Assessing Adoption of Online PAN Card Registration System (OPCRS): An Indian e-Government System Perspective

Completed Research Paper

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Abstract
The purpose of this study is to explore factors influencing adoption of Online PAN (Permanent Account Number) Card Registration System (OPCRS) with point of view of potential adopters in context of India. The study aimed to develop the research model and validate the influence of self-efficacy and social influence on perceived usefulness and attitude, the effect of perceived usefulness, self-efficacy, and attitude on behavioral intentions. The proposed research model was empirically tested by collecting usable data from 377 potential adopters of the OPCR S system in context of India. The study analysed results using structural equation modeling (SEM) technique using AMOS 20.0 and found all seven hypotheses using five constructs as significant. Also, the goodness-of-fit indices for the proposed model exceeded their respective standard levels of acceptance establishing the relative adequacy of the model.

Keywords
E-government, Online PAN card registration system, OPCR S, adoption, India

Introduction
Governments engage in electronic government (hereafter, e-government) activities to enhance the effective and proficient delivery of information and services through the use of information and communication technology (ICT) (Snead and Wright, 2014). The concept of e-government is generally centered on the basic principle that ICTs can play a major role in making government services more accessible, citizen-oriented, and responsive to citizens’ requirements (Gunter, 2006). It is defined as the use of information technology (IT) to facilitate and enhance the efficiency by which the government services are provided to citizens, professionals, businesses, and agencies (Carter and Belanger, 2005; Jaeger and Thompson, 2003). As per this survey, India stands at 125th position in the world e-government development ranking whereas it comes at fourth position in Southern Asia after Maldives, Iran, and Sri Lanka. With more than 1.2 billion population and challenges associated with such large population e-services in India are still in the formative stage. The Government of India has made substantial efforts in the last few years to overcome challenges, including that of connectivity to its 70% rural population (UN e-Gov Survey, 2012). However, the United Nations (UN) e-Gov survey (2012) suggests that although an overwhelming number of governments of developing countries (including India) are making larger efforts to enhance the use of government services, the overall level of usage has still remained comparatively low. In order to understand the low adoption of e-government services in India, it is timely and deemed appropriate to undertake research, which explores factors influencing adoption of such services.
The Online PAN (Permanent Account Number) Card Registration System (OPCRS) system is one such e-government system, which is used voluntarily to obtain a PAN card, which is a mandatory document, used for filing income tax return in India. PAN is essentially a ten-digit alphanumeric number, issued in the form of a laminated card by an investigating officer of the income tax department in India. It is mandatory to quote a PAN on the return of income in all correspondence dealing with the income tax authority, transaction of more than a certain amount of money through the bank, and for any payments to the income tax department. However, this card also serves as proof of identity. Every taxpayer who is required to furnish a return of income, even on behalf of others, must obtain a PAN. Although possessing PAN is mandatory for all individuals who file an income tax return, the OPCR is a voluntary e-government system for obtaining a PAN card. This system has been implemented with a goal of easing individual's burden of going through the cumbersome processes of obtaining a PAN card through the offline process. As per the recent statistics, more than 35 million people in India pay direct tax on their incomes and many more are being included in this list. In such case, importance of introducing an automated process of obtaining a PAN card is a welcoming initiative by the government of India.

Hence, this study aims to explore factors that influence Indian citizens’ intention to adopt the OPCR system. Based on prior studies of information systems (IS)/IT and e-government adoption, we develop a model aimed at understanding Indian citizens’ intention to use the OPCR system. This paper contributes to the literature by empirically validating some of the most important factors responsible for the adoption of an e-government system in the country like India. This study posits that researchers can gain a more comprehensive understanding of factors influencing OPCR system by integrating constructs from various theories/models on IT adoption (e.g., theory of reasoned action (TRA), technology acceptance model (TAM), social cognitive theory (SCT), and unified model of acceptance and use of technology (UTAUT)).

