lifelong learners. Mobile devices and shared information over the Internet have made technology a significant platform for learning. It is a popular misconception, however, that Baby Boomers are alien to technology. This paper explores existing literature on the use of technology to support learning in Baby Boomers.

Individuals born between 1946 and 1964 are in a generational cohort known within the United States (US) as Baby Boomers or Boomers (Howe & Strauss, 1991). Generational cohorts are groupings of individuals with indiscriminate behaviors and characteristics shaped by historical conditions during key phases of their life cycles (Howe & Strauss, 1991; Pew Research, 2015).

Individuals have four life cycles inclusive of youth, rising adulthood, midlife, and elderhood (Howe & Strauss, 1991). Historical conditions during key phases of a life cycle shape one's worldview, identity, and value systems (Pew Research, 2015). The Baby Boomer generation is shaped by the US emergence as the world power at the end of World War II and the US's subsequent social unraveling, all coinciding with the election of John F. Kennedy (Sandeen, 2008).

Common characterizations that are used to define Boomers include workaholics, skeptics of authority, social reformers, thrill seekers, questioners of authority, and lifelong learners (Pew Research, 2015; Sandeen, 2008). Boomers are the first generational cohort in the United States who have continued to seek educational and learning experiences while moving throughout their life cycles (American Association of Retired Persons [AARP], 2000; Howe & Strauss, 1991). Research on Boomers has historically been conducted on those who are generally categorized as "middle class." With a lack of research on Boomers of lower socioeconomic status or immigration segments, there is a gap in the current research, resulting in many misconceptions on the Boomers' profile (American Council on Education, 2007; Sandeen, 2008).

A common misconception of Boomers is that they lack understanding of and/or fail to effectively utilize technology. The expansion of radio, television, mobile phones, personal computers, and the Internet all have been pioneered by Boomers; however, the relationship between technology and Boomers is vastly different in comparison to other generations (Keenan, 2009). The digital age occurred well into the midpoint of the Boomers' life cycle. The digital age is the time in which rapid changes and advancements in technology and technology's nationwide affordability occurred. Boomers' values and perspectives on technology were formed prior to the insurgence of and dependency on technology in daily life. Boomers, unlike other generations, utilize technology to help create their desired lifestyle as opposed to allowing technology to shape their existence (Keenan, 2009). As an example, Boomers' "social networks" were formed prior to the digital age, and as a result, personal and physical contact is more important to Boomers than digital connections and the use of technology to interact with others.

Missing from the dialogue on Boomers is their use of technology and how technology is

used as a tool to support learning for Boomers. Technology that is used for sharing information, such as mobile devices, online chat environments and media, represent the perfect platform for learning. Research exploring how Boomers use current technology and how these information-sharing technologies support their individual learning as a generational cohort is in need of further examination.

Purpose and Research Questions

The purpose of this structured literature review (Rocco, Stein, & Lee, 2003) is to examine existing literature on the use of technology to support learning in Boomers. The structured literature review method was used to identify, select, and classify trends and issues in the current literature. This review was guided by the following research questions:

1. What are the trends and issues involved in understanding how technology supports learning in Boomers as discussed in the related literature?
2. Is the learning style of Boomers a function of their interaction with technology?
3. What are the ramifications of the use of technology with respect to Boomers' learning style?

The process used for identifying trends and issues is explained in the Methods section. Following the explanation of the process is the identification of the trends and issues.

Method

The literature was examined to identify trends and issues in relation to how technology supports learning in Boomers. For the purpose of this study, a trend is an identifiable event or contextual factor that is coupled with significant change (Rocco et al., 2003) and results in different societal behaviors. Issues are defined as matters that can only be changed through the activation of formal structures and power (Rocco et al., 2003). For example, a trend in the workforce is the use of electronic-learning tools (e-learning) as an addition to traditional models for training and developing employees. A correlating issue includes how organizations in the workforce are ensuring employees accustomed to traditional methods of training and development are not alienated.

