E-reading consumption among Pakistani digital immigrants: A mixed-methods approach

Abstract

Digital information adoption among the older generation is becoming interesting, and e-reading consumption is an important phenomenon. The current study explores the e-reading consumption experience among Pakistani generation X readers (Xers) through the theory of planned behavior (TBP) as a theoretical framework. Secondly, theoretical conceptualization through exploration of Xers experience and then validating TBP model from a larger sample. A mixed-method research design (exploratory sequential) was employed. The study was completed in two phases; the first phase was qualitative based on nine (n = 9) in-depth face-to-face interviews. In the second phase, a quantitative research design was employed. A survey questionnaire was developed based on the TBP model and outcomes of the first phase, and the data were collected from 250 Xers from Pakistani public libraries. The first phase outlined numerous positive consequences and challenges specific to the behavioral beliefs. The circle of friends, colleagues and supervisors encourage e-reading consumption given the benefits, speed, and saver of time, cost, and effort, to name a few. Notably, e-reading consumption intention leave no alternative for Xers in the digital information era. The results of second phase show that seven out of nine proposed hypotheses were supported significantly H2 (β=0.33, p=.00), H3 (β=0.20, p=.02), H4 (β=0.27, p=.00), H6 (β=0.22, p=.01) , H7(β=0.18, p=.03), H8(β=.28, p=.00) and H9 (β=-0.15, p=.04). Whereas, H1(β= -0.03, p=.66) and H5(β=-0.02, p=.73) were rejected. The current study extends the theoretical foundations of TBP in the age of digital information consumption by exploring dimensions qualitatively and tested that proposed relationship quantitatively from a developing country context, Pakistani Xers.

Keywords

E-reading; digital immigrants; generation X, Xers, theory of planned behavior; developing country; Pakistan.

1. Introduction

People, processes, and companies are all influenced by digital transformation [1], and digital reading is becoming the trend. Reading is increasingly shifting to electronic media in the modern era. The structure of the text has changed because of technological advancements. The essence of reading in academics is reading much text online/offline to comprehend the content. Students in higher education who want to meet academic goals need much help with their reading skills. Because of the new paradigm's inception, academic reading patterns and user habits are rapidly evolving [2]. Books are increasingly being digitized, which increases the value proposition for e-readers [3]. While user experiences with e-reading are still being researched, especially in developing countries, the differences between digital natives and digital immigrants are unknown. Students with various user backgrounds began to use electronic reading devices [4]. Despite comprehensive technical research on reading comprehension and online reading activity, reading skills such as eye movements and their effect on reading comprehension have received little attention [5,6].

Reading books and other material online is not just for academics; it is also widely used at the organizational level of global corporations [7]. The advent of the extensive open online course to improve workplace training culture, given the global culture of organizational training and growth, is shifting towards the online medium; recent research on the healthcare sector is an example [8]. Furthermore, in light of the global pandemic (COVID-19), schooling, learning, and growth and many training programs have migrated to online platforms, with e-reading becoming more popular as a preventative measure and social distancing to staying healthy [9]. These emerging practices transform reading habits as well, soft access to books and content via online platforms. In a developing country like Pakistan, e-reading is becoming more common. Several digital programs and the National Digital Library, which was developed and allowed researchers to access foreign resources, are helping to spread digital knowledge in Pakistan [10]. Technology's complex existence changes almost worldwide, and the same is true of educational institutions. Digital media is becoming increasingly popular as a reading medium [11,12].

Moreover, most student e-readers undertake research implications from different e-journals for their substantial concerns to their educational needs [13,14]. There is little scholarly work on e-reading, and a few researchers have scrutinized the usability of digital academic sources in the

context of Pakistan. For instance, Rafiq and Ameen [15] emphasized the requirement to exploit digital academic resources in universities' libraries. Likewise, Khan and Ahmed [16] investigated the influence of academic e-resources on Pakistan's productivity. A few studies on digital natives Generation Y and Z were carried out to understand Pakistani students' e-reading experiences [17-20]. However, there is a dearth of research around digital reading from a generation X perspective, specifically within the developing country context based on limited exposure to technology and e-reading orientations. A digital immigrant (Xer) is "a person who started using digital technology, computers, and the internet during their adult life but did not grow up using them" [21]. Generally, those born before 1980 are considered generation X [22,23]. Digital information adoption among older generations is becoming interesting, and e-reading consumption is one phenomenon. E-reading consumption for the current study means "frequency of using reading contents with eye contact to fulfill information need for any purpose through screen". However, reading through audio/talking software is ignored here.

The current study intends to extend the theoretical foundations of TBP in the age of digital information consumption by exploring dimensions qualitatively and tested that proposed relationship quantitatively from a developing country context, Pakistani Xers. The current study explores the e-reading consumption experience among Pakistani Xers through the theory of planned behavior (TBP) as a theoretical framework. Furthermore, theoretical conceptualization through exploration of Xers experience and then validating TBP model from a larger sample. More specifically, the current study aims for two main research objectives: 1) to explore the e-reading consumption behavior of generation X from Pakistan using qualitative research design, and 2) to develop and validate the scale for measuring e-reading consumption behavior of Pakistani generation X.

The current paper flows with the theoretical background, including study context, theory integration, and conceptual design. Subsequently, research methods for both qualitative and quantitative approaches were presented. After that, findings are briefly presented for both phases (qualitative and quantitative). Finally, conclusions and limitations are presented, followed by the discussion section focusing on theoretical and practical implications.

2. Literature review

2.1. Theory of planned behavior

The theory of planned behavior is an extended version of reasoned action, underpinned by a rationale that intention predicts actual behavior [24]. The TPB extends perceived control over the behavior, which is a notion where one may or may not have absolute control over behavior. Behavioral intentions refer to one of the motivational factors to endorse the intention to act [25]. Intentions are a set of willingness to deploy the behavior. According to TPB, intentions are performed through antecedents, including attitudes, subjective norms, and perceived behavioral control. Among the strengths of this theory, its relevance is the nature of predicting human social behavior. Therefore, the theory of planned behavior [26,27] is relevant for exploring the behavioral intentions and actual behaviors of e-reading. Consequently, an exploratory framework enables theories to expand in the entirety of cultural context. In the dynamic nature of human behavior, the inception of TPB conceptualization is imperative. Moreover, extending the thought process with higher education students' emotional bonding, actual experiences, and expectations in reading trends. Specifically, it is pervasive to have dynamic behavioral dimensions through the digitization of reading.

2.2. Digital reading consumption in the Pakistani context

The availability of digital reading content and devices are impacting the e-reading consumption behavior [28]. Although digital reading habits dominate, e-reading significantly impacts readers' eyesight [29]. Digital reading habits are trending globally as well as in Pakistan. However, digital reading among young readers impacts significant reading behavior changes [30]. The increasing use of digital gadgets, even for reading, is getting more attention among different groups in Pakistan. Interactive digital content behavior of adults and digital information literacy has recently been studied [31,32]. However, how older generations experience the changing trends of digital reading consumption is still unaddressed. The younger generations of Pakistan are more digital savvy and inclined towards digital reading [33]. Nevertheless, digital reading behavior among

older generations is an unexplored area. Hence, the present study aims to explore generation X e-reading behavior.

