ILMA Journal of Social Sciences & Economics (IJSSE)
E-ISSN: 2790-5896 P-ISSN: 2709-2232
Volume 4 Issue 1 (2023) 36-57

Integration Of Task-Technology Fit (Ttf) And Motivation Model To Investigate The Adoption Of M-Marketing

Muhammad Shahbaz [1] Sheraz Ali[2*] Waqar Ahmad [3] Noor Fatima[4]

Abstract

Mobile marketing, also known as m-marketing, is a contemporary marketing technique that holds considerable influence over organizational performance, particularly in the context of small and medium-sized enterprises (SMEs). The objective of this research is to investigate the factors that impact the adoption of m-marketing in SMEs in Pakistan. To achieve this, the study utilizes the Task Technology Fit (TTF) theory and the motivation model as theoretical frameworks to propose a research framework. A sample of 305 valid responses was collected, and structural equation modelling (SEM) using AMOS was employed to analyse the data and test the hypotheses. The findings of the study indicate that all variables related to TTF (Task characteristics, technology characteristics, and task-technology fit) as well as the motivational model (extrinsic motivation and intrinsic motivation) significantly predict the adoption of m-marketing in SMEs in Pakistan. The study holds both practical and theoretical implications of great significance.

Keywords: *m-marketing, motivation model, task-technology fit, adoption intention, SMEs of Pakistan.*
JEL: M31, O14

Author's Affiliation:
Institution: Government College University, Faisalabad [1-2-3-4]
Country: Pakistan
Corresponding Author's Email: *sherazali95019@gmail.com

INTRODUCTION

The developing nations, like Pakistan, are catching up swiftly in terms of technological usage, particularly in mobile and social media users. Cellular subscriptions in Pakistan crossed the 195 million marks by the end of October 2022, (PTA, 2022). The number of 3g 4g subscribers in Pakistan was 119 million, and broadband subscribers 122million, the only 2 million telephone subscribers by end of October 2022, (PTA, 2022). Pakistan is present the second largest e-commerce market in south Asia. The world spent $17.3 billion in 2006 to $76.9 billion in 2011, the global market for mobile entertainment products and services is anticipated to increase (Gibson, 2006). Revenues from mobile content other than messaging are anticipated to rise from $70.7 billion in 2007 to $187.9 billion in 2012. (Uglow, 2007). Additionally, a variety of mobile services, including text and video messaging, mobile email, and GPS navigation, are expanding rapidly.

Despite the expansion of the markets for mobile devices and applications, m-marketing, which refers to a group of marketing efforts that utilise mobile devices and media (the means of transmission that involve smartphone), is becoming more significant. For instance, it is projected that by 2011, U.S. spending on mobile advertising, which is currently estimated to be $644 million, will reach over $3.5 billion (eMarketer, 2007). Similar to this, it is anticipated that U.S. spending on mobile messaging marketing, currently estimated at $4.2 billion, will increase to $12 billion in 2011 (EMarketer, 2007). It should come as no surprise that academics and industry professionals are interested in the developing field of m-marketing (Shankar & Balasubramanian, 2009). The majority of the current study on mobile technology use and m-marketing has been done in established nations, although the large and small developing economies are presently experiencing the fastest growth. For instance, India welcomes the newest mobile users each month which almost the 3 million, While China already contains the largest population of smartphone users (360 million). In addition, the number of mobile users is rapidly growing in many African nations that have abandoned landlines in favor of mobile technology. In reality, the "digital divide," or the disparity between industrialized and emerging countries in the use and adoption of digital technology, may have reverted in the scenario of the BRIC nations (Brazil, Russia, India, and China) according to (Chircu & Mahajan, 2009)Russia, India, and China (BRIC. According to their argument, out of the 34 global categories of mobile services, the BRIC countries have outperformed Western economies in mobile data, payment, communication, and video sites.

m-marketing is the most dynamic, personal, and successful form of advertising since it gives users consistent access anytime and anywhere" (Leppäniemi et al., 2006). One of the most stimulating and successful business services that can be effectively provided using a mobile device is marketing. (Guo, X., Zhao, Y., Jin, Y., & Zhang, 2010). One of the utmost energetic and lucrative company services that may be achievable outcomes through a mobile device is marketing, which is a work in the business (Maduku, 2021). To increase use of m-marketing in SMEs in the world also become the motivation for SME's of Pakistan to use it. M-marketing can help the SME's in developing their sales promotion strategies and helps them in increasing sales of their products and services. As the SME's of

Pakistan are in the adoption phase, therefore, the present study proposed the factors which influence the employees to adopt m-marketing which helps them in smooth functioning of the organization. The adoption of mobile marketing in Pakistan may be a desirable "platform to interact target audience through a variety of advertising communication." This highlights the significance of study aimed at understanding the factors that drive the adoption of m-marketing technology in firms, especially SMEs in Pakistan.

In the context of present study the fit between technology and employees requirements is very important as it becomes the reason of many technology failure in past (Kaufman et al., 2006; Shahbaz, Gao, Zhai, Shahzad, Luqman, et al., 2021; Tarafdar et al., 2015)on technology-enabled innovation, technology-enabled performance and overall performance. We further look at the role of technology self-efficacy, organizational mechanisms that inhibit technostress and technology competence as possible mitigations to the effects of technostress creators. Our findings show a negative association between technostress creators and performance. We find that, while traditional effort-based mechanisms such as building technology competence reduce the impact of technostress creators on technology-enabled innovation and performance, more empowering mechanisms such as developing technology self-efficacy and information systems (IS. The previous studies of same context also highlighted that motivation is the essential factor for the successful adoption of technology even the technology is perceived useful and easy (Raza et al., 2019; Shahbaz & Zahid, 2022)cost reduction, perceived security and privacy, and compatibility as extended factors of TAM. The study also proposed two-way interaction impacts of resistance to change and two-way and three-way interaction impacts of MM factors (extrinsic and intrinsic motivation. The present study bridges the research gap integrated Task technology theory and Motivational model to propose the research farmwork. The results showed that the TTF factors (task characteristics, technology characteristics, and task-technology fit) and motivational model factors (extrinsic motivation and intrinsic motivation) are significant predictors of m-marketing adoption intention. The study also presented many theoretical implications, managerial implications, limitations, and future research directions in the upcoming phases of the study.