Scanning was used as the principal method to investigate the literature and identify trends and issues (Rocco et al., 2003). Scanning was the first step of the method which involved: (a) identification of material, (b) selecting appropriate literature, (c) establishing a database, and (d) conducting a thematic analysis.

Identification of Material

To develop search parameters and determine the best online academic databases to review, a university reference librarian was consulted. Three databases representative of education, technology, psychology, and business were selected for the review. The three databases include: (a) Educational Resources Information Center - ERIC ProQuest, (b) PsycINFO ProQuest, and (c) EBSCO Host Business Source.

The first cluster of Boomers began the transition from the midlife point in their life cycles to elderhood in 2010. Research on *older workers* or *retirees* prior to 2010 would capture data on individuals outside of Baby Boomers cohort and would not be applicable to this generation. Additionally, the US release of Long Term Evolution (LTE) telecommunications technology occurred in 2010. LTE technological devices allowed for the sending/receiving of data communications and capabilities not possible on previous telecommunications technology (Park & Kim, 2013). As a result, the selected search by date criteria included the years 2010 through 2015.

The selected timeframe was chosen as it helped to identify characteristics scholars have recently identified relevant to the Boomer generation. We recognize that the search date criteria may pose a limitation with respect to identifying trends. However, we considered that (a) rapid change in technology occurred between 2010 and 2015, and (b) much of the data may come from empirical studies on the workplace, and with the desire to only capture information relative to Boomers, the criteria were deemed necessary. The terms used when searching the online academic databases included (a) “baby boomer*” or “older worker” or “retiree*” and (b) “learning style” or “learning” and (c) “computer*” or “Internet” or “technology.” The searches were performed between September 29 and October 2, 2015. Abstracts were used to discover trends and issues (Rocco et al., 2003), as it was more feasible to scan multiple abstracts as opposed to full articles.

Selecting Appropriate Literature

The search parameters dictated peer-reviewed articles appearing in scholarly, popular, or practitioner journals. Excluded from the search were non-English articles. All subject areas other than education, technology, psychology, and business were excluded. Articles were required to address Boomers’ or the learning of older workers with support of technology.

ERIC ProQuest produced 2,139 results, of which 125 were selected for review. PsycINFO ProQuest returned 747 results, of which 82 were used for review. EBSCO Host Business Source returned 734 results, of which 50 were selected for review. Publications selected for review were imported into Refworks, and a total of 257 abstracts were included in the review.

Establishing a Database

Each abstract selected for review was organized in a spreadsheet database. Each abstract was read and categorized by (a) date; (b) type of journal (academic, popular, or practitioner); (c) contextual factors (educational environment, workplace, community, etc.); (d) relevance to learning, technology, or Boomers; and (e) emergent trends and issues.

Conducting a Thematic Analysis

According to Boyatzis (1998), a thematic analysis is used to understand themes within articles. A theme is a pattern that describes observable information (Rocco et al., 2003). A theme can be at the manifest-level, with evident, explicit information or at the latent-level, with non-obvious, implicit causes of phenomena (Boyatzis, 1998; Rocco et al., 2003). For example, a manifest-level theme in an article reviewed indicates that older managers (Boomers) often wrestle with increased use of technology as a learning tool throughout organizations due to uncertainty in the technology’s capacity to increase efficiency (Cartney, 2013). However, at a latent level of analysis, older managers (Boomers) may be nervous about the use of technology, but are less likely to express their discomfort. Thematic analysis is a three-step process involving (a) understanding the data being sampled; (b) developing codes (themes); and (c) validating the codes identified. The development of codes is prerequisite to analyzing, interpreting, and presenting trends and issues (Boyatzis, 1998; Rocco et al., 2003).

The first step in the thematic analysis was reviewing abstracts selected for review. Each researcher inductively identified themes within the assigned database: ERIC ProQuest, PsycINFO ProQuest, and EBSCO Host Business Source. Each abstract was read and notes on the abstract were added to the spreadsheet database. An additional column was used to notate themes that occur on the latent level. The authors developed codes. The codes were utilized to label and define a theme, as well as to indicate when a theme occurred. For example, the theme

of older managers reluctant to the use technology was created by (a) label: lack affinity for the use of technology; (b) definition: Boomers prefer not to use technology; and (c) indicators: statements indicating a lack of technological knowledge or resistance to technology. Data were inserted under multiple codes, if appropriate. After sorting the spreadsheet database by code, the literature was reviewed to ensure that codes were logged appropriately. A set of themes was agreed upon by the authors.

