Chapter from the book *E-Business - Applications and Global Acceptance*

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1. Introduction

Large and small business organizations around the world, including Canadian enterprises, utilize internet and e-business technologies (IEBT) to support online or electronic commerce (e-commerce) and electronic business (e-business) activities. Grandon and Pearson (2004) and Turban et al. (2010) note that IEBT enhances productivity for the adopting organization in the following ways: a) it improves efficiencies through automation of transactions, b) it reduces intermediaries in the value chain to foster greater economic advantages, c) it consolidates demand and supply through organized exchanges, d) it facilitates product improvement as well as engenders innovative ways of selling existing products and services. Against the backdrop of the popularity of IEBT, it is not surprising that several researchers have investigated and continue to study the adoption or acceptance of such technologies in differing contexts and locations (Farhoomand et al., 2000; Wymer & Regan, 2005). Studies that have focused on Canadian businesses are beginning to emerge (Raymond, 2001; Ifinedo, 2011).

This particular study is motivated by three concerns: a) it seeks to add to prior research focusing on the acceptance of IEBT and similar technologies in Canada; b) it pays attention to small and medium-sized enterprise (SME) because of their crucial importance to economic development of countries around the world, including Canada. According to the Net Impact Study Canada (2002), Canadian SMEs deliver 60% of Canada’s economic output, c) this study intends to shed light on the impact of organizational and environmental factors affecting the acceptance of IEBT in Canadian SMEs.

A research model based on the Technology–Organization–Environment (TOE) framework (Tornatzky & Fleischer, 1990), which other information systems (IS) researchers (e.g. Raymond, 2001; Scupola, 2003; Gibbs & Kraemer, 2004; Al-Qirim, 2007; Chong et al., 2009) have used in comparable studies will be used to guide the research. Such environment factors as information systems (IS) vendor support/pressure, management commitment/support, external pressure, organizational information technology (IT) competence, and the availability of financial support will be used to develop relevant hypotheses. The technological components of the framework will not be considered as...
several studies in the extant literature have underscored their critical relevance (Gibbs & Kraemer, 2004; Al-Qirim, 2007; Ifinedo, 2011). This research argued that our knowledge of the importance of factors related to the organization and environment when studied exclusively could enhance insight in this area of study. Moreover, the focus on the subject from the perspectives of Canadian SMEs will benefit the relevant literature.

Findings from this study showed that management commitment/support and external pressure are significant predictors of IEBT acceptance in the sampled SMEs. The results did not show that organizational IT competence, IS vendor support, availability of financial support, industry type, and firm size positively influence IEBT acceptance. Policy makers, industry leaders, and small business operators wishing to understand some of the reasons why certain SMEs in Canada lag in the adoption of IEBT and related technologies can benefit from the information provided in this study. The research also alerted the attention of local IS vendors and financial institutions to what can be done to strengthen IEBT adoption in Canadian small businesses. Global IT management as it relates to IEBT acceptance benefits from this endeavor as well.

2. Background theory and hypotheses formulation

The background theoretical framework used for this research is the Technology-Organization-Environment (TOE) model (Tornatzky & Fleischer, 1990). The TOE posits that the adoption or acceptance of innovations depends on organizational, environmental, and technological factors. Fundamentally, the TOE model is an integrative schema incorporating characteristics of the technology, contingent organizational factors, and elements from the macro-environment (Tornatzky & Fleischer, 1990; Li et al., 2010). Several studies that used the TOE framework for examining the impact of relevant organizational and environmental factors included such variables as management support, organizational IT readiness, pressures from partners, customers and competition, and so forth (Iacovou et al., 1995; Thong et al., 1996; Chwelos et al., 2001; Scupola, 2003; Gibbs & Kraemer, 2004; Hadaya, 2006; Al-Qirim, 2007; Ifinedo, 2011). As indicated above, the focus of this study will be on organizational and environmental factors.

The selected items among the organizational and environmental factors include IS vendor support and pressure, management commitment/support, external pressure, organizational IT competence, availability of financial support, firm size, and industry type. Others IS researchers have signified the pertinence of the foregoing factors in prior research (e.g., Iacovou et al., 1995; Thong et al., 1996; Chwelos et al., 2001; Scupola, 2003; Gibbs & Kraemer, 2004; Hadaya, 2006; Al-Qirim, 2007; Thong et al. 1996; Chapman et al. 2000; Jeyaraj et al., 2006; Huang et al., 2008; Li et al. 2010; Levenburg et al., 2006; Teo, 2007). The research framework and the formulated hypothesized paths for each of the selected variables or items in the study are highlighted in Figure 1.