THEORETICAL FRAMEWORK AND HYPOTHESIS

Task technology fit (TTF) theory was first proposed in 1995, explored the relationship between task characteristics, technology characteristic with the adoption intentions (Goodhue & Thompson, 1995). According to the TTF theory, characteristics that affect how people utilize technology depend on the kinds of jobs they are performing. The TTF theory states that technology use increases as a function of how well a technology supports a user's particular responsibilities (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021). The TTF adoption model suggest that the user will adopt a new technology if it is sufficient to perform daily tasks efficiently (Lin et al., 2020). TTF has originated from the concept of perceived fit and is widely used in the study of user adoption (Feng et al., 2016). TTF provides alternative explanations of consumer intent in the use of technology, emphasizing the impact of work features (Mohammed et al., 2017). TTF was employed in

other research to evaluate the efficacy of mobile business applications (Gebauer & Shaw, 2004; Zhou et al., 2010). The theory consists of three factors which are task characteristics, technology characteristics, and task technology fit. The mentioned study highlighted that in the context of m-marketing adoption, the usage of TTF is lacking. Moreover, there is need of incorporated TTF in the technology adoption specific to developing countries context (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021).

The technology adoption model (Pedersen, 2003), the uses and gratifications theory (Brackett & Carr, 2001; Ducoffe, 1996), and the theory of reasoned action have all been used by marketing and advertising researchers to investigate the antecedents of potential users' attitudes toward m-marketing for their organizational purpose. These antecedents include irritability, entertainment, credibility and informativeness (Feng et al., 2016); personalization (Bauer et al., 2005; Ducoffe, 1996); and localization (Bauer et al., 2005; Brackett & Carr, 2001) . However, the existing literature has largely ignored an important question: What factors motivate a potential user to accept and use m-marketing?

Motivational model (MM) extracted from Self-determination theory (SDT) was developed by Deci (1972) which intensely focus on the motivation as the behaviour of human reflect by their motivation (Shahzad, Xiu, et al., 2020). This theory split into two motivational factors: intrinsic motivation and extrinsic motivation and have been used widely in psychological and behavioural factors since 2000 (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021). The theory purposes that motivation drives the individual's behaviour to act in a certain way for particular event (Agarwal et al., 2018). The study of (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021) stated that in adopting the particular technology or innovation the employee's motivation plays a significant role as it reflects the human behaviour.

Therefore, the present study to bridge the theoretical gap, integrated TTF and MM to propose the research model of m-marketing adoption as presented in Figure 1.

Task-technology fit (TTF)

The model contends that only concentrating on how users perceive a technology is insufficient to forecast its adoption (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021). It claims that if people believe a technology is effective enough to do their everyday chores, they will accept it (Gebauer & Shaw, 2004). This theory's framework sheds insight on the application of technology in daily life. The task technology fit (TTF) model presupposes that users would employ a technology based on fit between work demand and technology characteristics since focusing just on users' perceptions of the technology is insufficient (Mohammed et al., 2017). According to (Oliveira et al., 2014), who acknowledge the theoretical basis of TTF, people will not accept a technology if they find it unsuited for their daily jobs and doesn't enhance how they are carried out.

Even though their behavioral impressions of technology are good, users never develop BI towards technology adoption in the absence of TTF (Oliveira et al., 2014). To analyze the intention of users towards the adoption of m-marketing, it is crucial to study TTF combined with behavioral perception aspects. According to earlier research, task characteristics and technological characteristics are important determinants of TTF (Gan & Cao, 2014; Hung et al., 2018; Zhou et al., 2010). The tasks that a user completes while utilizing a system or technology are referred to as task characteristics (Hung et al., 2018). Technology characteristics are a combination of elements that make a job simpler to do (Shahbaz et al., 2019). TTF has been stressed in earlier research on the adoption of various technologies, and it has been integrated with other theories to produce more important findings.

In order to forecast the user intention to utilize online courses, the study (Lin et al., 2020) combined TTF with social motivation and self-determination theory. It came to the conclusion that TTF in conjunction with other theories produced more meaningful findings than TTF alone. Another study examined the joint effect of UTAUT and TTF on user intention adoption of e-textbooks and came to the conclusion that the combined effect was more beneficial than either UTAUT or TTF alone (Hung et al., 2018). Another research that looked at the same pairing of UTAUT and TTF to assess user adoption of mobile banking came to the conclusion that it produced superior predictions of user intention in an organizational environment (Zhou et al., 2010).

In the area of BDA, Shahbaz et al (Shahbaz et al., 2019) combined TTF and TAM and came to the same conclusion: TTF or TAM combined yielded stronger results than either one used alone. They also recommended that future research in TTF look into other theories like UTAUT to understand better the user's intention to adopt BDA. Furthermore another study by (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021) used the combination of TTF, UTAUT and self-determination theory for investigating the users' intention towards technology adoption and found it significant. Another study by (Technology & 2019, 2019) examined the TTF theory with the combination of TAM theory also investigated the influence of TTF on satisfaction of users' intention to adopt the technology. The study concluded that TTF increases the satisfaction of the potential user which motivates them to adopt the technology. Furthermore, the study of (Chen, 2019) investigated the combination of extended TTF and TAM theory and also considered the factors of intrinsic motivation which drives the users' intention to adopt the technology. The study investigated the influence of TTF and TAM in the context of automobile telematic devices and concluded that TTF significantly increases the users' motivation towards the technology adoption. moreover another study by (Wu & Chen, 2017) investigated the adoption of MOOCs in the context of China by combining the TTF and TAM theory. The study also examined the social motivation on the adoption intention and found that motivation does play a significant role in the adoption of technology which is come from the specification and characteristics of the technology. The study of (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021) concluded that motivation is the remedy to make the intention of employees towards the technology but particular technology should have good fit with the task which has to be perform with that technology.

