

An Analysis of Customer Awareness Level of Mobile Commerce Applications for B2C Operations & Its Benefits (With Special Reference to Semi Urban Areas of Western Uttar Pradesh)

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ABSTRACT: *As more and more mobile devices, such as smart phones and tablets have become more pervasive and affordable, The demand for mobile commerce have been increased and it has become the hottest issue of present scenario in the developing countries like India. The demands for business to consumer's applications of mobile commerce have been increasing with the number of increasing customer base for mobile companies. This study is conducted to find out the customers awareness about M-commerce applications for B2C operations and the reason for opting these Applications, thus this study is carried out in Semi Urban/Towns of Uttar Pradesh. These objectives are achieved by circulating a set of schedule to examine the awareness and usage of M-commerce B2C application by the customers of Semi urban areas of Western Uttar Pradesh.*

Keywords: *Mobile commerce; B2C mobile commerce applications; semi urban areas; Awareness level, Benefits*

I. INTRODUCTION

M-commerce is swiftly overtaking e-commerce business as the existing mode for online transactions. Mobile devices may conceal the desktops in online transactions by the year 2016 as it is noticed that 50 per cent of total online orders are placed from mobiles. Growth in the mobile transactions is progressing quickly [1]. In this dynamic and fast changing world no one has patience to visit market places personally for every transaction. Mobile commerce has gained importance over traditional system of commerce. For every initiative undertaken in the country, participation of customers is must for the success of such initiatives. Likewise the Mobile commerce applications for B2C Operations are implemented to reach every customer in the country but the steps taken to create awareness and encourage usage of these Mobile commerce applications technologies among customer has been low. Even educated customers are not aware of all the technologies and many of them fear to use these technologies due to lack of confidence and reliability. The term Customer awareness describes the awareness of a potential or current buyer about particular product or company. Customer awareness plays a key role in customer decision making by increasing a potential or current customer's knowledge about a product, services or business, a healthy economic environment is established in which customers are informed and protected [2].

II. LITERATURE REVIEW

According to Pruthikrai Mahatanankoon "Awareness of mobile commerce existence implies that the individual has heard of it and has some idea of the kind of services it provides". He stated that consumers are not aware of their mobile device capabilities, M-commerce capabilities and mobile commerce pricing and further he stressed on the need of the communication between mobile vendors & mobile users through better awareness activities [3]. Dr. Veena Jha, Prof. Gourav Rawal, Prof. Prateek Patel studied about "Knowledge and Awareness among under Graduate Students Regarding Banking Terminologies and Services". They stated that by increasing knowledge and awareness about the functions and services of banking among UG students we can create a healthy environment and face the challenges of this competitive world [4].

Lionberger, H.F propose that innovative products could be best utilized with the help of one of the best known acts i.e. awareness. He revealed that awareness is one of the major factors that help the consumers in finding the best possible use of any new or innovative product [5]. Anderson (1995) defined social marketing as the factor for adoption of commercial marketing techniques for mobile brands and thus creating awareness and increasing preferences status to the analysis, planning, execution and evaluation of program designed to influence the voluntary behaviour in order to improve their personal welfare and that of the society to which they are a part[6]. Sathye, M. (1999) in his study explain that consumers go through "a process of knowledge, persuasion, decision and confirmation" before they are ready to adopt a product or service. The adoption or

rejection of an innovation begins when “the consumer becomes aware of the product” [7]. Steendern (2002) found that awareness about importance mobile commerce and demand of mobility for accessing information, resources and services at anytime, anywhere lead many developed countries to use mobile commerce [8].

According to study conducted by Laforet and Li (2005) awareness significantly influenced the adoption of online and mobile banking while the reference group did not significantly affect the adoption of online and mobile banking and consumer awareness was effectively increased through mass media rather than word-of-mouth communications in affecting people to adopt mobile banking [9]. This study was contrasting to the study of Suoranta and Mattila (2004). Mahatanankoon, P. and J.V. Ruiz, (2007) who examined that awareness is important to recognize the intention of the users towards the use of 3G mobile technologies and also they further investigate that stressing on unawareness or lack of awareness will help the researchers in exploring new knowledge & expanding the existing theories about usage of mobile commerce[10][11]. Further (Doayi and *et al*, 2007) stated that awareness of mobile commerce's perception and acceptance by customers is very important. The mobile commerce as electronic commerce will lead to the increase in transactions' volume, interest and earning, but in spite of these benefits, lack of applicants' awareness and absence of technological infrastructural structures also act as a barrier of mobile commerce and its acceptance [12]. Abhineet Kumar (2009) in his article explained that “Mobile Commerce getting ready for the next big step in India. Mobile commerce, which in India has been limited primarily to basic banking transactions, purchase of travel tickets and payment of some utility bills, is finally taking off with banks, cellular operators and payment service providers coming together to find solutions that comply with regulatory guidelines.[13]