Past studies have shown that management commitment and support tend to favor the acceptance of technological innovations in adopting organizations, including SMEs (e.g., Iacovou et al., 1995; Premkumar & Roberts, 1999; Beatty et al., 2001; Chwelos et al., 2001; Grandon & Pearson, 2004; Al-Qirim, 2007). Jeyaraj et al. (2006) found top management support to be one of the best predictors of organizational adoption of IS innovations. This is
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Fig. 1. The research framework.

(The items in the technological contexts are not considered)

because top managers act as change agents in the adoption process of technological innovations (Thong et al., 1996). Where such support is lacking, the acceptance of technologies such as IEBT tend to suffer (Igbaria et al., 1997; Ifinedo, 2011). Thus, it is predicted that:

H1: The greater the management commitment/support for IEBT acceptance, the greater the acceptance of such technologies.

Organizational IT competence refers to the level of technical expertise available to the organization. The more knowledge an organization has about technological innovations, the more likely it will be to adopt technological innovations (Thong & Yap, 1995; Raymond,
2001; Zhu et al., 2006). Thong and Yap (1995) found a lack of computer literacy among SME owners and a lack of knowledge regarding the benefits of IS use is an inhibitor to IS adoption in small businesses. Chircu and Kauffman (2000) found that inability to acquire skill and expertise in new technologies, and a lack of training and education form significant barriers to the adoption of IEBT. Caldeira and Ward (2002) concluded that for SMEs to successfully accept technological innovations including IEBT, their executives and employees must have a reasonable knowledge of the relevance of IS in business operations. Thus, it is predicted that:

H2: The greater the organizational IT competence available to SMEs, the greater their acceptance of such technologies.

IS vendor support refers to the support for implementing and using IT applications that a business obtains from external sources of technical expertise (Premkumar & Roberts, 1999; Rogers, 2003). IS vendors can act as change agents during the adoption of IS innovations especially for organizations lacking in such knowledge (Attewell, 1992; Rogers, 2003). In fact, it has been noted that SMEs rely on such external sources of expertise during IEBT implementations (Poon & Swatman, 1999; Al-Qirim, 2007). Additionally, IS vendors have been known to add value to the business planning of SMEs (Mcdonagh & Prothero, 2000). To that end, a lack of external technical support does inhibit the adoption of IEBT and similar technologies in small-sized businesses (Scupola, 2003; Simpson & Doherty, 2004). Thus, it is predicted that:

H3: Greater IS vendor support/pressure will lead to greater acceptance of such technologies by SMEs.

Prior studies have shown that a lack of financial resources is one of the distinguishing characteristics setting smaller businesses apart from larger enterprises (Thong et al., 1996; Chapman et al. 2000). Walczuch et al. (2000), Tan and Wu (2003), Lawson et al. (2003), and Pearson and Grandon (2004) showed that financial matters are vitally important to owners and managers and such issues often drive adoption of IS in small businesses. However, Reynolds et al. (1994) and Poon et al. (1996) implied that small-sized businesses do encounter difficulties with obtaining finance, and this unfavorable situation may set back their efforts to adopt needed IS innovations. The foregoing discussion permits the prediction that:

H4: Greater financial resource availability will lead to greater acceptance of such technologies by SMEs.

External pressure refers to the influences that an SME receives from sources external to it. The literature identifies three main sources of external pressure as follows: competitive pressure, supplier’s pressure and customer’s pressure (Hart & Saunders, 1998; Chau & Jim, 2002; Kula, 2003; Chong et al., 2009). It has been shown that competitive pressure impacts the adoption of IS innovations in large businesses and SMEs (Hart & Saunders, 1998; Raymond, 2001; Gatignon & Robertson, 1989; Jeyaraj et al., 2006). According to Raymond (2001), and Hadaya (2006), business partners’ pressure affect the acceptance of technological innovations such as IEBT. These researchers showed that the deployment of IEBT and related technologies improves commercial transactions and relationships between businesses and their partners. With respect to customer’s pressure, Hart and Saunders
(1998), Carmichael et al. (2000), Mehrtens et al. (2001), and Kula (2003) the key driver for SMEs to accept IEBT and other innovations is customer feedback, demand, and pressure. Thus, it is predicted that:

H5: Greater external pressure to adopt IEBT will lead to greater acceptance of such technologies by SMEs.