The TTF theory's fundamental logic also holds that if technology meets a user's task needs, it gives the user the impression that it will enhance his or her productivity at work which will makes his/her intention to adopt particular technology. On the basis of previous literature current research also consider that TTF would makes the users' intention to adopt m-marketing when they perceive it useful and simpler to adopt. Thus, we hypothesized that:

H1: task characteristics have significant relationship with the task technology fit.

H2: technology characteristics have significant relationship with the task technology fit.

H3: task technology fit has significant relationship with the intention to adopt m-marketing.

H4: task technology fit has significant relationship with the intrinsic motivation.

Extrinsic motivation

Extrinsic motivation (EM) he degree to which a potential user demonstrates a propensity to complete the assignment or task due to external rewards and penalties (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021). EM is when a person takes a certain action because they believe it will help them achieve something valuable (Kwon & Chidambaram, 2000). According to a different study, external variables, either monetary or nonmonetary, put pressure on EM (Feng et al., 2016; Kwon & Chidambaram, 2000; T. Li & Chen, 2019). According to Chiu (Chiu, 2018), extrinsically driven workers complete the activity in order to improve professionally, receive additional pay, and maintain high standards of living, which go beyond the task itself (T. Li & Chen, 2019). EM is triggered by elements outside of the individual. Extrinsically motivated people engage in activities for the sake of the advantages they gain from doing so, according to motivational theorists (Feng et al., 2016). Extrinsic motivation is a good indicator of whether or not people will accept new technologies (W. Li et al., 2020). Employees are more likely to accept new software applications when they are extrinsically motivated to do so, such as when using it will boost their productivity and allow them to earn better compensation (Chiu, 2018). These conclusions also pertain to other industries, like mobile Internet use and m-marketing(Kim et al., 2007).

The study of (Muduli & Barve, 2013) assert that a company's motivating methods should take into account the employees' fundamental requirements by providing financial incentives and bonuses. Initiatives based on EM typically aim to reap financial rewards. Furthermore, (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021) stated that EM is an important factor in determining technological innovation adoption and promote intention. Employees' behavioral intentions are stimulated by EM (Chiu, 2018). (Kwon & Chidambaram, 2000) discovered that EM has a significant influence on the adoption intention of specific behaviors. Therefore, we believe that users will see m-marketing favorably if they are extrinsically driven to do so. As a result, this study hypothesized:

H5: extrinsic motivation has significant relationship with the intention to adopt m-marketing.

Intrinsic motivation

Intrinsic motivation (IM) is the degree to which employees are self-governed and determined to complete a certain activity for his or her personal happiness, according to the self-determination theory (SDT) and motivational model (Shahzad, Xiu, et al., 2020). The importance of IM in motivating people to work hard even in the absence of monetary remuneration or rewards is a key aspect (T. Li & Chen, 2019). When someone is motivated by their intrinsic interests rather than extrinsic rewards, they are more likely to take an activity (Feng et al., 2016). Instead of being motivated by external pressures, advantages, or rewards, an individual with intrinsic motivation may be motivated by the joy or difficulty of the situation (W. Li et al., 2020; Shahzad, Xiu, et al., 2020). Even in the absence of outside reinforcement or incentives, motivation comes from the act of executing the task itself (Kwon & Chidambaram, 2000). People who are genuinely driven engage in activities because they find them interesting and enjoyable (Muduli & Barve, 2013). Intrinsic motivation therefore results in a favorable attitude toward the action. According to research by (W. Li et al., 2020), employees become more skillful and reduce the risks associated with the adoption of innovation when they demonstrate greater enthusiasm and dedication in carrying out the new activity. Similar to this, another study found that people who are genuinely driven are more likely to accept innovation without thinking about the potential for external benefit (Hsu & Lin, 2008). IM emerges when people feel independent and capable of handling circumstances, claimed by (Kwon & Chidambaram, 2000). Since a technology may be both creative and hard, employees with high IM are more confident about completing such responsibilities (Shahzad, Xiu, et al., 2020). As a result, IM has a significant impact on how well a technology is adopted.

The direct impact of intrinsic desire on people's intention to utilize a new technology is supported experimentally by earlier study (Hsu & Lin, 2008). Similar to this, it is believe that a user who is naturally driven would have a favorable opinion of m-marketing (Feng et al., 2016). Employees have internal pleasure when working with IM since it is more reliable and produces results that last longer. Considering the importance of IM for user’s intention from previous studies this research also hypothesized that:
H6: intrinsic motivation has significant relationship with the intention to adopt m-marketing.