Findings: Emergent Trends Identification and Analysis

Using the scanning method (Rocco et al., 2003), the primary goal of this review was to find data that explored the relationship between Boomers and how technology supports learning in this generation. The review was also attentive to the location of where technology is used to support learning of Boomers (workplace, educational environment, community, etc.). The following four sections identify the event(s) or contextual factor that has resulted in significant change in societal behaviors or perspectives towards Boomers and technology. The four sections include (a) the use of technology as a learning tool, (b) multiple generations in the workplace, (c) mobile devices as a platform for learning, and (d) the pressure of learning new technologies.

Technology as a Learning Tool

Technology is a primary tool used for creating training and learning experiences. There was a noticeable increase in scholarly work indicating that technology is becoming a primary tool for training and development efforts in the workplace. As a result, older workers are forced to learn new technologies and adapt to digital environments (Huber & Watson, 2014). Similarly, the literature revealed that older workers in an instructor or trainer role are forced to learn new technologies, as more classrooms and training environments use technology as a primary platform for instruction and program facilitation. When given the choice between forced adaptation or retirement, older workers are choosing to retire and live a satisfying, stress-free life over adapting to newer, more stressful environments (Ahituv & Zeira, 2011).

Organizations can experience “brain drain” if employees seek employment elsewhere or prematurely retire to avoid adaptation to new technological environments (Ahituv & Zeira, 2011; Becker, Fleming, & Keijsers, 2012). To avoid this phenomenon, organizations need to keep workers engaged and consider the impact of their training practices on all workers within the organization (Becker et al., 2012). Employing the use of technology as a learning tool poses the complication of ensuring all members of an organization are equally considered prior to its implementation to ensure universal comfort and avoid alienation of particular groups and/ or individuals.

Organizations are experiencing a shift in which it is not uncommon for younger workers to supervise older workers, particularly in technological sectors (Matuson, 2011). Matuson (2011) suggests that while some older workers are resisting the use of technology in the workplace, younger employees more adept at technology are gaining managerial positions, as organizational success in today’s workplace is dictated by the effectual use of technology to connect with consumers and thrive in global markets. Unfortunately, older workers are often not given the opportunity to learn new technologies in professional training programs (Pike, 2011). Where technological training programs exist, older workers are often not given the proper time allotments to learn new technology (Van Rooij, 2012). Organizations often struggle with the practice of allowing older workers the opportunity and time to learn new things that are not delivered in a one-size-fits-all model (Canning, 2011). Older workers are willing to learn new technologies if given the proper time and tools to be successful (Ravichandran, Cichy, Powers, &

Kirby, 2015).

Multiple Generations in the Workplace

Organizations need to be aware that there are multiple generations in the workplace, with each generation having a unique style and approach to work. Older workers are not naturally resistant to technology; however, they are resistant to the forced implementation of tools they deem unnecessary or inappropriate (Tishman, Van Looy, & Bruyère, 2010). There is much disconnect between generational cohorts as it relates to the use of technology and appropriate settings. For example, the use of instant messaging or text messaging in educational environments or for business-related transactions may seem inappropriate for older individuals, while it may not for those who are younger (Levinson, 2010). Organizations must consider the advantages and disadvantages of how technology is used throughout the organization and help create a standard of appropriateness that is reflective of the organization's vision, mission, and goals.