The exploration of different factors in the proposed research model is also important as we validated the individual models (i.e. TRA, TAM, SCT, and UTAUT) for this e-government system with their dedicated set of constructs, but their performances were not up to acceptable level. The results indicated that none of the individual models were able to perform well in terms of their measurement and structural model constraints and variance of the model on behavioral intentions at large. The highest variance on behavioral intentions was presented by the TRA (i.e. 67%) followed by the SCT (i.e. 42%), the TAM (i.e. 41%), and the UTAUT (i.e. 34%), which were still less than the variance (i.e. 68%) of the model for this research. The results of the structural equation models (e.g. goodness-of-fit, Chi-square/degree of freedom, Root Mean Square Error of Approximation (RMSEA) etc.) shown by the various models were also performed poorly in majority of cases (i.e. goodness of fit of less than 0.80 and RMSEA value of >0.10). This clearly indicates that all constructs of any individual model may not necessarily perfectly suitable for examining the adoption of the system in question. Moreover, as this e-government system is relatively new to majority of the users from different backgrounds, the discrete factors opted to represent the proposed model can best explain user’s intention to use such system. Therefore, validating this model would be a contribution to the existing research and possibly describe the implications for practitioners in a better way.

Model Development and Hypotheses

Overview of Research Model

The theoretical development for this research will follow up and emerge from various models including the TRA, the TAM, the SCT, and the UTAUT models. The proposed research model incorporates four major constructs such as attitude from the TRA, perceived usefulness from the TAM, self-efficacy from the SCT, and social influence from the UTAUT. The TRA guided the study of attitude and behavior (Fishbein and Ajzen, 1975) and defined attitude as “an individual’s positive or negative feelings about performing the target behavior” (Fishbein and Ajzen, 1975, p. 216). The TAM (Davis, 1989; Davis et al., 1989) is adapted from the TRA and tailored to the context of technology acceptance and usage. Perceived usefulness is one of the major constructs of this model and is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989).

The SCT is one of the most powerful theories of human behavior (Bandura, 1986). It defines self-efficacy as “the judgment of one's ability to use a technology (e.g., computer) to accomplish a particular job or task” (Bandura, 1986). The UTAUT (Venkatesh et al., 2003) integrates the fragmented theories and
research on individual acceptance of IT into a unified theoretical model that captures the essential elements of eight established models. It defines social influence as “the degree to which an individual perceives that important others believe that he or she should use the new system” (Venkatesh et al., 2003). Moreover, the dependent variable behavioral intention is a common dependent variable across all alternative models of technology adoption and is defined as a measure of the strength of one’s intention to perform a specific behavior (Fishbein and Ajzen, 1975).

Including these constructs in the proposed model, this research has made effort to bring in all different attributes, characteristics, and factors including technology attributes (i.e. perceived usefulness), contextual factors (i.e. social influence), and individual characteristics (i.e. attitude, self-efficacy) under a single umbrella. The design of the proposed model is presented below in Figure 1.

Hypotheses Development

Under the proposed research model, we have formulated seven hypotheses based on the relationships between five constructs adopted. The various hypotheses mentioned above in Figure 1 are discussed here.

Perceived Usefulness

Davis et al. (1989) determined that perceived usefulness is a significant determinant of behavioral intention to use. In the TAM, it plays a crucial role in explaining considerable variance on behavioral intentions (Plouffe et al., 2001). A number of studies (e.g. Hu et al., 2011; Sambasivan et al., 2010) on e-government adoption have also endorsed and established this relationship. In context of this research, it can be argued that respondents are more likely to adopt the OPCRS system when they contemplate the use of the system to be beneficial to them. Therefore, we hypothesise:

**H1**: Perceived usefulness will have a positive and significant influence on behavioral intentions to use the OPCRS system.

Self-Efficacy

As per the SCT, self-efficacy is type of self-evaluation that influences behavioral decisions, amount of effort and determination put forth when faced with complications, and finally the mastery of the behavior in question (Hsu and Chiu, 2004). As an outcome, individuals with high self-efficacy would be more likely to perform the behavior in the future (Bandura, 1982), in the context of this study, adopt the OPCRS system. A key theoretical characteristic of self-efficacy is that it is not related to an individual’s skills. Instead, it reflects what individuals believe they can do with their skills (Hsu and Chiu, 2004).