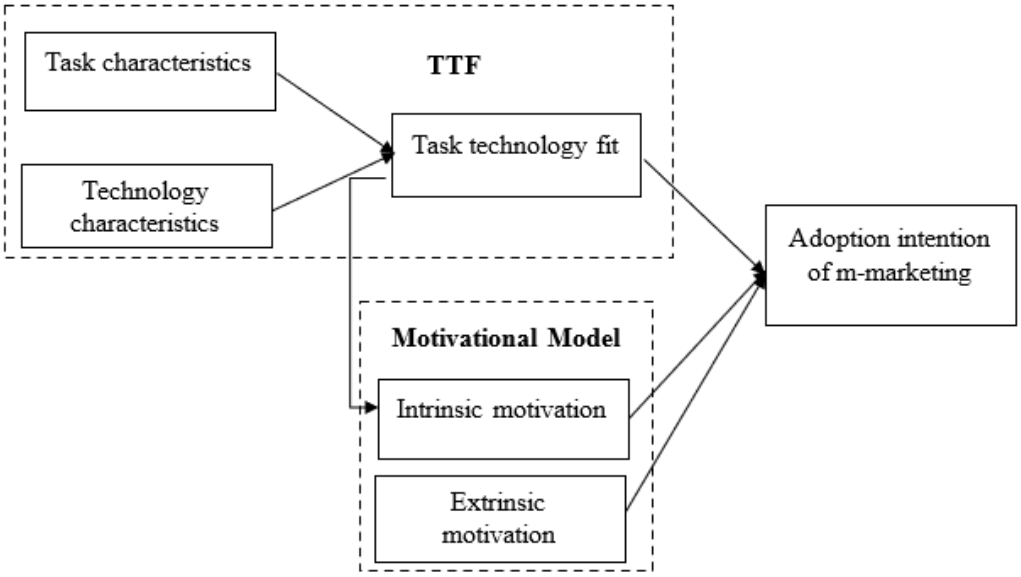

Figure 1 Proposed research framework

RESULTS

Questionnaire design

In this study, a structured questionnaire method is used to gather data in order to preserve validity and guarantee the link between variables based on primary data. The first of the three sections of the questionnaire guarantees that the respondent's information will be kept private and used exclusively for research purposes. The demographic information of the responder was the subject of the closed-ended questions in the second section of the questionnaire. Questions regarding the context of the study were contained in the final portion. Since it was advised and extensively utilized in prior studies, a 7-point Likert scale is chosen for data collection (lowest degree strongly disagree to highest degree strongly agree). The items of four items of scale of task characteristics, three items of scale of technology characteristics and three items of scale of task technology fit is adapted from the study of (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021). Four items scale of EM, three items scale of adoption intention, and three items scale of IM were adapted from (Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021) and (Shahzad, Xiu, et al., 2020) respectively.

Population and sampling:

The employees of SMEs in Pakistan is the population of the current study, in light of the justifications indicated above. Small and medium-sized enterprises (SMEs) make up a considerable portion of Pakistan's economy, contributing 40% of the GDP and producing the majority of new jobs nationwide (March, 2022). Therefore, current research selected the SMEs as its targeted population.

The sample is the percentage of the population that represents the characteristics of the population. Due to the population's size, it is challenging to investigate everything

or everyone, hence samples that fairly represent the population as a whole must be taken (Eriksson & Kovalainen, 2011). Probability sampling and nonprobability sampling are the two main subcategories of sampling techniques. SMEs are present throughout Pakistan, however the majority are concentrated in the Punjab region, where the percentage is 65.4%. (ZAFAR & MUSTAFA, 2017). Structural equation modelling (SEM) was utilized in this work to assess the hypotheses. According to past research, a sample size of at least 200 should have been employed for analysis.

Process of data analysis

This study also evaluates the data using some of the most modern statistical software, such as MS Excel 2016, IBM SPSS (v25), and IBM AMOS (v26). The structural model was the subsequent step in the data analysis procedure. The study used Stry=uctural quation modeling (SEM) through the IBM AMOS (v26) to test the hypotheses. AMOS is a powerful tool for modelling structural equations and confirmatory factor analysis. AMOS is the best SEM tool when model fitness is appropriately taken into account (Bryne, 2010). Therefore, in the light of the aforementioned features of the AMOS and its suitability for the research issue, this study selected AMOS for the important path analysis stage.

Common method Variance (CMV)

The CMV phenomenon is caused by the measurement model's ambiguity in determining how to evaluate the causes and effects relationship. The CMV usually happens when information is collected simultaneously from a single source. It is critical to comprehend the CMV since it might affect the study's validity before starting the primary analysis. The most common and well-liked method for calculating CMB in social research is the Harman's single component test (P. M. Podsakoff, S. B. MacKenzie, 2012). As a result, this study also employed the Harman's single component test using SPSS to calculate the CMV.

Data of present research is collected from single source therefore the CMV was evaluated by Harman’s single factor by exploratory factor analysis EFA through SPSS. The study categories the items into 6 groups and the results showed that the first factor explains 32.28% variance which is under the threshold therefore there is no critical issue of the CMV (Riaz et al., 2021).

Demographical results

Information about the demographics of the respondents is presented in table 3. The demographical results present that 66% respondents were males, and the rest was females. Further it shows that majority of the respondents are highly educated and under the age of 30 to 50.

Table: 1 Demographical Result

Category		Frequency	Percentage
Gender	Male	201	66.0
	Female	104	34.0
	Total	305	100.0
Age	18-29	89	29.2
	30-39	148	48.5
	40-50	66	21.6
	Above 50	02	0.7
	Total	305	100.0
Education	Undergraduate	64	21
	Graduate	129	42.3
	Postgraduate	100	32.9
	Other (Diploma/ professional education)	12	3.9
	Total	305	100.0

3.6. Convergent validity and reliability

convergent reliability and validity were first investigated at in the current investigation. The correlation level of numerous indicators in related structured studies is measured through convergent validity (Sarstedt et al., 2014). The results of factor loadings, composite reliability, Cronbach's alpha, and average variance extracted (AVE) were shown in Table 4.3.

The values of Cronbach's alpha are ranged from .884 to .979, values of CR are ranged from .881 to .963 and the values of AVE are ranged from .697 to .941. The results revealed that all the values are under the acceptance range therefore there is no issue of the convergent validity and reliability (Fornell & Larcker, 1981).

Table: 2 Convergent validity and reliability

Variables	Items	Loadings	Cronbach's alpha	CR	AVE
Task characteristics	TC	.865	.900	.901	.697
	TC2	.878			
	TC3	.784			
	TC4	.881			

technology characteristics	TEC1	.959	.979	.980	.941
	TEC2	.946			
	TEC3	.956			
Task technology fit	TTF1	.935	.961	.963	.896
	TTF2	.903			
	TTF3	.908			
Intrinsic motivation	IM1	.869	.884	.884	.718
	IM2	.866			
	IM3	.867			
Extrinsic motivation	EM1	.905	.930	.931	.771
	EM2	.899			
	EM3	.922			
	EM4	.850			
Adoption of m-marketing	AD1	.855	.879	.881	.713
	AD2	.834			

Discriminant validity

Additionally, the present study looked at discriminant validity, which displays the amount of empirical variation among the study's constructs (Hair Jr et al., 2014; Shahbaz et al., 2019). To assess the discriminant validity, correlation between variables and the square root of the AVE are utilized (Hu & Bentler, 1999). Table 3 shows the square root of the AVE and association matrix, demonstrating the accuracy of discriminant validity (Shahzad, Du, et al., 2020).