Kamini, Bhatt and Jain (2011) has studied awareness and perception of customers about mobile banking in Gujrat with reference to willingness to use mobile banking and found out that the willingness to use mobile banking service is dependent on gender, qualification, and income of the user[14]. An analysis of m-commerce dynamics within the context of South Africa provided an interesting insight as stated by Modimogale and Kroeze (2011) that over the years, awareness and usage of 3G and WAP-driven mobile technology in South Africa has undergone an explosive amplification [15]. Tanakinjal, G.H., (2012) stated that awareness was essential component in innovation and helped in creating new features & technology [16]. A similar study was conducted by Sreenivasan &Noor, (2010) about the conceptual framework about M-commerce acceptance and usage among Malaysian consumers and it revealed that potential of mobile commerce was untapped in Malaysia. It further revealed that if this potential is tailored and communicated in a well structured way it will lead to increased awareness among customers [17]. In addition Persaud, A. and I. Azhar (2012) stressed that the lack of awareness was a major hindrance in adoption of various mobile commerce applications [18]. Various others researchers like (Megdadi, Y.A.A. and T.T. Nusair, 2011), (Khan, N.M. and K. Allil, 2010) etc. also revealed the same in their studies [19][20]. Further Prof. Amit P. Wadhe, Prof Shamrao Ghodke (2013) stated that “Consumer awareness is a marketing term. It means that consumers are aware of products or services, its characteristics and the other marketing P's (place to buy, price and promotion). Usually commercials and ads increase consumer awareness, as well as "word of mouth" (a comment from someone you know about a product or service)[21]. Dr. Sachin Gupta & Mr. Anand Vyas (2014): Recently stated in their study “Benefits and Drawbacks of M-Commerce in India: A Review” that in India people are not aware about M-commerce. Literacy rate of India is grew by 74.04%, but world literacy rate is 84% in 2011 and still people in India are uncomfortable to buy products through M-commerce [22].

III. NEED OF THE STUDY

Mobile commerce is very popular terms in this global era. Now generally all major service segments provide M-Commerce in every city. There is no geographical limitation for usage of M-commerce Applications but the utility of the M-commerce is dependent on the awareness of M-commerce Applications, and information about the operations of M-commerce Applications Whether it is B2B, B2C, B2E etc. The people living in metropolitan cities generally know about the services provided by the different M-commerce service providers as suggested by different reports as more and more customers are adopting these services in these areas and also the mobile commerce companies have now started focusing the rural and semi urban areas as these areas are untapped and they have great potential in terms of customer and demand of Mobile commerce applications for different services. The awareness of mobile commerce B2C Applications are still in its infancy stage in these semi urban areas as per the pilot survey conducted in these towns, though the people in these semi urban areas have some theoretical knowledge of M-commerce and its applications but all of them have not used this knowledge in practical way. So to find out that whether people of these semi urban areas are really aware of M-commerce and its applications specially meant for the customer's i.e. M-commerce B2C Applications and using these applications for their daily usage and think reliable for them, this research is necessary. It is the research on awareness of M-commerce B2C Applications among mobile users of the semi urban areas of Western Uttar Pradesh selected for the study.

Objectives of the Study

- To study awareness level of M-commerce B2C Applications in users of semi urban areas.
- To know whether users of semi urban areas using these B2C applications of M-commerce are benefited by them.

Scope of the Study

Functional Scope – Research is related with only M-commerce B2C Applications only and it is not considering about B2B or B2E applications , it means that it consider only awareness of B2C Applications of M-commerce among users of semi urban areas.