The relationship between self-efficacy and perceived usefulness is meant to present the effect of self-efficacy on motivation as well as on outcome expectations. That means, individuals with high self-efficacy will perceive the system to be useful due to the effect of self-efficacy on the persistence and level of learning that takes place (Bandura, 1977) and will be resistant to changes (Igbaria and Iivari, 1995). Empirical evidence on the influence of self-efficacy on perceived usefulness has been documented in some prior research (e.g. Guriting and Nduibisi, 2006; Seyal and Pijpers, 2004) on technology and e-government adoption. Therefore, we hypothesise:

**H2**: Self-Efficacy will have a positive and significant impact on perceived usefulness.

Individuals’ perceived ability to use a system successfully influences their evaluative and behavioral response to the system (Ellen et al., 1991). This indicates that self-efficacy is likely to affect individual’s beliefs (Igbaria and Iivari, 1995). The relationship between self-efficacy and attitude has been supported by some prior studies (e.g. Fotland, 2012; Liang et al., 2011) on technology adoption. In context of this research, it is believed that high self-efficacy might result into strong positive beliefs about using the OPCRS system for obtaining a PAN card. Therefore, we hypothesise:

**H3**: Self-Efficacy will have a significant impact on individual’s positive attitude toward using the OPCRS system.

Regarding the OPCRS system, users who are confident in their ability to explore the relevant information and complete transactions online would probably more likely to use this system. Some studies (Carter et al., 2011; Fu et al., 2006) on e-government adoption have supported this relationship. Therefore, we hypothesise:
**H4**: Self-Efficacy will have a positive and significant impact on behavioral intentions to use of the OPCRS system.

**Social Influence**

Social influence describes the level to which individual’s behavior is influenced by social environment. It signifies and reinforces the need to be complaint with the expectations of important others (Venkatesh et al., 2003). Analysing the acceptance of an advanced e-government technology among law enforcement officers, Hu et al. (2011) showed that the impact of social influence relates positively to officers’ perception of its usefulness. This research also believes that social influence created by the surroundings will have a positive impact on users’ perception about the usefulness of the OPCRS system. Therefore, we hypothesise:

**H5**: Social influence will have a positive and significant impact on user’s perceived usefulness.

A positive and significant impact of social influence on attitude has been supported by a number of studies (e.g. Chiu et al., 2012; Park et al., 2007) on technology adoption. For example, exploring the adoption of online sports lottery system in Taiwan, Chiu et al. (2012) found social influence as the most significant determinant of consumer’s positive attitude toward Internet lottery adoption. This research also believes that social influence of friends, colleagues, and family would influence user’s positive beliefs about adopting the OPCRS system for obtaining a PAN card. Therefore, we hypothesise:

**H6**: Social influence will have a significant impact on individual’s positive attitude toward adopting OPCRS system.

**Attitude**

The TRA posits that individual’s own behavioral intention is a function of an individual’s attitude toward the behavior (Fishbein and Ajzen, 1975). The role of attitude in explaining technology acceptance is widely acknowledged in prior literature (e.g. Kim et al, 2009; Taylor and Todd, 1995). A number of empirical studies (Kim and Holzer, 2006; Sahu and Gupta, 2007) on e-government have acknowledged a positive and significant relationship between individual’s attitude and his/her intention to use the system. Therefore, we hypothesise:

**H7**: Individual’s positive attitude will have a significant impact on his/her behavioral intention to use the OPCRS system.

![Proposed Research Model](image)

**Methodology**

For the purpose of this research, we considered survey as an appropriate research method. There are various ways to capture the data, however, a self-administered questionnaire was found to be suitable as a primary survey instrument of data collection in this research. Collecting data from the majority of respondents within a short and precise time was a critical issue of this research. Therefore, only closed
and multiple-choice questions were included in the questionnaire. The final questionnaire consisted of total 25 questions including 10 questions from respondent’s demographic characteristics and 15 questions on the five different constructs of the proposed research model. All these questions were multiple-type, closed-ended and seven-point Likert scale type questions. Likert scales (1-7) with anchors ranging from strongly disagree to strongly agree were used for all non-demographic based questions.

The sample of the study consists of wide array of respondents from different cities of India including New Delhi, Pune, Mumbai, Bangalore, Patna, Siliguri, and Gangtok. A total of 1000 questionnaires were distributed to the respondents in the seven cities in the course of one-and-a-half month duration. A total of 474 completed survey questionnaires were returned to us. The further scrutiny of questionnaires revealed that 97 of them were either partially completed or more than one options ticked in and so rejected from the subsequent analysis. Hence, we were left out with 377 usable responses, which made the basis for our empirical analysis. The overall response rate was found to be 47.4% with 37.7% valid questionnaires.