Table: 3 Discriminant validity

	EM	**TC**	**TEC**	**TTF**	**IM**	**AD**
EM	**0.878**					
TC	0.165**	**0.835**				
TEC	0.214***	0.233***	**0.970**			
TTF	0.120*	0.364***	0.338***	**0.946**		
IM	0.151**	0.314***	0.200***	0.336***	**0.847**	
AD	0.374	0.322	0.219	0.352	0.454	**0.844**

MEASUREMENT MODEL RESULTS

Confirmatory factor analysis

To examine the validity and consistency of the variables of the proposed research framework the study conducted the confirmatory factor analysis (CFA) through AMOS. The findings of the study revealed that the values of CMIN/DF, 1.612: CFI, 0.988: RMSEA, 0.039: PClose.0.986. All the values of CFA are under the threshold which shows that the model fitness is good.

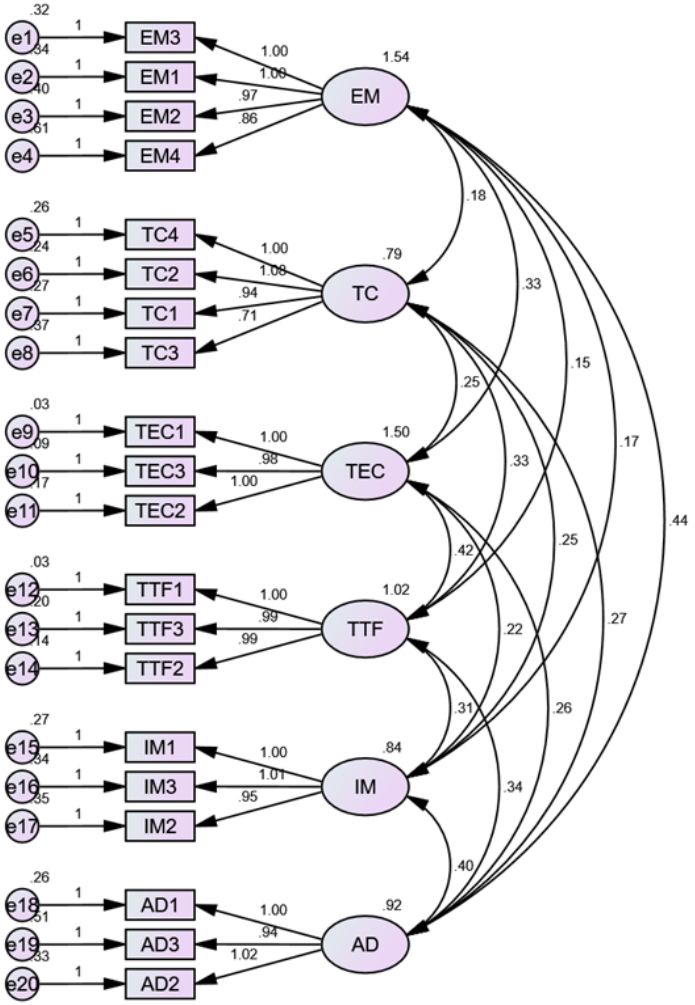

Figure 2 CFA Diagram

Structural model analysis

After confirming the accurate results of the measurement model the study further examined the structural model analysis which was done through AMOS. The study conducted the path analysis for hypothesis testing via AMOS. Model fitness was checked at first. The findings of the model fitness show that CMIN/DF= 2.623, PCLOSE= 0.073, RMESA= 0.058, and CFI= 0.952 which is a good model fitness. The results of the SEM present that the relationship of TC with TTF is (β=.281, P=.000), TEC with TTF (β=.287, P=.000), TTF with IM (β=.261, P=.000), TTF with AD is (β=.221, P=.000), IM with AD is (β=.298, P=.000), and EM with AD is (β=.281, P=.000). the results of the SEM proved that H1, H2, H3, H4, H5 and H6 are accepted.

DISCUSSION

M-marketing is crucial in this IT era to improve an organization's sales success. Because everyone in the digital age needs a variety of answers for their problems in less time and within reach, m-marketing offers employees prompt solutions, which improves their performance and, in turn, boosts the performance of SMEs. According to the findings of many previous studies, m-marketing is greatly needed by Pakistani SMEs, and this research developed a study model that examines its adoption intention in employees of SMEs (Glavee-Geo et al., 2017; Raza et al., 2019). The study used the TTF theory and self-determination theory for theoretical base and proposed a research model. The results of the study revealed that TTF and motivational factors are significant predictors of m-marketing adoption intention. According to the findings of the research task characteristics have positive influence on the task technology fit. Results prove that when adopters feel that the task characteristics is highly match with the technology then their adoption intention increases. Task characteristics have significant influence on individual's behavioral intentions. m-marketing is highly dependent on the task characteristics as if the employee's task is to target youth customers which is mostly find on the social media as compare traditional channels, then employees would be intended to adopt m-marketing because it is their task. Employees daily job task makeup their mind towards the actions once they feel that their task could not be achieve effectively without adopting particular technology, they would surely adopt it.

Furthermore, the results unveil that technology characteristics also a significant predictor of task technology fit which further influence the adoption intention. The findings of the study reveal that technology characteristics effect the users mind if the technology is not according to their work requirement or they feel that adopting the particular technology would not be beneficial for their work the potential user would avoid the technology. For making the intention of users towards adoption of m-marketing employees should have the knowledge about the benefits of the technology and managers must communicate these benefits to their employees. employees should have known that adoption of m-marketing would beneficial for their work, increase their work efficiency and helps them to easily communicate and interact with their target audience. The results of current study regarding the task and technology charactristics and TTF are consistent with the many prior studied

(Alyoussef, 2021; Jeyaraj, 2022; Shahbaz, Gao, Zhai, Shahzad, & Khan, 2021).

The findings of the research showed that task technology is a significant predictor of the intention to adopt m-marketing in SMEs of Pakistan. The results of the study also highlight that the task technology fit significantly influence the intrinsic motivation. According to the results of the study, task technology fit strongly influence the potential user's intention for adoption. The study proves that the good fitness of task and technology with the job's requirement motivate the employees to adopt the specific technology. For instance, if the employee's task is to reach the maximum targeted audience in several geographic region now that task could effectively achieve with the m-marketing as it is much more convenient than any other marketing technology. For online interaction m-marketing is the best platform for both customers and the employees as it is the technology with which most of the people are familiar and there is less time and cost consumption for the firms to train their employees. therefore, task technology fit stimuli the users to adopt the technology by intrinsically motivate them and making their intentions.