Geographical Scope – This research is related with users of semi urban areas/ towns of Western Uttar Pradesh, India

Research Methodology: This research is based primarily on the primary data as it is an exploratory research and primary data is collected with the help of the Schedule and interview of the users of Mobile commerce in semi urban areas of Western Uttar Pradesh and schedule is also converted in Hindi language as most of the people in semi urban areas are not well versed with English language and no research can be completed without secondary data as it helps in setting the base for most of the exploratory researches so secondary data is collected from news papers, periodicals, books, journals and website. That helps in finding the literature review and the links to gather information about carrying out this research.

Universe of Study: Districts of Western Uttar Pradesh.

Sampling Scheme: This study is a descriptive research and is an exploratory study involving the primary data collected from 792 common randomly selected citizens. A well-structured and comprehensive Schedule has been developed in consultation to the researchers, practitioners, government officials, educationists and the consultants.

Sample Selection: The present work will study and analyze the citizen's perceptions in the western Uttar Pradesh. The western Uttar Pradesh has been divided in **six mandals** comprising of **23 districts**. For the study, **two districts and two Town** have been selected from each mandal of Western Uttar Pradesh: **From Saharanpur mandal** – Deoband & Khatauli , **From Aligarh mandal** – Kasganj & Atrauli , **From Bareilly mandal** – Fareedpur & Bisalpur, **From Moradabad mandal** – Thakurdawara & Nagina , **From Meerut mandal** – Mawana & Dadri and **From Agra mandal** – Tundla & Vrindavan. The primary data for analysis has been collected from the selected 792 respondents from the selected Districts/Semi-Urban areas of the Uttar Pradesh state using multistage random sampling. The Total twelve towns (Semi Urban) are selected based on the East, West, North and South direction of western Uttar Pradesh. The target groups are defined as College Students, Businessman, Service class and Household.

Research Schedule Questions :It is the study about awareness of M-commerce B2C Applications among the mobile users of semi urban areas of Uttar Pradesh so generally question are based on M-Commerce B2C operations , it means regarding ,M- banking, M- Entertainments- Ticketing, M- Transfers etc. The schedule so developed contains items of different formats, Dichotomous answer, multiple choice answers and self-assessment items measured on the Likert's 5 point scale.

Data collection Tools: The collected responses from this Schedule have been developed on the basis of the review of literature. A pilot survey had also been conducted to ensure clarity, relevance, reliability and effectiveness of the Schedule. The Schedule has been then somewhat amended on the basis of the suggestions given by the respondents in the pilot study. The Schedule has been divided into the various demographic profiles for the gender, region, educational qualification, annual income, age and profession & is mainly related to the questions on the respondent's profile.

Processing of Data: The responses to these factors have been gathered on the summing rating method of five point Likert scale. The valid responses have been coded & tabulated and then statistically analyzed in SPSS 20. The data has been analysed with the help of 3D Bar charts & Cross Tabulation and Percentages.

Awareness level of Respondents about Mobile Commerce Applications for B2C Operations.

Table 1: Showing Awareness level of Respondents about Mobile commerce B2C Operations

S.no	M-commerce B2C operation	Awareness Level of Respondents about Mobile commerce B2C operation						Total
		Valid	Unaware & Not ready to Perform	Unaware	Aware	Aware & Want to Perform	Aware & Performed	
1	Mobile Shopping	Frequency	25	69	168	126	404	792
		Percent	3.2	8.7	21.2	15.9	51.0	100.0
2	Mobile Banking	Frequency	30	107	231	146	278	792
		Percent	3.8	13.5	29.2	18.4	35.1	100.0
3	Mobile Reservations	Frequency	22	87	207	151	325	792
		Percent	2.8	11.0	26.1	19.1	41.0	100.0
4	Mobile Data/ Information Sharing	Frequency	24	56	133	75	504	792
		Percent	3.0	7.1	16.8	9.5	63.6	100.0
5	Mobile TV	Frequency	27	98	214	106	347	792
		Percent	3.4	12.4	27.0	13.4	43.8	100.0
6	Mobile Bill Payments	Frequency	34	98	234	172	254	792
		Percent	4.3	12.4	29.5	21.7	32.1	100.0
7	Mobile Money Transfer	Frequency	45	114	241	168	224	792
		Percent	5.7	14.4	30.4	21.2	28.3	100.0
8	Mobile Buying & Selling Used Goods	Frequency	43	136	225	145	243	792
		Percent	5.4	17.2	28.4	18.3	30.7	100.0
9	Mobile Online Exams	Frequency	28	122	273	161	208	792
		Percent	3.5	15.4	34.5	20.3	26.3	100.0
10	Mobile Business Promotions	Frequency	35	173	314	156	114	792
		Percent	4.4	21.8	39.6	19.7	14.4	100.0
11	Mobile Online Games	Frequency	28	75	207	110	372	792
		Percent	3.5	9.5	26.1	13.9	47.0	100.0
12	Mobile Navigation	Frequency	20	149	188	131	304	792
		Percent	2.5	18.8	23.7	16.5	38.4	100.0
13	Mobile Conferencing/Chatting	Frequency	22	54	108	74	534	792
		Percent	2.8	6.8	13.6	9.3	67.4	100.0