Mobile Devices as a New Platform for Learning

Although older workers are stereotyped as having challenges with technology, the introduction of mobile technology is increasing older workers' functionality with technology. Mobile devices have become more affordable, convenient, and user friendly. Mastering mobile devices typically means connecting to new digital environments and using technologies in unique ways (Kavanaugh, Puckett, & Tatar, 2013). Video games, for example, can increase older individuals' competencies with technology and increase their ability to learn new things (Basak, Voss, Erickson, Boot, & Kramer, 2011). Mobile devices are a platform for content delivery as well as a tool that can be exploited to increase levels of intimacy and comfort with technologies, while simultaneously creating new expectations, attitudes, and levels of satisfaction through user interaction and "tinkering" (Hachiya, 2010). Although younger individuals typically view mobile technology as a social presentation of themselves, older workers view and utilize mobile technologies as devices that can enhance their quality of life (Hachiya, 2010).

Pressure of Learning New Technologies

Older individuals are under a considerable amount of pressure to learn new competencies, to work effectively with technologies, and/or to understand how technologies can assist in their transition from more traditional forms of interactions to modern ones (Hoskin, 2010; Kraan et al., 2014). Although there is much pressure within the workplace to learn new technologies, there are equal social and economic pressures to learn new technologies. Healthcare, retirement benefits, and assisted living arrangements are all introducing digital platforms geared toward educating and enhancing their stakeholders' experience. As community entities introduce new technologies as a part of their operations, older individuals are often required learn new technologies with little training (Ravichandran et al., 2015). A continuous issue tends to be how community organizations and public services can offer more convenient services, while not alienating the older populations they intend to serve. With newer technologies such as mobile devices, more thought, training, and explanations of how newer technologies can add to the life experience of older individuals are needed.

Discussion

Using technology as a training and development tool is a trend that is consistent in educational environments, the workplace, and the community. Research suggests that employers should pay particular attention to employees' needs to avoid occurrences such as employee

relocation or early retirement due to job dissatisfaction. Questions to be asked when engaging older individuals in a learning process that involves technology should include: to what extent are providers confronting the reality that many of their services are offered to populations not comfortable with the use or intrusion of technology? How are educational environments, employers, and community service providers avoiding the alienation of older individuals when implementing new technologies? What emotional intelligence is being employed to guide the activation of new technology to ensure that older workers feel as if their skill sets match employers' vision for an organization?

Mobile devices are a way in which most employers can begin to connect with older workers. The number of older workers using mobile devices has increased as mobile devices are universally more affordable; unfortunately, not many workplaces or educational environments are taking advantage of this tool as a way to connect with older individuals. The use of mobile devices is not without challenges, however. Employers or educational environments hoping to use tools associated with mobile devices, such as text messaging, will need a rationale for the application of the tool to the specific work-related needs.

Although older individuals face problems with the use of technology in educational environments, the workplace, or when interacting with community service providers, there are few empirical studies that explore Boomers' learning styles and technology. There are no studies that indicate a trend or issue in the Boomers' learning style in relation to technology. There is a pattern in the literature that discusses the fact that Boomers are not interdependent on technology, but rather use technology to enhance their lifestyles. Otherwise, it is difficult to assess any ramifications of the use of technology on Boomers' learning styles.

Implications

This structured literature review highlights the fact that there are implications for the future of both practice and research as it relates to Boomers' use of technology and learning environments.

Practice

Baby Boomers make up over 30% of the population of the United States (Pew Research, 2015). Careful examination of how organizations introduce technologies is important. There is a growing change in how Boomers engage with technologies due to mobile devices. Practices aimed at connecting with Boomers through mobile devices will prove beneficial. Alleviating the pressure on older individuals of learning new technologies can have a significant effect on companies retaining older workers and older workers feeling supported throughout their educational and community environments. Some suggestions for advisable practices are:

- (a) Increased awareness of stakeholders' profiles. Organizations should know what generation they serve. This will aid organizations in understanding if they are meeting the needs of their stakeholders;
- (b) Changing how technologies are introduced. The introduction of newer technologies should be accompanied by appropriate training programs applicable to a wide variety of audiences; and
- (c) Creating supportive environments for learning and development, where employees can feel comfortable learning new technologies.

Future Research

Future research on Boomers should explore the issue of how this generational cohort was taught and subsequently learns. How Boomers learn, whether or not they have unique learning

styles, and how those learning styles may improve how society frames Boomers' use of technology is a perspective that may prove beneficial.

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