Firm size has been found to positively predict the adoption of IS (Jeyaraj et al., 2006; Al-Qirim, 2007; Teo, 2007; Huang et al., 2008; Li et al. 2010); at the same time, others did not confirm this relationship for IS adoption (e.g., Goode & Stevens, 2000; Gibbs & Kraemer, 2004) and IEBT (Ifinedo, 2011). Similarly, the industry type or sector in which a business operates may influence its ability to adopt IS innovations (Drew, 2003; Levenburg et al., 2006; Jeyaraj et al., 2006; Li et al. 2010); however, the study by Chatterjee et al. (2002) and Teo (2007) did not affirm this viewpoint. Evidence suggests that service businesses are more predisposed towards using the internet for business activities than manufacturing enterprises (Drew, 2003; Goode and Stevens, 2000).

H6: Firm size will be positively related to the acceptance of such technologies by SMEs.
H7: Industry type will be positively related to the acceptance of such technologies by SMEs.

3. Research methodology

Data collection

The survey method was used for data collection. The sampled firms came from four Atlantic Provinces: Nova Scotia, Newfoundland and Labrador, Prince Edward Island, and New Brunswick. The study considered a wide range of industries for inclusion. Data collection took place between November 2007 and March 2008. 2200 questionnaires were mailed out. Key informants including senior organizational managers and owners of SMEs were contacted. Each received a packet containing a cover letter, a questionnaire, and a self-addressed, stamped envelope. Respondents were assured that their individual responses would be treated with anonymity and confidentiality. Above all, participation in the study was voluntary.

The majority of the measures used in the study were taken from previously validated sources (e.g. Iacovou et al., 1995; Igbaria et al., 1997; Premkumar & Roberts, 1999; Grandon & Pearson, 2004; Chong & Pervan, 2007) and a few adapted from the literature. The measurement items were anchored on a 7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7) in which participants were asked to indicate an appropriate response. Table 1 highlights the constructs’ descriptive statistics. A full list of the measures used is provided in the Appendix. Firm size was measured by annual sales revenue and industry sector was delineated as manufacturing, services, and others (e.g. not-for-profit).

The Cronbach alpha and composite reliability for each dimension exceeds the 0.7 limit, recommended by Nunnally (1978) to indicate a reasonably high reliability of the research measures and constructs. As well, the factor loading of each measurement item is adequate in line with recommended threshold values (Nunnally, 1978; Hair et al., 1998).
### Table 1. The constructs with their descriptive statistics and reliability values.

| Construct                        | Items   | Mean | SD  | Factor loading | Composite reliability | AVE  |
|----------------------------------|---------|------|-----|----------------|-----------------------|------|
| Management commitment/support    | MT1     | 4.46 | 1.61| 0.859          | 0.90                  | 0.69 |
|                                  | MT2     | 4.49 | 1.68| 0.841          |                       |      |
|                                  | MT3     | 4.06 | 1.63| 0.795          |                       |      |
|                                  | MT4     | 4.02 | 1.69| 0.829          |                       |      |
| Organizational IT competence    | OR1     | 4.37 | 1.50| 0.907          | 0.94                  | 0.74 |
|                                  | OR2     | 4.39 | 1.44| 0.949          |                       |      |
|                                  | OR3     | 4.08 | 1.52| 0.876          |                       |      |
|                                  | OR4     | 4.32 | 1.61| 0.804          |                       |      |
| External pressure                | EX1     | 4.03 | 1.47| 0.825          | 0.92                  | 0.66 |
|                                  | EX2     | 3.72 | 1.36| 0.839          |                       |      |
|                                  | EX3     | 3.00 | 1.57| 0.725          |                       |      |
|                                  | EX4     | 3.56 | 1.47| 0.739          |                       |      |
|                                  | EX5     | 3.92 | 1.53| 0.853          |                       |      |
|                                  | EX6     | 3.11 | 1.55| 0.889          |                       |      |
| IS vendor support/pressure       | IV1     | 2.62 | 1.51| 0.973          | 0.97                  | 0.96 |
|                                  | IV2     | 2.63 | 1.55| 0.969          |                       |      |
|                                  | IV3     | 2.71 | 1.52| 0.997          |                       |      |
| Financial support availability   | FN1     | 2.26 | 1.58| 0.654          | 0.87                  | 0.69 |
|                                  | FN2     | 3.31 | 1.53| 0.817          |                       |      |
|                                  | FN3     | 3.04 | 1.14| 0.992          |                       |      |
| Firm size                        | SIZ     | NA   | NA  | 1.00           | 1.00                  | 1.00 |
| Industry type                    | TYP     | NA   | NA  | 1.00           | 1.00                  | 1.00 |
| IEBT acceptance                  | IA1     | 5.36 | 1.34| 0.774          | 0.86                  | 0.61 |
|                                  | IA2     | 5.37 | 1.28| 0.803          |                       |      |
|                                  | IA3     | 3.92 | 1.47| 0.732          |                       |      |
|                                  | IA4     | 4.00 | 1.41| 0.819          |                       |      |

NA = Not applicable

Table 1. The constructs with their descriptive statistics and reliability values.