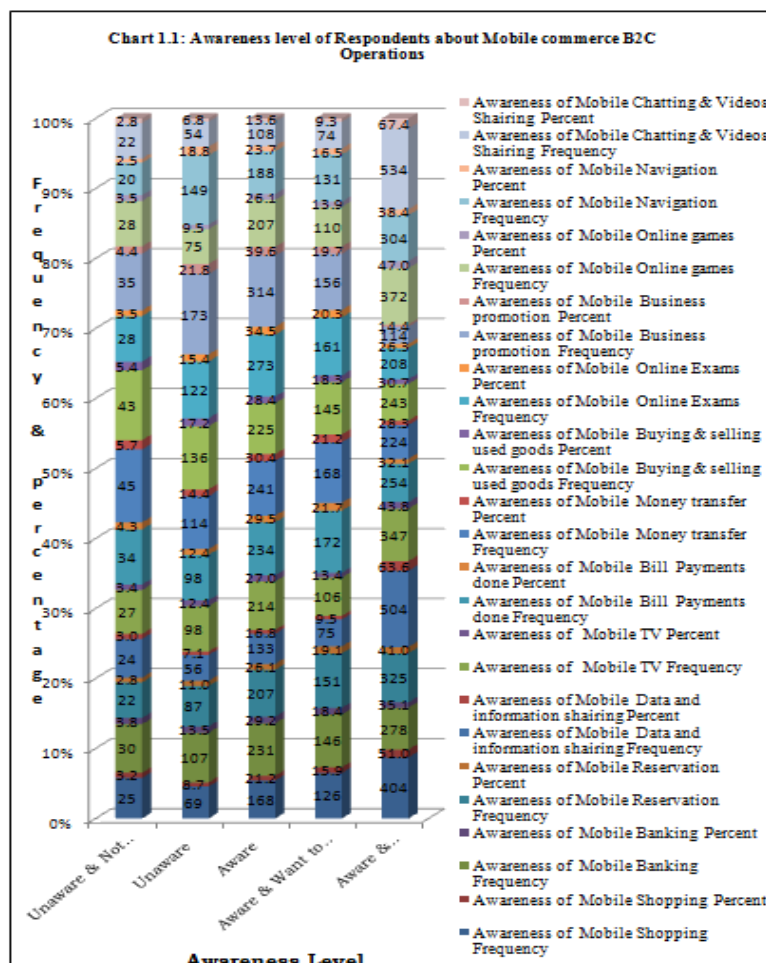
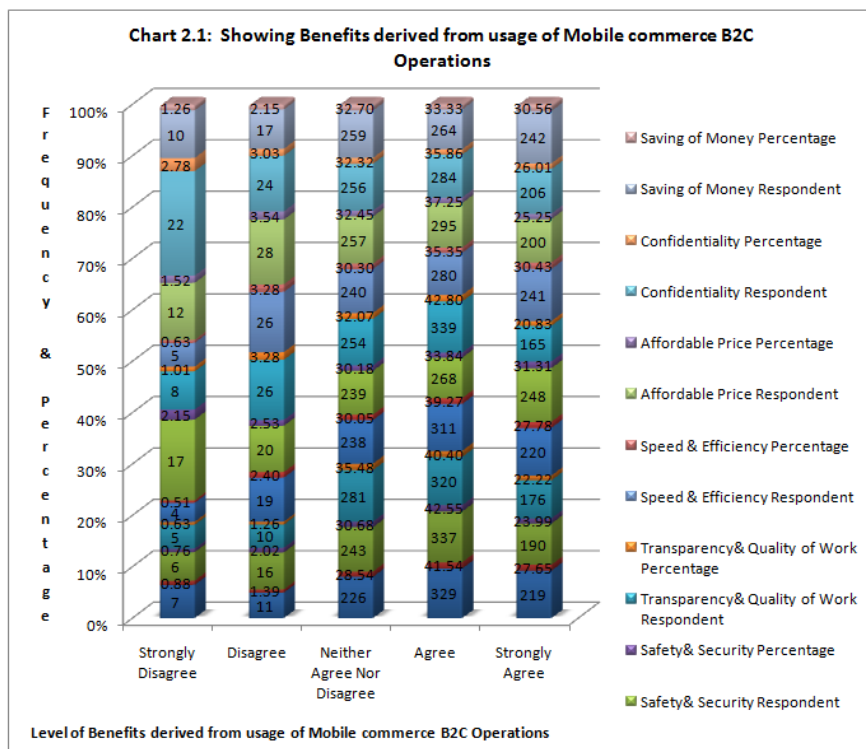