Results

Respondents’ Demographic Profile

This section analyses demographic data obtained from the respondents. The characteristics of the data gathered from the respondents of various geographical locations indicated that users were predominantly male (66.3%). Respondents’ age fell primarily between 20 and 39 (≈75%) and their minimal educational level was largely bachelor degree or higher (88%). Regarding computer and Internet experience, respondents with more than one-year experience (≈97%) dominated the sample. Finally, as far as computer and Internet access of the respondents are concerned, majority (≈98%) of them have got it some place or the other (e.g., home, office, educational institution, Internet cafe, or common service center). Moreover, the majority (≈63%) of the overall sample was respondents from private- and public sector organizations.

Descriptive Statistics and Measurement Model

The high overall as well as individual items’ means for most of the constructs indicate that respondents react favorably to the all the measures directly or indirectly related to behavioral intention. The value for overall minimum mean (i.e. for attitude) as ‘4.79’ on the Likert scale [1-7] indicates that users have responded favorably to all items of constructs. Cronbach’s alpha (α) for each construct was found exceeding the minimum acceptable level of 0.70 (Nunnally, 1978) and hence, indicates a good level of internal consistency estimate among test items.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>S.D.</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness (PU)</td>
<td>5.06</td>
<td>1.40</td>
<td>0.913</td>
</tr>
<tr>
<td>Self-Efficacy (SE)</td>
<td>5.28</td>
<td>1.22</td>
<td>0.851</td>
</tr>
<tr>
<td>Social Influence (SI)</td>
<td>5.57</td>
<td>1.21</td>
<td>0.805</td>
</tr>
<tr>
<td>Attitude (AT)</td>
<td>4.79</td>
<td>1.34</td>
<td>0.891</td>
</tr>
<tr>
<td>Behavioral Intention (BI)</td>
<td>5.31</td>
<td>1.26</td>
<td>0.847</td>
</tr>
</tbody>
</table>

Table 1. Descriptive statistics

[Legend: CA = Cronbach’s Alpha, S.D. = Standard Deviation]

Convergent and discriminant validity of the scales were tested with confirmatory factor analysis. Convergent validity is examined using three ad hoc tests recommended by Anderson and Gerbing (1988). Table 2 lists the standardized factor loadings, composite reliabilities, and average variance extracted. Standardized factor loadings are indicative of the degree of association between scale items and a single latent variable. The loadings are highly significant in all the cases except for an item in social influence (with CR 0.62). Composite reliabilities, similar to Cronbach’s alpha, for all constructs including PU (i.e. 0.906), SE (i.e. 0.860), SI (i.e. 0.852), AT (i.e. 0.927) and BI (0.836) were found well beyond the minimum limit of 0.70 (Nunnally, 1978).

<table>
<thead>
<tr>
<th>Measure</th>
<th>FL</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness (PU)</td>
<td></td>
<td>0.906</td>
<td>0.881</td>
</tr>
<tr>
<td>PU1</td>
<td></td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>PU2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Average Variance Extracted (AVE) is a measure of the variation explained by the latent variable to random measurement error (Netemeyer et al., 1990) and ranged from 0.763 to 0.901 for all constructs. These estimates by far exceeded the recommended lower limit of 0.50 (Fornell and Larcker, 1981). All tests support the convergent validity of the scales. Discriminant validity was assessed with the test recommended by Anderson and Gerbing (1988). The squared correlation between a pair of latent variables (see Table 3) should be less than the AVE of each variable (see Table 2). Each combination of latent variables was tested, and each pairing passed, providing indication of the discriminant validity of the scales.

### Table 2. Results of confirmatory factor analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>PU</th>
<th>SE</th>
<th>SI</th>
<th>AT</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU3 Self-Efficacy (SE)</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE1</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE2</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE3</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Influence (SI)</td>
<td></td>
<td>0.85</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI1</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI2</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI3</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude (AT)</td>
<td></td>
<td></td>
<td></td>
<td>0.92</td>
<td>0.90</td>
</tr>
<tr>
<td>AT1</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT2</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT3</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Intention (BI)</td>
<td></td>
<td></td>
<td></td>
<td>0.84</td>
<td>0.76</td>
</tr>
<tr>
<td>BI1</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BI2</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BI3</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Results of confirmatory factor analysis

[Legend: AVE: Average Variance Extracted, CR: Composite Reliability, FL: Factor Loading]

Structural Model Testing

The overall model fit is adequate as can be seen from Table 4. The test of overall model fit resulted in a Chi-square value of 259.842 with degrees of freedom as 83 and a probability value of less than 0.001. The significant p-value indicates the absolute fit of the model is less than desirable. However, as the Chi-square test of absolute model fit is sensitive to sample size and non-normality, a better measure of fit is Chi-square over degrees of freedom. The ratio of Chi-square over degrees of freedom (i.e. 3.1) is very close to the suggested 3 to 1 bracket (Chin and Todd, 1995). Typically, researchers also report a number of fit-statistics to examine the relative fit of the data to the model (see Table 4).