2.3. Digitization as a transformation in reading behavior

It is often assumed that digital formats of books are changing their preferences and reading behavior. Digital learning resources are becoming more effective for students and ease of use [34]. The switching behavior from electronic devices is more accessible than switching from print media. The format of e-resources successfully claims the substitute for traditional textbooks [35]. It is experienced that digital readership is being adopted dominantly in the developed world [36]. The readership of e-books intensifies due to its capability to help readers synthesize complex notions within the subject area [37]. Moreover, print and digital academic resources have accomplished user needs toward information acquisition based on demographics, situational, and other contextual variables [38]. Despite the fact, due to convenience of access, digital academic resources are recognized as the fastest tool to fulfill academic necessities, while on the other hand, they fail to replace the superiority of printed books. Print media gradually shifted to electronic media. Consequently, it is transforming a new set of behavioral mechanisms of reading [39]. One comparative study concluded that students who read paper-based format predicted higher reading comprehension than electronic mediums [40]. Electronic books rapidly progress and transform the reader's behavior; however, e-reading is not positioned to replace print books [41].

3. Methods

3.1. Mixed-methods rationale

Since the current study aims for theoretical conceptualization through exploration of Xers experience (first phase) and then validating TBP model (second phase) from a larger sample in the local context of Pakistan. Given the objectives of the current study, qualitative investigation followed by quantitative is considered more appropriate. Hence, *exploratory sequential mixed methods* with a sequence of first phase as qualitative and second phase as quantitative (Figure 1) to address the limitations of qualitative and quantitative research designs.
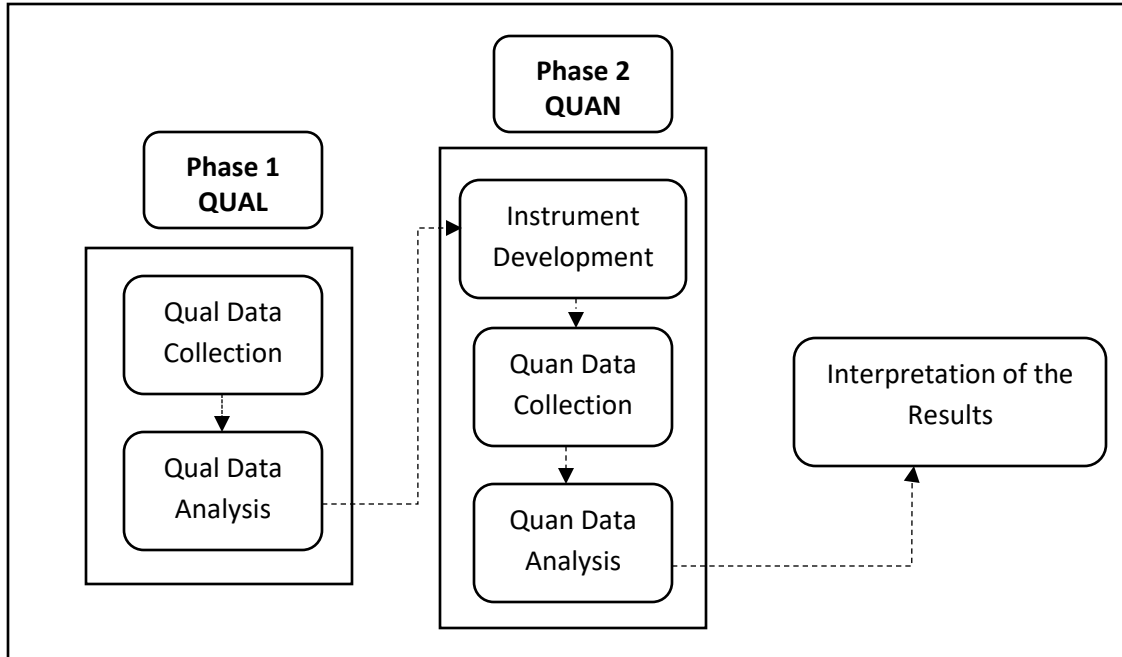
Fig 1. Exploratory Sequential Mixed Methods Design

Exploratory sequential mixed methods guide us to conduct a qualitative study in the first phase and the collected qualitative data is analyzed in the form of themes and codes. The quotes may help to make the statements for the scale development and the codes and themes are used to identify the variables. The developed scale after psychometric analysis can be used for quantitative data collection leading to analysis and validation of the scale. The research method allows recruiting different samples for both phases. Exploratory sequential mixed methods intend to investigate whether data from a few people can be generalized to a larger population [42]. Thus, to investigate the phenomena empirically using the inductive approach for understanding the context and theoretical relevance and thereafter using the deductive approach to test the generalizable understanding it was decided to adopt exploratory sequential mixed methods design.

3.2. Qualitative methods for the first phase

The purpose of the first phase was to collect in-depth insights about the phenomena (e-reading consumption behavior among Xers), a two-phase purposive convenience sampling technique was employed. From the two leading public sector universities of Lahore (a city in Pakistan), faculty members were recruited purposely for their teaching and research engagements as they may provide rich data. Total nine (n=9) interviews were conducted with the conveniently available and agreed participants representing different subjects, gender, and length of e-reading experience. It

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was decided to collect data from 3 teachers from each subject discipline initially, and to add more till the point of saturation. The data transcriptions confirmed saturation in their responses, therefore no more interviews were conducted. All the interviewees belonged to the age group of 41 and above, as purpose was to gauge the opinion of Gen X. All the interviews were conducted in person in the offices of the faculty members as per their convenience, however, only one interview was conducted and recorded telephonically. Table 1 shows the sample profile and the respective characteristics.

Table 1. Sample profile (first phase)

Variable	Characteristic	Count	Percentage
Gender	Male	5	56
	Female	4	44
Discipline			
	Humanities & Arts	3	33
	Social Sciences	3	33
	Management Sciences	3	33
E-reading experience			
	Less than 5 years	3	33
	6-10 years	2	22
	11 to 15 years	4	44

After a series of revisions from the experts i.e., one professor and one assistant professor from the department of information management, one associate professor from the institute of education and research, a semi-structured interview guide was developed and used based on TPB. One of the researchers visited the experts' offices personally after taking appointments and noted all the suggestions. Interviews were conducted in an environment that was appropriate to create a trust-based climate [43]. Regulatory issues were seriously taken into consideration, and the participants' confidentiality was ensured. Serious attention was paid to not collecting the information that could harm participants mentally, physically, or financially. The participants were informed about the research importance and objectives, and after taking their oral consent, interview meetings were scheduled according to the participants' convenient time and place.