Moreover, the outcome of the motivational determinants also proves as a significant influencer of the m-marketing. The results revealed that intrinsic and extrinsic motivation drives the individual's behavior towards something. Intrinsic motivation arises when a person feels encouraged, acknowledge and fortified internally. When the managers of SMEs in Pakistan motivate their employees internally their employees become more responsible and determined towards their task and work. The results proved that intrinsic motivation is the driver of individual's intention therefore, managers of the SMEs should always encourage their employees and acknowledge their work so that they feel motivated and work effectively. Likewise intrinsic motivation, extrinsic motivation also fluctuates the individual's behavior in such a way that they are intended to perform any task against which they would be rewarded. There are several ways to reward an employee extrinsically such as by giving allowance, bonus, extra salary etc. mangers should have known which extrinsic motivation would drive their employee's intention towards the adoption of m-marketing and then they should award them that benefit. According to the results, the higher the motivation would be there would be more chance of adoption m-marketing in SMEs of Pakistan. when employees feel encouraged and knows that they would get some benefit if they perform specific task the adoption intention will automatically will arise. The results of current study regarding the external and internal motivations are consistent with the previous studies of (Shahbaz, Nawaz, Ali, & Fatima, 2021; Shahbaz & Zahid, 2022; Zeng et al., 2022).

CONCLUSION

The purpose of this study is to look into the causes and effects of actions related to small businesses using m-marketing. The majority of the m-marketing literature focuses on the behavior of large organizations, which leaves the reasons for the limited adoption and anticipated results of m-marketing by small businesses largely unexplored. Small businesses are less likely than larger businesses to engage in m-marketing. TTF and Self-determination theories are used in current research. The findings of a structural equation model and the results of the hypothesis tests

indicate that Task characteristics, Technology characteristics, Task technology fit, and motivation model have a impact on adoption of m-marketing. The study also examined the influence of task technology fit on the intrinsic motivation so that employees become more intended towards the adoption of m-marketing in SMEs of Pakistan. The ramifications of these findings for managers and marketing theory are discussed, and any study limitations are then examined. The results of this study add to the body of knowledge on m-marketing adoption from the context of a developing nation that is relatively understudied and provide crucial insights for practitioners.

IMPLICATIONS

There are several implications of the research proposed model which are split into theoretical implications and managerial implications.

Theoretical implications

The study significantly contributes to the literature of m-marketing adoption specifically in the developing nations like Pakistan. The study considered the TTF and self-determination theory as a theoretical base for m-marketing adoption in SMEs of Pakistan. the study considers the task characteristics and technology characteristics as influencers of task technology fit which further impact the adoption intention of employees. previous studies focus on the consumer intentions to adopt m-marketing, but the employees of the SMEs were not considered to study which leaves the gap to fill. Employees are the first users of m-marketing whose intention highly influence the m-marketing effectiveness and benefits for the firm. In the present, the author bridges the gap and focus on the employee's perspective which gives the insight to the scholars that how different predictors and determinants influence the behavior of its users. Secondly, the author of the research study the two different theories together in which one theory have technological perspective and other have the motivational perspective of the users. The combination of these two theories in the field of m-marketing were not studied before and thus the scholars could have new perspective of these two theories in the area of m-marketing which is now the focal point of the scholars. Thirdly, the study examined the impact of task technology fit on the intrinsic motivation which is another contribution of the research in the literature. The author of the research purpose the positive relationship of TTF with the intrinsic motivation and the results of the study proved it a significant predictor which provides the understanding to the scholar that how the technology itself motivates its users.

Managerial implications

Just like the theoretical implications the research also has some noteworthy contribution for managerial perspective. Present study gives the awareness to the managers of the SMEs in Pakistan for choosing the m-marketing for their firm. The study used the TTF theory which is the technology base theory and address the issue of selecting the right technology which suits best for their work requirement and have good fitness with tasks of employees. the use of TTF theory in the area of

m-marketing gives the understanding to the managers that technology itself have impact on the users' behavior to adopt it or not. Secondly, the research used the self-determination theory and examined the intrinsic and extrinsic motivation on the intention to adopt m-marketing which clears that employees in Pakistani SMEs are influenced by the motivation. These findings unveils that when employees resist to adopt the m-marketing managers should have provide them some intrinsic and extrinsic motivation. When the individual feel acknowledges and appreciated for their work, they would intend to that task more effectively and efficiently in the future. Further extrinsic motivation also drives the intention of technology users as they would be awarded by some monetary benefits, promotions and allowances etc. thirdly, the study investigated the relationship of TTF with intrinsic motivation which showed that technology itself have the ability to attract its users. Here managers have to choose wisely which m-marketing platform is best suit for their firm or the task which they to be done. If the technology and task requirement dose not match then the employees would not get their job done and they will resist the adoption. Therefore, the study provides the insight to the managers that technology and task requirement should same so that their employees feel motivated intrinsically and make their minds to adopt the m-marketing.

Limitations and future directions

Despite of such implications the research has some of the limitations which can be diminish by future researchers. The study's findings are not general and are specific to the context of Pakistani SMEs which limits the findings of the study therefore, future researches should focus on the large geographical area or they can compare two nations for that perspective. Secondly, the study used only two theories and their factors which leaves the gap for future researchers to explore more influencing factors in depth. The future researches could also examine the influence of innovation diffusion theory for m-marketing adoption intention in SMEs. Thirdly, the study examined the motivational factors generally as intrinsic and extrinsic motivation impact the adoption intention of m-marketing but future researches should also investigate that which type of intrinsic and extrinsic motivation influence the most and how firms should arrange this motivation to encourage their employees. Finally, the study solely looked at the factors that influence the intention to embrace m-marketing. It would be fascinating to find out how these factors influence the actual adoption of m-marketing and how it affects SMEs' success.