Table 2: Showing Benefits derived from usage of Mobile commerce B2C Operations.

Benefits	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Total
Saving of Time	7	11	226	329	219	792
Portability Benefits	6	16	243	337	190	792
Customer friendly	5	10	281	320	176	792
Convenience	4	19	238	311	220	792
Safety & Security	17	20	239	268	248	792
Transparency & Quality of Work	8	26	254	339	165	792
Speed & Efficiency	5	26	240	280	241	792
Affordable Price	12	28	257	295	200	792
Confidentiality	22	24	256	284	206	792
Saving of Money	10	17	259	264	242	792



IV. RESULTS & FINDINGS

Through my survey the following results were obtained about the awareness level of Mobile Commerce for B2C Operations.

- We observe that 88% of the respondents are aware of Mobile Shopping i.e. 51% of respondents are aware & had performed Mobile shopping through their mobile device also 21.2% were aware of Mobile shopping & 15.9% were aware & wanted to perform this operation and a total of 11.9% were unaware or either not ready to perform Mobile shopping.
- From the 3D chart we observe that 82.7% respondents are aware of Mobile banking. Out of the total respondents 35% were aware & performed Mobile banking and 29.2% were aware but had not performed this operation and 18.4% want to perform this operation. 13.5% were unaware about Mobile banking & 3.8% respondents were not aware & not ready to perform.
- The awareness level about Mobile reservation is 86.2% among the respondents. A total of 41% respondents were aware & had used Mobile Reservation also more than one fourth (26.1%) were aware about this application while 19.1% also want to perform this operation through their device. 11% were unaware about this Mobile commerce application while 2.8% were reluctant to use Mobile reservation.
- It has been observed that almost 90% respondents are aware of Mobile data sharing operation i.e. Majority of respondents (63.6%) are performing Mobile data sharing operation on their devices while 9.5% are ready to perform this operation also 16.8% are well aware of sharing of data and information through mobile while merely 10% of the total were unaware & not ready to perform this operation.
- The above table and chart shows that 84.2% respondents are aware of Mobile Live T.V operation. Of the total respondents 43.8% are watching Mobile Live T.V Programme through their mobile device while

13.4% are on the verge of using Mobile Live T.V Programme on their mobile device also 27% of the total respondents were aware of this operation. Only 12.4% were not aware of this operation and 3.4% showed their dislike to perform this operation.