Additionally, researchers have secured the consent of interviewees for audio recordings for further reference. Interviews were conducted in English. The length of the interviews was 15-20 minutes.

The collected data were transcribed verbatim. Nvivo 12 was used to analyze the data and for making child themes and parent themes. Based on the analysis, a conceptual framework was developed.

3.3. Quantitative methods for the second phase

The qualitative data of the first phase was collected in a developing country context and was collected keeping in context the theory of planned behaviour (TPB). The data provided the basis for instrument development and validation. The conceptual framework (based on TPB) developed in the first phase of the study (Fig 6), helped to develop the questionnaire for the second phase (quantitative research design). For questionnaire development, first, all themes were written in the form of statements under six constructs and the relevant scale was assigned to each construct. Then, the researchers carefully reviewed the instrument to remove any redundancy and/or language/typo mistake. The final draft of the questionnaire was sent for content validity to three experts in the field, who themselves were Xers, one of the experts was the professor in the field of information management, the other was associate professor from communication studies and the third one was associate professor in the field of education and was expert in statistical analysis. All the experts were selected based on their scholarly contributions in the relevant area. After the field experts' satisfactory response, the instrument was tested for 50 respondents through a friendship chain selected from the researchers' social circle and all belonged to Gen X e.g., 41 years and above. Hard copies of the questionnaires were distributed among the selected 50 respondents by the researchers personally. The collected data was analyzed with the help of SPSS (20.0) and SmartPLS (3.0). The reliability analysis of the constructs showed that all the Cronbach alpha coefficient values remained between .60 to .78; usually, the lower acceptable value for the Cronbach alpha coefficient is 0.70 and in some cases is 0.60 [44,45] as shown in the Table 2.

Table 2. Reliability Analysis

Constructs	Number of items	Cronbach's Alpha Value
Attitude	4	0.71
Subjective Norms	3	0.67
Perceived Behavioral Control	2	0.61
Intention	4	0.78
Reading Purpose	4	0.71
Actual Practices	3	0.67

The pilot study results showed reliability, and not a single participant expressed a problem while responding to the questionnaire. Therefore, the instrument was considered final for data collection. Hard copies of the questionnaires were distributed among Generation X public library users, and they were given two days to return the filled questionnaire to the reference librarian, who helped in the data collection procedure. Descriptive and inferential statistics were applied for quantitative data analysis.

The purpose of the second phase of the investigation was to validate the instrument developed based on the data collected through a qualitative phase; therefore, the public was recruited for this phase. Since the study intention was to understand the behavior of public, particularly who are readers, therefore, it was decided to collect data from the public library users. Xers visiting the public libraries of Lahore were the respondents of this phase. Since the lists of public libraries' users were not available, therefore the suggested sample size for the unknown population, i.e., 384, was considered suitable. If the population size is larger than 100,000, the sample size does not change significantly [46]. According to this formula, the sample size was calculated online, with a 5% margin of error and it was 384. A total of 400 questionnaires were distributed among Public library users (Xers), whereas 250 respondents returned the questionnaires. Thus, the response rate remained 65.1 %. Table 3 reveals that 68% (170) were male, and 32% (80) were female. Furthermore, a majority of the respondents, 44% (111), had BS/Master level qualifications,

followed by bachelor's degree holders 36% (90). The findings reveal that the respondents had immense internet using experience. For example, many 66% (164) were using the internet for five years and above. The rest of 25% (63) had 1-5 years of internet user experience. Moreover, most of the respondents, 83% (207), were spending their 1-6Hrs daily on e-reading. The results showed that 16% (40) of respondents read electronic contents from 7-12Hrs in a day, and 1% (3) were spending 13-18Hrs on e-reading per day.

Table 3. Sample profile (second phase)

Variable	Characteristic	Count	Percentage
Gender			
	Male	170	68
	Female	80	32
Qualification			
	PhD	7	3
	M. Phil	32	13
	BS/Master	111	44
	Bachelor	90	36
	Intermediate	10	4
Internet Usage Experience			
	None	10	4
	Less than 1 year	13	5
	1-5 years	63	25
	More than 5 years	164	66
Daily e-reading			
	1-6Hrs	207	83
	7-12Hrs	40	16
	13-18Hrs	3	1

N = 250

The relationships in the proposed model were tested with the help of hypotheses. Figure 2 highlights the proposed hypotheses.
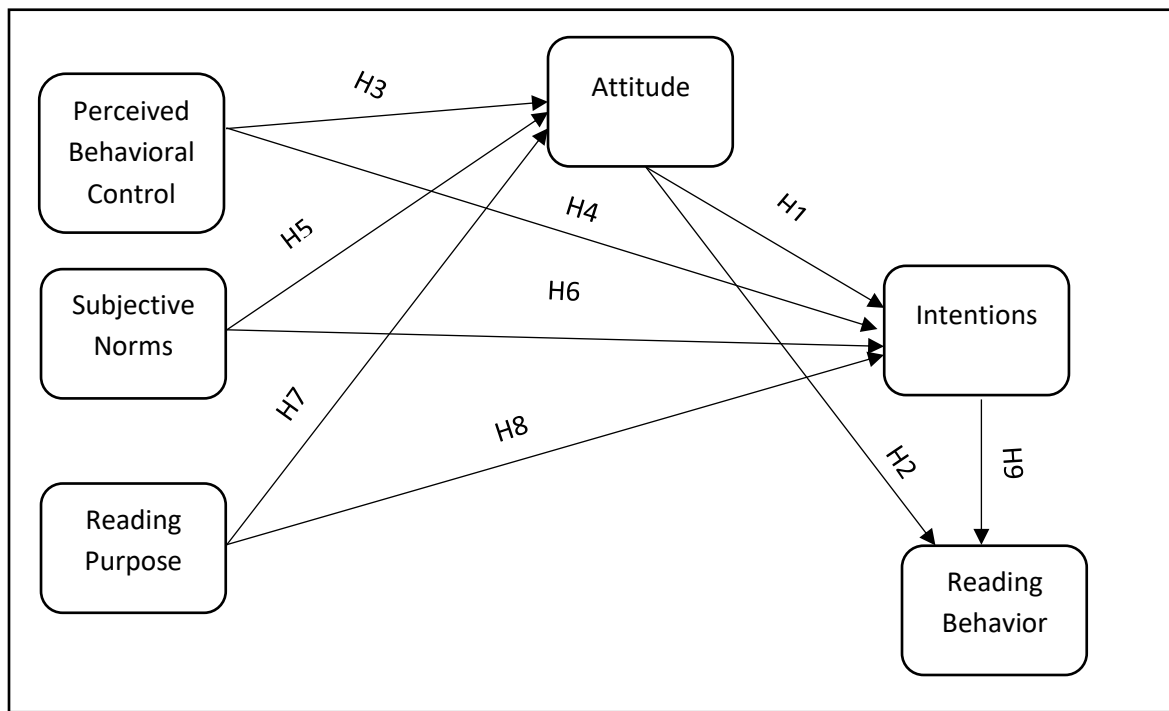
Figure 2. Proposed Hypothetical Model

H1: Attitude towards e-reading has a direct impact on digital immigrants' intention to adopt e-reading.