DECLARATION OF INTEREST:

It is declared that the authors of this research work have no competing interests

REFERENCES

Agarwal, A., Giraud-Carrier, F. C., & Li, Y. (2018). A mediation model of green supply chain management adoption: The role of internal impetus. International Journal of Production Economics, 205, 342–358. https://doi.org/10.1016/j.ijpe.2018.09.011

Alyoussef, I. Y. (2021). Massive open online course (Moocs) acceptance: the role of task-technology fit (ttf) for higher education sustainability. Sustainability (Switzerland), 13(13). https://doi.org/10.3390/su13137374

Bauer, H. H., Reichardt, T., Barnes, S. J., & Neumann, M. M. (2005). Driving Consumer Acceptance of Mobile Marketing : a Theoretical Framework and Empirical Study. Journal of Electronic Commerce Research, 6(3), 181–193.

Brackett, L. K., & Carr, B. N. (2001). Cyberspace advertising vs. other media: Consumer vs. mature student attitudes. Journal of Advertising Research. https://doi.org/10.2501/JAR-41-5-23-32

Bryne, B. (2010). Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming. Structural Equation Modeling.

Chen, N. H. (2019). Extending a TAM–TTF model with perceptions toward telematics adoption. Asia Pacific Journal of Marketing and Logistics. https://doi.org/10.1108/APJML-02-2018-0074

Chircu, A. M., & Mahajan, V. (2009). Revisiting the digital divide: An analysis of mobile technology depth and service breadth in the BRIC countries. Journal of Product Innovation Management. https://doi.org/10.1111/j.1540-5885.2009.00671.x

Chiu, H. H. (2018). Employees' Intrinsic and Extrinsic Motivations in Innovation Implementation: The Moderation Role of Managers' Persuasive and Assertive Strategies. Journal of Change Management, 18(3), 218–239. https://doi.org/10.1080/14697017.2017.1407353

Ducoffe, R. H. (1996). Advertising value and advertising on the web. Journal of Advertising Research.

eMarketer. (2007). Mobile brand advertising. New York, 21 pp.

EMarketer. (2007). Mobile Message Marketing Report. New York.

Eriksson, P., & Kovalainen, A. (2011). Qualitative Methods in Business Research. Qualitative Methods in Business Research, 298–301. https://doi.org/10.4135/9780857028044

Feng, X., Fu, S., & Qin, J. (2016). Determinants of consumers' attitudes toward mobile advertising: The mediating roles of intrinsic and extrinsic motivations. Computers in Human Behavior. https://doi.org/10.1016/j.chb.2016.05.024

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research. https://doi.org/10.2307/3151312

Gan, Q., & Cao, Q. (2014). Adoption of electronic health record system: Multiple theoretical perspectives. Proceedings of the Annual Hawaii International Conference on System Sciences, 2716–2724. https://doi.org/10.1109/HICSS.2014.352

Gebauer, J., & Shaw, M. J. (2004). Success factors and impacts of mobile business applications: Results from a mobile e-procurement study. International Journal of Electronic Commerce. https://doi.org/10.1080/10864415.2004.11044304

Gibson, B. (2006). Entertaining Mobile, excerpted from Mobile Entertainment Markets. Opportunities & Forecasts.

Glavee-Geo, R., Shaikh, A. A., & Karjaluoto, H. (2017). Mobile banking services adoption in Pakistan: are there gender differences? International Journal of Bank Marketing, 35(7), 1088–1112. https://doi.org/10.1108/IJBM-09-2015-0142

Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. MIS Quarterly: Management Information Systems. https://doi.org/10.2307/249689

Guo, X., Zhao, Y., Jin, Y., & Zhang, N. (2010). Theorizing a two-sided adoption modelfor mobile marketing platforms. In In the Proceedings of the Thirty First International Conference on Information Systems, 1–16.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): an emerging tool in business research. European Business Review, 26(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Hsu, C. L., & Lin, J. C. C. (2008). Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation. Information and Management, 45(1), 65–74. https://doi.org/10.1016/j.im.2007.11.001

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6(1), 1–55. https://doi.org/10.1080/10705519909540118

Hung, W. H., Hsieh, P. H., & Huang, Y. De. (2018). Critical factors of the adoption of e-textbooks: A comparison between experienced and inexperienced users. International Review of Research in Open and Distance Learning, 19(4), 171–190. https://doi.org/10.19173/irrodl.v19i4.3854

Jeyaraj, A. (2022). A meta-regression of task-technology fit in information systems research. International Journal of Information Management, 65. https://doi.org/10.1016/j.ijinfomgt.2022.102493

Kaufman, P., Jayachandran, S., & Rose, R. L. (2006). The Role of Relational Embeddedness in Retail Buyers' Selection of New Products. Journal of Marketing Research, 43(4), 580–587. https://doi.org/10.1509/jmkr.43.4.580

Kim, H. W., Chan, H. C., & Gupta, S. (2007). Value-based Adoption of Mobile Internet: An empirical investigation. Decision Support Systems. https://doi.org/10.1016/j.dss.2005.05.009

Kwon, H. S., & Chidambaram, L. (2000). A test of the technology acceptance model: The case of cellular telephone adoption. Proceedings of the Annual Hawaii International Conference on System Sciences, 2000-Janua.

Leppäniemi, M., Sinisalo, J., & Karjaluoto, H. (2006). A Review of Mobile Marketing Research. International Journal of Mobile Marketing, 1(1), 30–42.

Li, T., & Chen, Y. (2019). Will virtual reality be a double-edged sword? Exploring the moderation effects of the expected enjoyment of a destination on travel intention. Journal of Destination Marketing and Management, 12(101), 15–26. https://doi.org/10.1016/j.jdmm.2019.02.003

Li, W., Bhutto, T. A., Xuhui, W., Maitlo, Q., Zafar, A. U., & Ahmed Bhutto, N. (2020). Unlocking employees' green creativity: The effects of green transformational leadership, green intrinsic, and extrinsic motivation. Journal of Cleaner Production, 255. https://doi.org/10.1016/j.jclepro.2020.120229

Lin, H. C., Han, X., Lyu, T., Ho, W. H., Xu, Y., Hsieh, T. C., Zhu, L., & Zhang, L. (2020). Task-technology fit analysis of social media use for marketing in the tourism and hospitality industry: a systematic literature review. International Journal of Contemporary Hospitality Management. https://doi.org/10.1108/IJCHM-12-2019-1031

Maduku, D. K. (2021). Antecedents of mobile marketing adoption by SMEs:Does industry variance matter? Journal of Organizational Computing and Electronic Commerce, 31(3), 222–249. https://doi.org/10.1080/10919392.2021.1956847

March, I. D. (2022). State Bank of Pakistan Challenge Fund for SMEs Expression of Interest. 04.