### Table 3. Factor correlation matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>PU</th>
<th>SE</th>
<th>SI</th>
<th>AT</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU</td>
<td>0.938b</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td>0.440a</td>
<td>0.899b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>0.411a</td>
<td>0.465a</td>
<td>0.883b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT</td>
<td>0.386a</td>
<td>0.542a</td>
<td>0.376a</td>
<td>0.949b</td>
<td></td>
</tr>
<tr>
<td>BI</td>
<td>0.381a</td>
<td>0.538a</td>
<td>0.399a</td>
<td>0.732a</td>
<td>0.873b</td>
</tr>
</tbody>
</table>

Table 3. Factor correlation matrix

[Legend: b Square roots of AVE [in bold] are shown on the main diagonal

a Significant at p < 0.01]

Fit Index | Model | Recommendation |
----------|-------|----------------|
Chi-Square| 259.842 | N/A |
Degree of Freedom (DF) | 83 | N/A |
P | <0.001 | Non-Significant |
Chi-Square/DF | 3.1 | <3.000 (see Chin and Todd, 1995) |
GFI (Goodness-of-Fit Index) | 0.921 | >0.90 (see Hoyle, 1995) |
AGFI (Adjusted GFI) | 0.886 | >0.80 (see Chin and Todd, 1995) |
CFI (Comparative Fit Index) | 0.951 | >0.90 (see Bentler and Bonnet, 1980) |
Assessing Adoption of Online PAN Card Registration System

We found the fit-indices are well in accordance with the recommended values. We also report RMSEA (Root Mean Square Error of Approximation) within the recommended level, which measures the discrepancy per degree of freedom (Steiger and Lind, 1980). Having recognised the relative competence of the model’s fit, it is appropriate to assess individual path coefficients corresponding to our hypotheses. This analysis is presented in Table 5. All seven hypotheses are supported. Perceived usefulness positively influenced behavioral intention (H1). Self-efficacy is found to significantly influence perceived usefulness (H2), attitude (H3), and behavioral intention (H4). Social influence positively influenced perceived usefulness (H5) and attitude (H6). Moreover, user’s positive levels of attitude resulted in the favorable behavioral intentions (H7) to use the OPCRS system.

Table 5. Path coefficients and hypotheses testing

<table>
<thead>
<tr>
<th>H#</th>
<th>Hypothesis</th>
<th>Coeff.</th>
<th>CR</th>
<th>Sig.</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Perceived Usefulness → Behavioral Intention</td>
<td>0.113</td>
<td>2.513</td>
<td>*</td>
<td>YES</td>
</tr>
<tr>
<td>H2</td>
<td>Self-Efficacy → Perceived Usefulness</td>
<td>0.368</td>
<td>6.486</td>
<td>***</td>
<td>YES</td>
</tr>
<tr>
<td>H3</td>
<td>Self-Efficacy → Attitude</td>
<td>0.518</td>
<td>8.794</td>
<td>***</td>
<td>YES</td>
</tr>
<tr>
<td>H4</td>
<td>Self-Efficacy → Behavioral Intention</td>
<td>0.120</td>
<td>2.245</td>
<td>*</td>
<td>YES</td>
</tr>
<tr>
<td>H5</td>
<td>Social Influence → Perceived Usefulness</td>
<td>0.314</td>
<td>5.406</td>
<td>***</td>
<td>YES</td>
</tr>
<tr>
<td>H6</td>
<td>Social Influence → Attitude</td>
<td>0.251</td>
<td>4.660</td>
<td>***</td>
<td>YES</td>
</tr>
<tr>
<td>H7</td>
<td>Attitude → Behavioral Intention</td>
<td>0.718</td>
<td>11.964</td>
<td>***</td>
<td>YES</td>
</tr>
</tbody>
</table>