H2: Attitude towards e-reading has a direct impact on the e-reading behavior of digital immigrants.

H3: Perceived behavioral control has a direct impact on digital immigrants' attitudes towards e-reading.

H4: Perceived behavioral control has a direct impact on digital immigrants' intention to adopt e-reading.

H5: Subjective norms have a direct impact on digital immigrants' attitudes towards e-reading.

H6: Subjective norms have a direct impact on digital immigrants' intention to adopt e-reading.

H7: Reading purpose has a direct impact on digital immigrants' attitudes towards e-reading.

H8: Reading purpose has a direct impact on digital immigrants' intention to adopt e-reading.

H9: Intention to adopt e-reading has a direct impact on digital immigrants' actual behavior/practices.

4. Findings

4.1. Findings of the first phase

4.1.1. Behavioral beliefs

The faculty members were asked to mention the advantages associated with e-reading. The most significant codes were received under the theme of cost-effective information sources (Figure 3). The respondents believe that e-reading saves money and energy.

"You may read any time anywhere without spending of money, and you have not to go to the market to buy books and no need to carry book" (R1, Female, Humanities & Arts).

Access is considered the second crucial positive consequence of e-reading.

"... from sitting in one room we could get a lot of search engines, data banks, archives, and other newspaper, magazines we can get through e-readings" (R3, Female, Social Sciences).

For Xers, it is a pro-environment activity.

"We can save space and paper saving". (R5, Male, Management) Sciences)

They perceive that through e-reading, they can get up-to-date and a wide variety and a large amount of information. Furthermore, it is user-friendly and provides an opportunity to expand an individual's horizon.

"I can get any knowledge and information and be updated related to my course and other information" (R4, Female, Social Sciences).
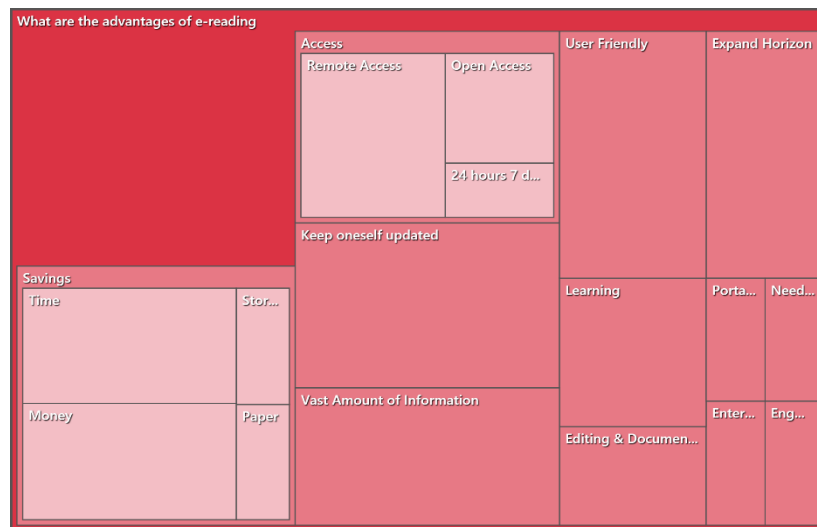

Figure3. Positive Consequences of e-reading

Health issues are of great concern to generation X readers (Figure 4). Furthermore, they believe that it is a very formal activity (proper sitting posture) to read through a screen, and it takes much time to reach the required reading.
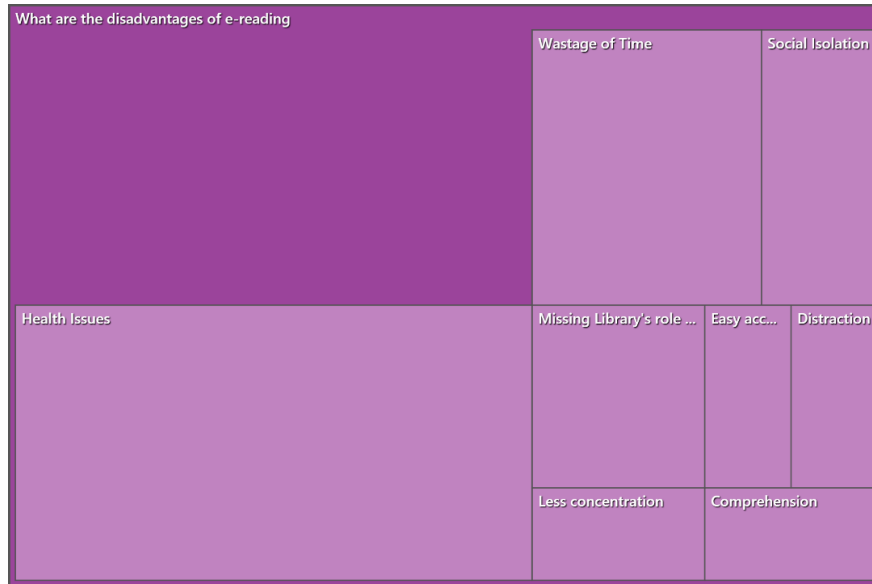
Figure 4. Challenges of e-reading

Since the X Generation, people have spent their time in libraries, and perhaps, therefore, they take it as a community place. They showed their concerns regarding the missing role of libraries. Social isolation, distraction, comprehension issues were the challenges faced by this generation.

"As we call it physical exertion, you sit on your laptop for many hours, and sometimes you may get lost in some other things which are most interesting .... Health issues are also there" (R6, Male, Management Sciences).

Furthermore, the Xers believe that sometimes the young generation easily accesses prohibited literature. As in Asian cultural norms and values are of significant priorities, and it is a standard norm that parents do not want open access to all types of reading material to their children of all ages, i.e., pornographic material.

One of the respondents mentioned that a lack of IT skills a significant hindrance.

"More time for lesser things just due to lack of expertise in IT" (R9, Female, Humanities & Arts).

4.1.2. Normative beliefs

As far as subjective norms are concerned, a considerably large majority believe that their friends, colleagues, and family members play an essential role in this regard. Generation X receives more encouragement from adopting e-reading from their friends, colleagues, and supervisors (Figure 5). However, they (due to health issues) and their family members sometimes discourage them.