- It has been observed that 83.3% respondents are aware of Mobile Billing Operation. Nearly one third(32.1%) of the respondents are using their mobile devices for Mobile bill payment while 21.7% were aware and told that they are ready to perform this operation also 29.5% respondents were aware of bill payments through mobile.12.4% of respondents were unaware about Mobile billing operations while 4.3% were not ready to use this operation.
- We observe that almost 80% respondents are aware of Mobile Money Transfer Operation A total of 28.3% respondents were aware & had used Mobile Money transfer also more than one fifth(21.2%) were aware about this application while 30.4% also want to perform this operation through their device.14.4% were unaware about this Mobile commerce application while 5.7% were reluctant to use Mobile Money transfer.
- From the above table & chart we observe that 77.4% respondents are aware of Mobile Buying & Selling operation i.e. Majority of respondents (30.7%) are performing Mobile Buying & Selling Used Goods operation on their devices while 28.4% are ready to perform this operation also 18.3% are well aware of Mobile Buying & Selling Used Goods through mobile while merely 22.6% of the total were unaware & not ready to perform this operation.
- Out of the total respondents it has been observed that 81.1% are aware about Mobile Online Exams operation i.e. 26.3% of respondents are aware & had performed Mobile Online Exams through their mobile device also 34.5% were aware of Mobile Online Exams & 20.3% were aware & wanted to perform this operation and a total of 18.9% were unaware or either not ready to perform Mobile Online Exams.
- We observe that 73.8% respondents are aware of Mobile Business Promotion i.e. Out of the total respondents 14.4% were aware & performed Mobile Business Promotion and 39.6% were aware but had not performed this operation and 19.7% want to perform this operation.21.8% were unaware about Mobile Business Promotion & 4.4% respondents were not aware & not ready to perform.
- It has been observed that 87% respondents are aware about Mobile Online games operation i.e. A total of 47% respondents were aware & had used Mobile Online games also more than one fourth (26.1%) were aware about this application while 13.9% also want to perform this operation through their device.9.5% were unaware about this Mobile commerce application while 3.5% were reluctant to use Mobile Online.
- The above table 7 chart shows that almost 79% respondents are aware of Mobile Navigation Operation i.e. Majority of respondents (38.4%) are performing Mobile Navigation operation on their devices while 16.5% are ready to perform this operation also 23.7% are well aware of Mobile Navigation through mobile while merely 21.3% of the total were unaware & not ready to perform this operation.
- We observe that Mobile Conferencing operation is the most popular operation in semi urban areas 90.4% respondents are aware of this operation i.e. 67.4% of respondents are aware & had performed Mobile Conferencing through their mobile device also 13.6% were aware of Mobile Conferencing & 9.3% were aware & wanted to perform this operation and a total of 9.6% were unaware or either not ready to perform Mobile Conferencing.

Through the survey the following results were obtained about the benefits derived from the usage of Mobile Commerce Applications for B2C Operations.

- 69.2% respondents believe that Mobile commerce B2C operations results in saving of time.
- 66.5% agreed or strongly agreed on the portability benefit of Mobile Commerce Applications for B2C Operations.
- 62.6% feels that Mobile Commerce Applications for B2C Operations are customer friendly.
- 67% respondents believe that Mobile Commerce Applications for B2C Operations are very convenient to use.
- 65% respondents feel that Mobile Commerce Applications for B2C Operations are safe & secure.
- 63.6% respondents believe that Mobile Commerce Applications for B2C Operations provides transparency and quality of work.
- 65.8% respondents think that Mobile Commerce Applications for B2C Operations provides speed and efficiency to work.
- 62.5% respondents agree or strongly agree that Mobile Commerce Applications for B2C Operations are cheap and available at affordable price.
- 61.9% respondents believe that while performing Mobile Commerce Applications for B2C Operations their confidentiality remains intact.
- 63.9% respondents believe that Mobile Commerce Applications for B2C Operations results in saving of money.

V. SUGGESTIONS & CONCLUSION

Though our study is conducted in semi urban area we find that people are very much aware about Mobile commerce applications for B2C operations and out of above studied B2C operations the awareness level for nine operations lays between 81% - 91% and for other four operation the awareness level lies between the 77% to 80% range. It has been suggested that companies should try to convert this awareness level into the usage level of the people living in these areas and it has been also concluded that more than 61% people believe that use of these B2C operations will lead them to different benefits in terms of money, speed, convenience and safety etc. thus it is suggested that marketers should help them to realize the live experience of these benefits by conducting demonstrations, opening up of training shops in these regions and focusing the youth to make them use these operations as they are the key for the marketers to reach adults, seniors and teenagers.

Limitations of the Study

- Research is based on the information provided by the users residing in semi urban areas.
- Research is limited for the users in semi urban areas of Western Uttar Pradesh.
- As the technology advancement is taking place at a tremendous pace new B2C Applications may be added.

Scope for further research

This research has focused on the semi urban areas of Western Uttar Pradesh the same study could also be conducted for the eastern region of Uttar Pradesh and also in different other parts of the country. Another important topic emerging from our research is to study how usage level of Mobile commerce applications for B2C, B2B and B2E could be enhanced by awareness level among the people living in semi urban areas finally; more in-depth research is required to understand the ways to make Mobile commerce application easily accessible to common man.

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