Mohammed, F., Alzahrani, A. I., Alfarraj, O., & Ibrahim, O. (2017). Cloud Computing Fitness for E-Government Implementation: Importance-Performance Analysis. IEEE Access. https://doi.org/10.1109/ACCESS.2017.2778093

Muduli, K., & Barve, A. (2013). Modelling the behavioural factors of green supply chain management implementation in mining industries in Indian scenario. Asian J. of Management Science and Applications, 1(1), 26. https://doi.org/10.1504/ajmsa.2013.056007

Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. International Journal of Information Management. https://doi.org/10.1016/j.ijinfomgt.2014.06.004

P. M. Podsakoff, S. B. MacKenzie, and N. P. P. (2012). Sources of method bias in social science research and recommendations on how to control it,. Annual Review of Psychology, 63(1), 539–569.

Pedersen, P. E. (2003). Usefulness and Self-Expressiveness : Extending TAM to Explain the Adoption of a Mobile Parking Service. The 16th Bled E-Commerce Conference e-Transformation, 705–717.

PTA. (2022). Pakistan Telicommunication.

Raza, S. A., Shah, N., & Ali, M. (2019). Acceptance of mobile banking in Islamic banks: evidence from modified UTAUT model. Journal of Islamic Marketing, 10(1), 357–376. https://doi.org/10.1108/JIMA-04-2017-0038

Riaz, M. U., Guang, L. X., Zafar, M., Shahzad, F., Shahbaz, M., & Lateef, M. (2021). Consumers' purchase intention and decision-making process through social networking sites: a social commerce construct. Behaviour and Information Technology, 40(1), 99–115. https://doi.org/10.1080/0144929X.2020.1846790

Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair, J. F. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. Journal of Family Business Strategy, 5(1), 105–115. https://doi.org/10.1016/j.jfbs.2014.01.002

Shahbaz, M., Gao, C., Zhai, L. L., Shahzad, F., & Hu, Y. (2019). Investigating the adoption of big data analytics in healthcare: the moderating role of resistance to change. Journal of Big Data, 6(1). https://doi.org/10.1186/s40537-019-0170-y

Shahbaz, M., Gao, C., Zhai, L. L., Shahzad, F., & Khan, I. (2021). Environmental air pollution management system: Predicting user adoption behavior of big data analytics. Technology in Society, 64(September 2020), 101473. https://doi.org/10.1016/j.techsoc.2020.101473

Shahbaz, M., Gao, C., Zhai, L., Shahzad, F., Luqman, A., & Zahid, R. (2021). Impact of big data analytics on sales performance in pharmaceutical organizations: The role of customer relationship management capabilities. PLoS ONE, 16(4 April 2021), 1–22. https://doi.org/10.1371/journal.pone.0250229

Shahbaz, M., Nawaz, M. A., Ali, Q., & Fatima, N. (2021). The War on Quality and Frontline Soldiers : Post-Covid-19 Challenges for Pakistan ' s Textile Sector Employees. Indian Journal of Economics and Business, 20(2), 997–1010.

Shahbaz, M., & Zahid, R. (2022). Probing the factors influencing cloud computing adoption in healthcare organizations: A three-way interaction model. Technology in Society, 71(September), 102139. https://doi.org/10.1016/j.techsoc.2022.102139

Shahzad, F., Du, J., Khan, I., Fateh, A., Shahbaz, M., Abbas, A., & Wattoo, M. U. (2020). Perceived threat of covid-19 contagion and frontline paramedics' agonistic behaviour: Employing a stressor–strain–outcome perspective. International Journal of Environmental Research and Public Health, 17(14), 1–22. https://doi.org/10.3390/ijerph17145102

Shahzad, F., Xiu, G. Y., Khan, I., Shahbaz, M., Riaz, M. U., & Abbas, A. (2020). The moderating role of intrinsic motivation in cloud computing adoption in online education in a developing country: a structural equation model. Asia Pacific Education Review, 21(1), 121–141. https://doi.org/10.1007/s12564-019-09611-2

Shankar, V., & Balasubramanian, S. (2009). Mobile Marketing: A Synthesis and Prognosis. Journal of Interactive Marketing. https://doi.org/10.1016/j.intmar.2009.02.002

Tarafdar, M., Pullins, E. B., & Ragu-Nathan, T. S. (2015). Technostress: Negative effect on performance and possible mitigations. Information Systems Journal, 25(2), 103–132. https://doi.org/10.1111/isj.12042

Technology, F. O.-I. J. of H. and, & 2019, undefined. (2019). Open Educational Resources (OERs) Development in Nigeria: Determining Task Technology Fit (TTF) Impact on Faculty Usage, Satisfaction and Performance. Journal.Utem.Edu.My, 3(2), 2600–8122.

Uglow, S. (2007). The race for mobile content revenues.

Wu, B., & Chen, X. (2017). Continuance intention to use MOOCs: Integrating the technology acceptance model (TAM) and task technology fit (TTF) model. Computers in Human Behavior, 67, 221–232. https://doi.org/10.1016/j.chb.2016.10.028

ZAFAR, A., & MUSTAFA, S. (2017). SMEs and its Role in Economic and Socio-Economic Development of Pakistan. International Journal of Academic Research in Accounting, Finance and Management Sciences. https://doi.org/10.6007/ijarafms/v7-i4/3484

Zeng, D., Takada, N., Hara, Y., Sugiyama, S., Ito, Y., Nihei, Y., & Asakura, K. (2022). Impact of Intrinsic and Extrinsic Motivation on Work Engagement: A Cross-Sectional Study of Nurses Working in Long-Term Care Facilities. International Journal of Environmental Research and Public Health, 19(3). https://doi.org/10.3390/ijerph19031284

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. Computers in Human Behavior, 26(4), 760–767. https://doi.org/10.1016/j.chb.2010.01.013