However, a few believe that there is no normative belief in adopting e-reading; it is trendy and needs the hour.
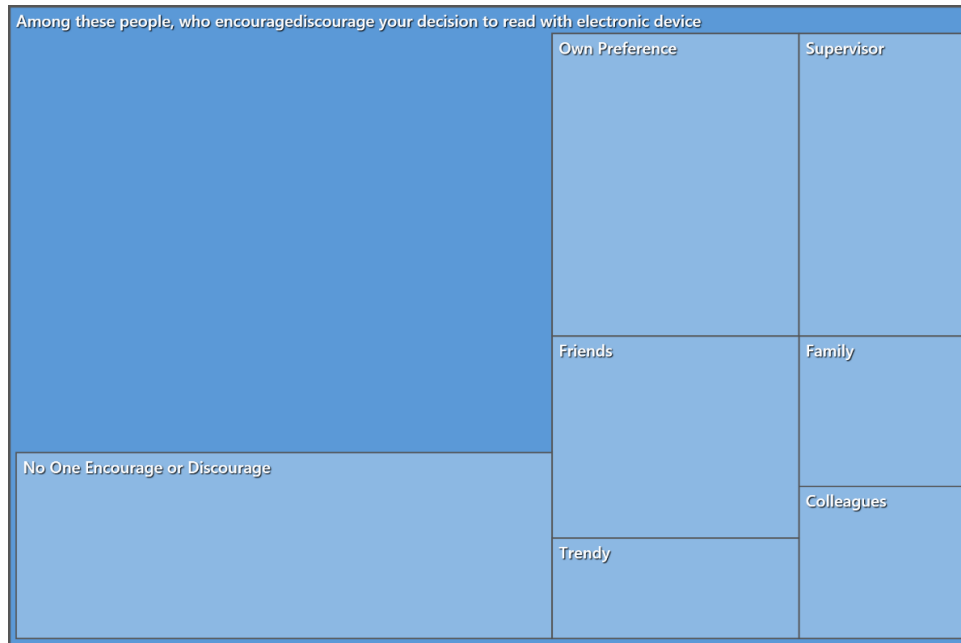

Figure 5. Normative Beliefs

"People are encouraging, No one is discouraging, but I think in between this encouragement and discouragement, your behavior counts a lot. Your physical sickness, your physical relief, your physical ability, your comfort level, your discomfort level and how much time you spent on it" (R9, Female, Humanities & Arts).

4.1.3. Perceived behavioral control

According to TPB, if individuals possess robust control over themselves, it may predict their stronger intention to adopt a particular behavior. The verbatim data analysis shows that although the understudy generation faces problems regarding their taste and sustained reading, they still mentioned several motivating factors, including speed, currency, accessibility, and interestingly for their survival in the current competitive environment encourage them to adopt e-reading.

"...It helps us in searching for the latest information, and it is also time-saving, no need to take a print or go to somewhere like libraries or market to search Information" (R6, Male, Management Sciences).

"...it is challenging to maintain concentration for a long time....to mark or make notes during reading or in the process of reading..." (R8, Male, Humanities & Arts).

4.1.4. Intention

Teachers belonging to generation X showed a solid intention to continue the e-reading. However, this firm intention is associated with the need.

"I am not the kind of person who loves to read e-books. It is the need of time; otherwise I quit e-reading..." (R8, Male, Humanities & Arts).

The respondents shared strong arguments to continue e-reading, for example:

"Yes, I do want to continue because there is no obvious reason to discontinue for such a beneficial source. Some health issues may be overcome but reading should not be stopped" (R1, Female, Humanities & Arts).

Furthermore, they showed concerns about the authenticity of the information available in e-form. At the same time, one of the respondents expressed that she wanted to quit e-reading.

4.1.5. Actual Behavior

On average, the faculty members belonging to generation X spend 3-5 hours on-screen reading. This information corroborates the information gauged through the question about their intention to use electronic contents. They mentioned that they have no other choice, and they were daily reading/listening on the screen (Figure 6). One of the respondents mentioned:

"…. I am also very habitual to listening to lectures as well…. If you people use old tools you can leave behind the world. It is minimum 3-4 hours daily which can be listening or reading" (R6, male, Social Sciences).

How much time you are spending daily reading with electronic device

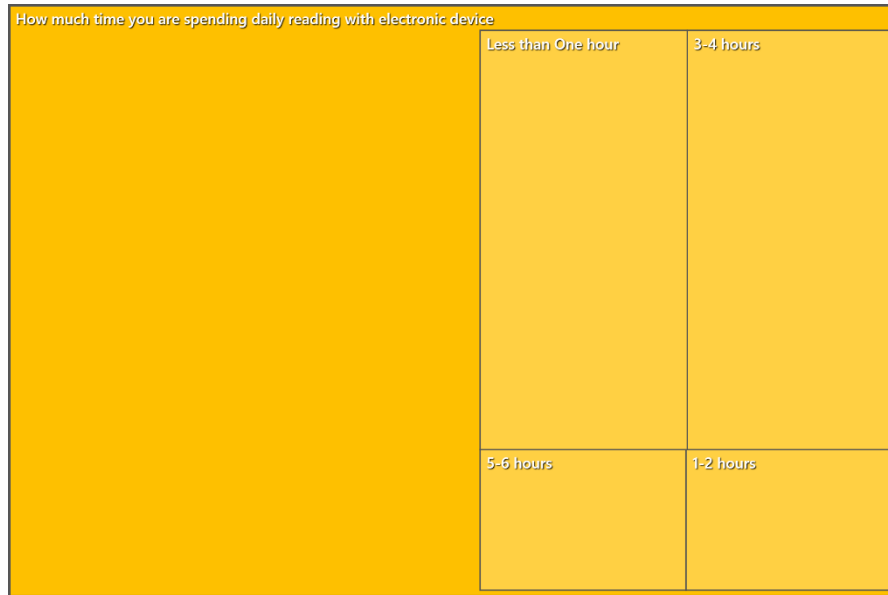| Less than One hour | 3-4 hours |
| 5-6 hours | 1-2 hours |