Table 4. Model fit summary for the proposed research model

| RMSEA | 0.075 | <0.10 (see Steiger and Lind, 1980) |

We found the fit-indices are well in accordance with the recommended values. We also report RMSEA (Root Mean Square Error of Approximation) within the recommended level, which measures the discrepancy per degree of freedom (Steiger and Lind, 1980). Having recognised the relative competence of the model’s fit, it is appropriate to assess individual path coefficients corresponding to our hypotheses. This analysis is presented in Table 5. All seven hypotheses are supported. Perceived usefulness positively influenced behavioral intention (H1). Self-efficacy is found to significantly influence perceived usefulness (H2), attitude (H3), and behavioral intention (H4). Social influence positively influenced perceived usefulness (H5) and attitude (H6). Moreover, user’s positive levels of attitude resulted in the favorable behavioral intentions (H7) to use the OPCRS system.

Discussion

Our findings have several important implications for research and practices. The significant influence of perceived usefulness of perceived usefulness on behavioral intentions (H1) to use the OPCRS system indicates that people decide whether to adopt a specific e-government system by assessing how useful that system is for their work tasks and performance (Hu et al., 2011). In a Government-to-Citizen (G2C) system like this, users must perceive that the new system can improve their efficiency, productivity, and accuracy. Moreover, as the majority of respondents for this sample in general and adopters of this system in particular happen to belong to the organisational community, the managers must accentuate the benefits of the system to users and educate them accordingly (Sambasivan et al., 2010).

The significant influence of self-efficacy on perceived usefulness (H2) indicates that users’ positive judgment of their ability will lead them to perceive the OPCRS system as beneficial and useful. At the organisational level, the people with high self-confidence can work as a role model to motivate and persuade people with low self-efficacy (Seyal and Pijpers, 2004). Moreover, the government can also emphasise the importance of continuous improvement program to abreast it users to the latest technology and systems related features (Seyal and Pijpers, 2004) in order to use them to the fullest extent of their ability. Moreover, the positive impacts of self-efficacy on attitude (H3) (Fotland, 2012; Liang et al., 2011) and behavioral intentions (Carter et al., 2011; Fu et al., 2006) (H4) also indicate that the government in general and concerned organisations in particular should make all their effort to equip users with appropriate level of knowledge on such systems so that they could develop positive attitude and intentions to use them.
Social influence indirectly impacts user’s intention to use the OPCRS system mediated by perceived usefulness (H5) and attitude (H6). These relationships indicate that users do not accept a new e-government system like OPCRS simply because of the influence of their valued ones. Rather, the positive effect of social influence seems mediated by perceived usefulness (Hu et al., 2011). In other words, these social influences are important only when they align with the user’s assessment of the system’s usefulness. Similarly, the model also posited that opinions from friends, peers, family, or referent others would have more important effects on their beliefs (Hu et al., 2011). The top management of organisations and the government should select some champions and make them fully aware about the usefulness of the OPCRS system so that they can convince people to adopt the system in their jurisdictions by demonstrating its usefulness. The government should encourage and take such initiatives by selected champions to create positive beliefs toward intending to use the system in users’ mind.

Conclusion

The purpose of this study is to assess the adoption of the OPCRS system using a research model comprising of the diverse constructs borrowed from the different theories and models of technology adoption. The empirical findings of the study are step forward toward filling the research gap, where validation of such model has not been performed by any research study on e-government adoption. The research report shows that core constructs of the proposed research model including perceived usefulness, self-efficacy, social influence, and attitude directly or indirectly influence behavioral intentions to use the OPCRS system. If government agencies really wish their e-government systems to be acknowledged, appreciated, and eventually adopted by their citizens, they must acknowledge and understand outcomes and recommendations of this research and implement them to get better results in terms of adoption of such systems by the large audience of the target population.

Limitations and Future Research

Firstly, the proposed research model has been validated only using data collected through convenient sampling approach from some selected cities of India. Hence, the caution needs to be taken while
generalising its findings with diverse nature of data. Secondly, the e-government system considered for this research is relatively new and so the data were collected only from the potential adopters of the OPCR system. The future research can collect data from adopters of this system and can validate the model using additional construct use behavior to see its performance. Thirdly, although the model explains 68% variance on behavioral intentions, there could be some more constructs (such as trust, risk, privacy etc.) that would add value to the existing model. The future research might test such constructs to see whether their presence can enhance the variance on behavioral intentions any further.

REFERENCES
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