Figure 6. Actual E-reading Behavior

The themes that emerged from the qualitative data helped the researchers to develop a conceptual framework for the research instrument development (Figure 7).
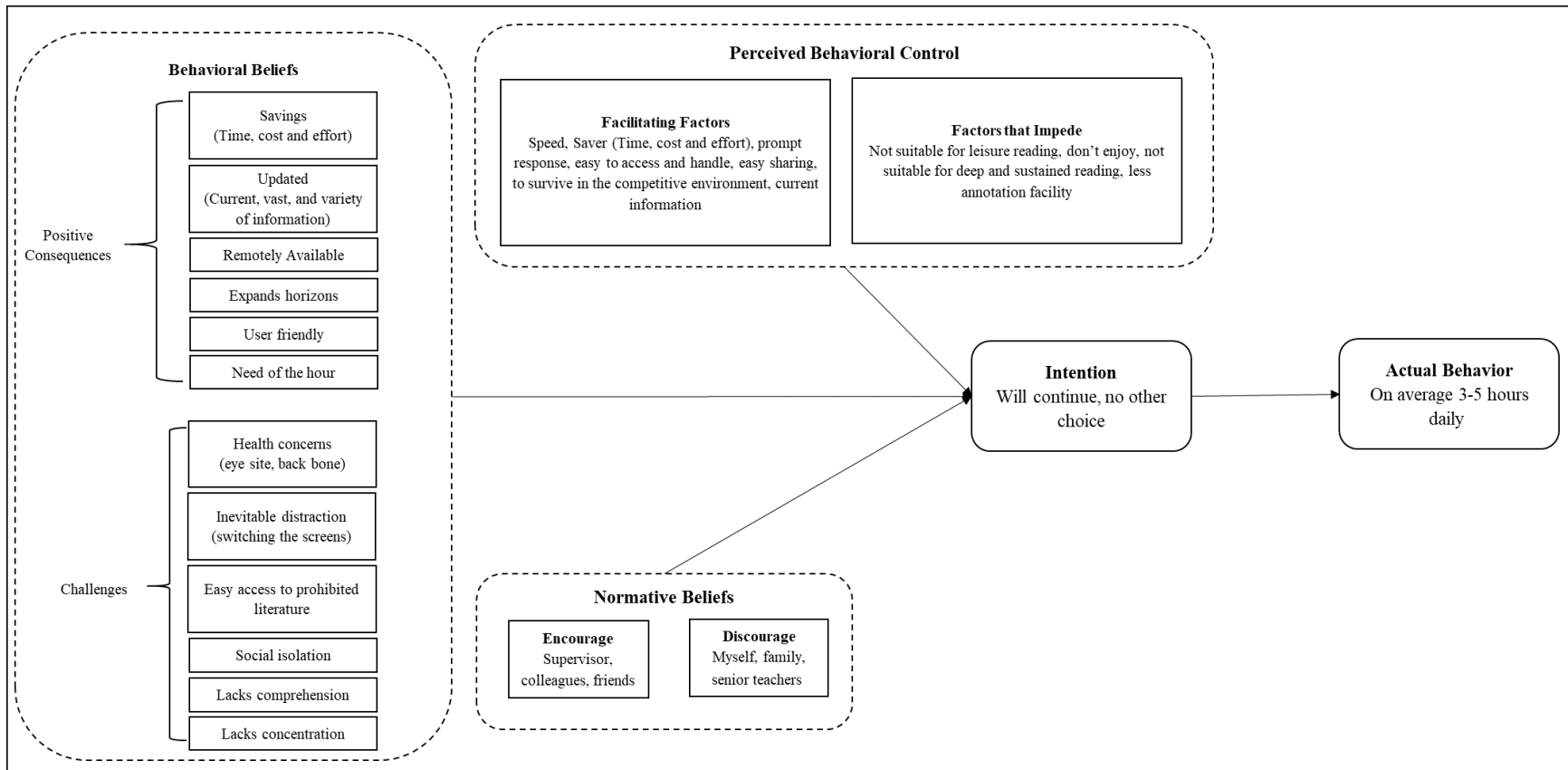
Figure 7. Conceptual Framework (based on interviews' data)

4.2. Findings of the second phase

Data analysis was completed with the help of SmartPLS 3.0. Convergent and discriminant validity was calculated for measuring psychometric analysis. Items loadings with above than .5 value were considered suitable for the further analysis, as values between .4 to .7 are acceptable if AVE is .5 or above [47]. Composite reliability (CR) and average variance extracted (AVE) values presented in Table 4 confirm that all the values were within acceptable range i.e. CR higher than .7 and AVE were higher than .5.

Table 4. Convergent Validity

Scales	Standardized loadings	Composite reliability	AVE
Attitude		0.803	0.507
A1	0.726		
A2	0.683		
A3	0.791		
A4	0.639		
Intentions		0.836	0.568
I1	0.811		
I2	0.888		
I3	0.725		
I4	0.547		
Perceived Behavioral Control		0.742	0.603
B1	0.930		
B2	0.584		
Reading Behavior/Practices		0.819	0.604
R1	0.804		
R2	0.850		
R3	0.667		
Reading Purpose		0.816	0.529
RP1	0.832		
RP2	0.685		
RP3	0.648		
RP4	0.730		
Subjective Norms		0.806	0.585
N1	0.758		
N2	0.638		
N3	0.878		

Discriminant validity was measured through HTMT$_{.85}$ criterion as it is considered more sensitive to identify discriminant validity than Fornell & Larcker criterion [48]. The values calculated through running algorithm are presented in Table 5 confirm that all values are below .85 which is threshold value.

Table 5. Discriminant Validity, HTMT$_{.85}$

	Attitude	*Intentions*	*Perceived Behavioral Control*	*Reading Behavior/Practices*	*Reading Purpose*	*Subjective Norms*
Attitude						
Intentions	0.226					
Perceived Behavioral Control	0.191	0.557				
Reading Behavior/ Practices	0.515	0.317	0.583			
Reading Purpose	0.389	0.628	0.445	0.570		
Subjective Norms	0.417	0.566	0.480	0.449	0.633	

Bootstrapping taking 5000 subsamples confirmed that seven out of nine hypotheses were accepted, whereas two hypotheses were rejected.

Table 6. Path Analysis

Hypotheses		Path coefficients β	T Statistics	P-value	Remarks
H1	*Attitude -> Intentions*	-0.03	0.44	0.66	Not Supported
H2	*Attitude -> Reading Behavior/Practices*	0.33	5.84	0.00	Supported
H3	*Subjective Norms -> Attitude*	0.20	2.50	0.02	Supported
H4	*Subjective Norms -> Intentions*	0.27	3.97	0.00	Supported
H5	*Perceived Behavioral Control -> Attitude*	-0.02	0.33	0.73	Not Supported
H6	*Perceived Behavioral Control -> Intentions*	0.22	3.01	0.01	Supported
H7	*Reading Purpose -> Attitude*	0.18	2.23	0.03	Supported
H8	*Reading Purpose -> Intentions*	0.28	4.11	0.00	Supported
H9	*Intentions -> Reading Behavior/Practices*	0.15	2.08	0.04	Supported

Path analysis (Table 6) confirmed that attitude towards e-reading remained insignificant in terms of intention to adopt e-reading (β= -0.03, p=.66), thus H1 is rejected at p>.05. However, digital immigrants' attitude has a significant direct impact on the e-reading behavior/practices of digital immigrants (β=0.33, p=.00), as a result H2 is confirmed. The findings further revealed that subjective norms significantly impact digital immigrants' intention to adopt e-reading (β=0.20, p=.02) and e-reading behavior/practices (β=0.27, p=.00). Therefore, H3 and H4 were accepted at p<.05.

The results further revealed that perceived behavioral control has no significant impact on the e-reading attitude of digital immigrants (β=-0.02, p=.73), thus H5 is rejected at p>.05. Whereas perceived behavioral control directly impacts digital immigrants' intention to adopt e-reading (β=0.22, p=.01). This finding confirms H6 at p<.05. Reading purpose not only significantly impacts Xers attitude towards e-reading (β=0.18, p=.03) but also significantly impacts e-reading adoption intentions (β=.28, p=.00). Thus, H7 and H8 is confirmed at p<.05. Lastly, intention to adopt e-reading has a significant positive impact on e-reading behavior/practices (β=-0.15, p=.04) which confirmed H9.
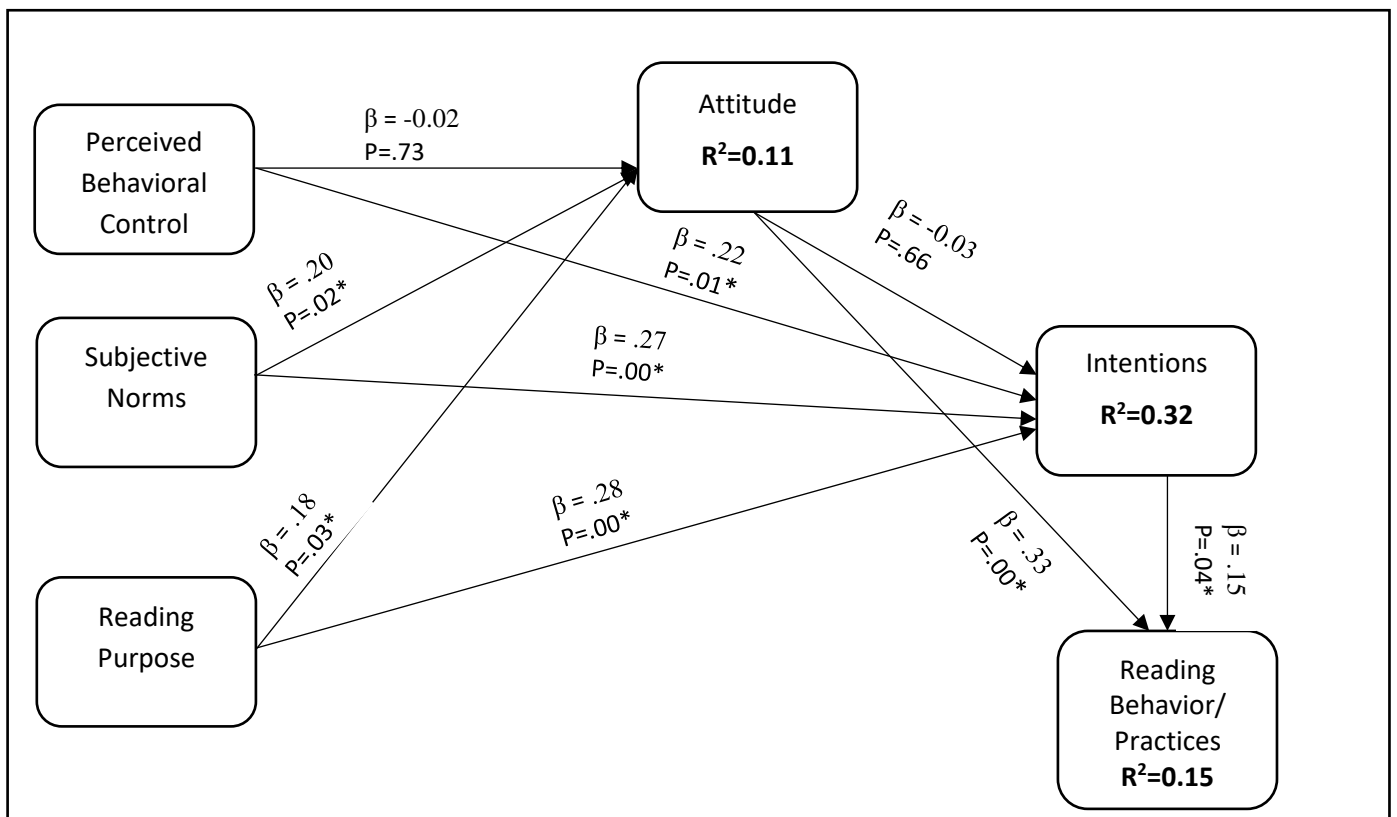

Figure 7. Tested Model E-Reading Consumption

5. Discussion

5.1. Key findings

The current study aimed to explore digital immigrants' e-reading experiences and expectations through a theoretical lens of planned behavior theory. Collectively, the study provides a comprehensive theoretical model of e-reading experience through qualitative (first phase) and quantitative (second phase) investigations. The first phase provided few exciting insights with a smaller sample (n = 9) through qualitative methods such as positive behavioral beliefs, e-readers of generation X found e-reading is user friendly, vast and updated information, time and money savers, these findings can be linked to the late exposure of technology to this generation where they have already experienced extensively reading from printed books and papers. Lately, Finnish and Irish Xers have also considered digital reading an opportunity to influence everyday life positively [49]. In contrast, e-reading for the older generation also brings a few challenges such as physical exertion, eye strain, less concentration, and comprehension; maybe this is because the habits of reading on paper cultivated deeply in this older generation [50]. Recently, Ouyang et al. [51] exposed that older adults find problems in switching during screen mirroring. Additionally, own preferences to read electronically becomes more critical for the older generation, given the perceived behavior backed by a few attractive yet challenging factors. Therefore, Pirhonen et al. [52] used Janus-faced for digital reading among older adults of Finland and Ireland. Finally, the first phase's findings also revealed that e-reading adoption is not leaving any option for Xers to adopt as a need and race of the hour, which are somehow consistent with generation Z readers, too surprisingly [53].

The second phase presented a few fascinating results with a larger sample (n=250) through quantitative methods, perceived behavioral control, subjective norms and reading purpose came out as strong predictors of e-reading adoption intentions. Likewise, attitude towards e-reading and intention to read in electronic format significantly impact Gen Y people's e-reading behavior. Based on these findings, it can be inferred that Xers will adopt digital reading if their family members, peers, and the people who are important to them like it and encourage its use. The findings are consistent with Nikou et al. [54], who compared the technology adoption intention of digital natives and digital immigrants and confirmed that digital immigrants significantly positively impact social norms. Lately, Joa and Magsemen-Conard [55] also found that social norms around digital immigrants help them adopt the technology. Furthermore, self-efficacy and

Xers' belief in their ability to control their actions will positively affect older adults' intention to adopt technology for reading. Whereas, a previous study conducted in the Finnish context provided a different lens that self-efficacy positively impacts intention to adopt digital technology but through attitude, not directly. However, the study did not investigate e-reading adoption but only digital technology adoption among Xers [56]. Moreover, the results supported the hypotheses H2 and H9 that e-reading attitude and adoption intentions of generation X influence actual behavior positively. In contrast, the study's findings show that the attitude (H1) towards e-reading does not influence e-reading adoption intentions. Interestingly, similar results were found about Finnish digital immigrants, that attitude has no significant impact on technology adoption intention [57]. The first phase also highlighted the leverage of generation X to adopt their e-reading preferences despite family and friends' encouragement. Given the focus of the theory of planned behavior on cognitive and instrumental components of attitudes may vary with cultural norms [58], and Pakistan as a collectivist cultural context [59] can have a different understanding based on e-reading habits among generation X. The following section extends discussion in theoretical and practical implications, followed by limitations and future research directions.

5.2. Theoretical and practical implications

The current study's two phases explored and tested e-reading adoption behaviors among generation X from a collectivist cultural context, Pakistan. The existing local literature on e-reading habits explored younger generations, general reading trends [60], reading at the library, and millennials' preferences [61], interaction with digital content among young readers [62]. However, the current study explored generation X e-reading adoption experiences to understand the perspectives of the same society's digital immigrants. The technology lagging gap among generations induces many similarities and differences; hence, the current study added value to understanding generation X e-reading patterns. Holistically, the current employed TPB framework further explores the attitudes, norms, intentions, and behaviors of the older generation in the developing and collectivistic cultural context. The current study's exploratory phase has provided a storyline of generation X e-readers, their preferences, positive adaptive beliefs, and challenges in e-reading adoption. Specifically, the speed, remote accessibility, recent, saver (time, cost, effort), and peer influence to adopt e-reading were positively linked to adoption intentions and considered theoretical extensions.

In contrast, personal motivation, health concerns, lack of comprehension, inevitable distractions, and easy access to prohibited content were framed as negatively related to e-reading adoption among generation X. Additionally, and the quantitative methods further validated the findings of the first phase (qualitative methods), attitudes and perceived behavioral control among other constructs not approved to be predictors of intentions. As discussed above, there could be cultural (collectivist) and contextual (e-reading) reasons behind this disconfirmation of established relationships among constructs. However, the second phase of the study helps test and validate the developed instrument using TPB contextualized framework for e-reading adoption intentions. The results show that behavioral beliefs and normative beliefs are strong predictors, whereas attitudes and intentions positively impact e-reading behavior or practices. Originally TPB suggests that attitude is an independent variable that impacts behavior through intention. However, the current study has reshaped the model in Pakistani context and added that attitude is a mediator like intention, that directly impacts behavior instead of through intention and mediates the relationship between subjective norms and reading purpose, and e-reading behavior. Main theoretical implications revolve around e-reading experiences a few positive outcomes yet challenging at times. These findings open up considerable differences and similarities with the earlier research studies in the same area; however, different generational (millennials) contexts [63-64]. Interestingly, e-readers from generation X and generation Z (which is even more recent than digital natives) have similar health challenges, and eye strain was one of them [65]. Since generation X e-readers are from the digital immigrant time, willingness to read electronically is indirectly supported by peers and family. The current study provides a holistic view of generation X e-readers' experiences. The results exposed that attitude, subjective norms, perceived behavioral control and reading purpose are strong predictors of e-reading behavior. Therefore, it can be concluded that Xers will adopt e-reading if they will have a positive attitude, find their peers and friends doing or encouraging this practice and they have clear purposes/benefits to read in electronic format. It stresses the need to develop an e-reading culture at the individual and organizational levels. Furthermore, regarding behavioral control, they must be trained to use e-reading effectively; their concerns like less annotation facility available during onscreen reading may be addressed through training. They may be less trained in this regard, previously, Soroya and Ameen [66] also discussed the low awareness and usage of annotating functions on e-reading

contents by Pakistani young adults, another study may be conducted to explore their e-reading skills, and proper training may be organized for Xers incredibly.

It is observed that Xers mentioned severe health issues, i.e., eyesight, backbone. Since e-reading and IT, related devices required a particular posture to keep oneself healthy. The Xers should be trained from infrastructure purchasing to its use accordingly. Mainly they were using laptops for reading and reported distraction; perhaps the e-readers can help them in this regard. Moreover, industry experts need to innovate and bring product customization to overcome these challenges of reading electronically [67]. As the number of e-readers progresses, product designers should consider a few improved features to help e-readers.

5.3. Limitations and future research directions

The study is, of course, not without limitations. In the qualitative phase, the purposive convenience sampling technique raises the problem of generalization. Similarly, in the second phase, the convenience sampling technique restrict generalization. Secondly, in Pakistan's context, the cultural acceptability of older generations has different implications due to exposure to technology. Since the sample (generation X) and study context (Pakistan - developing country) is unique, the findings' generalizability will not apply to the larger sample. As, it was exploratory study therefore avid readers were taken as a sample, future studies may focus on the public representing all levels of education and reading practices. Future research studies can understand the older generation's e-reading experiences where, the older generation has more and early access to technology. Thirdly, the current study follows the experiential sequence of qualitative and quantitative inquiry; future research studies may introduce other data collection methods, such as focus groups for qualitative investigation. The instrument developed in this study should be tested on a larger sample and even for different cultural settings to validate the current research findings further.

6. Conclusions

To the best of our knowledge, this is the first research to look at generation X's e-reading intentions and behaviors through the lens of the theory of planned behavior. Overall, the results of the study are significant in understanding Xers' reading habits. According to Generation X, e-reading has many advantages, the most important of which are time savings, money, and energy. Furthermore, generation X assumes that e-reading is inevitable if one wishes to broaden one's horizons or stay

current. However, the difficulties, especially their health-related problems, are a source of concern for them. Attention distraction, loss of focus, and understanding on-screen are other issues Xers have with e-reading. Surprisingly, they believe that on-screen reading causes them to avoid libraries and makes them feel socially isolated. Generation X mentioned subjective norms; most of them said their academic zone, including their research supervisors, colleagues, and friends, is encouraging; however, their family members can be discouraged due to health issues. They also conclude that e-reading is not appropriate for recreational reading, that they do not like it, and that it is not appropriate for long-term reading. It has fewer annotation options.

Furthermore, they have a strong desire to continue e-reading because they recognize that it is the need of the hour. Finally, Xers spend an average of 3-5 hours a day reading from a tablet. According to the report, in the Pakistani context, subjective norms perceived behavioral control and attitude have a more significant direct positive effect on e-reading behavior than intention. Another significant finding is that one's attitude toward e-reading directly impacts one's e-reading intention but not on one's e-reading actions, while subjective norms and perceived behavioral norms directly impact one's e-reading intention control affect e-reading behavior and through attitude and intention. Attitude, which is a predictor of e-reading behavior, is also influenced by these two variables. As a result, it can be concluded that Xers would embrace e-reading if they see their peers and friends doing or promoting it. If they have significant influence over how they use e-reading devices, Xers will have a good attitude and purpose about e-reading adoption, and they will eventually practice it regularly, which is necessary for them to stay up to date and perform various tasks in the digital paradigm. On the other hand, assisted in identifying that the X generation has health concerns while using the technology-supported reading content. If appropriately addressed, these health concerns may help them adopt e-reading, which is the need of the hour.

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