**Survey results**

Of the 2200 questionnaires mailed out, 192 questionnaires were undelivered. 237 responses were received, of which, 214 were considered valid; this represents an effective response rate of 11.8%. Table 2 shows the participants’ demographics. The participants’ average work experience was 13.4 years (s.d. = 11.01). The other profiles of the responding SMEs are highlighted in Table 3.
# Profile Frequency Percentage (%)

## Gender

| Gender     | Frequency | Percentage (%) |
|------------|-----------|----------------|
| Male       | 125       | 58.4           |
| Female     | 85        | 39.7           |
| Missing    | 4         | 1.9            |

## Age

| Age                  | Frequency | Percentage (%) |
|----------------------|-----------|----------------|
| Less than 20 years   | 4         | 1.9            |
| 21-30                | 26        | 12.1           |
| 31-40                | 30        | 14.0           |
| 41-50                | 78        | 36.4           |
| 51-60                | 57        | 26.6           |
| 60 years and above   | 19        | 8.9            |

## Education

| Education                        | Frequency | Percentage (%) |
|----------------------------------|-----------|----------------|
| Primary education                | 7         | 3.3            |
| Secondary education              | 40        | 18.7           |
| College/Bachelor’s education     | 115       | 53.7           |
| Post-graduate degree             | 44        | 20.6           |
| Other                            | 8         | 3.7            |

## Job title

| Job title                          | Frequency | Percentage (%) |
|------------------------------------|-----------|----------------|
| Owner/Proprietor                   | 84        | 39.3           |
| VP, Director                       | 41        | 19.2           |
| Business Manager, Accountant       | 67        | 31.3           |
| Other                              | 22        | 10.2           |

Table 2. Demographics of the respondents.
Profile  Frequency  Percentage (%)  
Annual sales revenues Canadian (C$)  
Less C$500,000  102  47.7  
C$500,000 - C$1.0 million  48  22.4  
C$1.1 - C$5.0 million  38  17.8  
C$5.1 - C$10.0 million  9  4.2  
C$10.1 - C$20.0 million  11  5.1  
C$20.1 - C$50.0 million  6  2.8  
Workforce  
Less 50 employees  175  81.8  
51 - 99 employees  23  10.7  
100 - 500 employees  11  5.1  
Missing data  5  2.3  

C$ = Canadian dollar
Table 3. Profile of the participating SMEs

4. Data analysis

The Partial Least Squares (PLS) technique of structural equation modeling was used for analysis. The specific tool used was SmartPLS 2.0, which was created by Ringle et al. (2005). The PLS supports two measurement models: (a) the assessment of the measurement model and (b) the assessment of the structural model.

Assessment of the measurement model

The psychometric properties of the research model were examined by the following indicators: internal consistency, convergent, and discriminant validities. Hair et al. (1998) suggest that item loadings of 0.5 are adequate; those with values lower than 0.5 were deleted from the scales accordingly. The composite reliabilities for each of the study’s constructs were all above the recommended 0.7 level to indicate internal consistency of the data (Hair et al., 1998; Chin, 1998). Fornell and Larcker (1981) recommend that the average variance extracted (AVE) criterion be followed in assessing the convergent validity. These researchers suggested that an AVE value of 0.50 is ideally acceptable as it indicates that a latent variable is able to explain more than half of the variance of its indicators on average. The discriminant validity is assured when the following two conditions are met: (a) the value of the AVE is above the threshold value of 0.50; (b) the square root of the AVEs is larger than all other cross-correlations. Table 4 shows that the AVE ranged from 0.61 to 0.96 (excluding the single-item variables). In no case was any correlation between the constructs greater than the squared root of AVE (the principal diagonal element). Overall, the results showed the study’s measures were psychometrically adequate for this study.

Assessment of the structural model

The structural model provides information related to the path significance of hypothesized relationships using the path coefficients (β) and the squared R (R²). The strength of the
Table 4. Inter-construct correlations and the square root of AVE.

| Construct          | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1: Managsupp       | 0.831   |         |         |         |         |         |         |         |
| 2: OrgITcomp       | 0.687   | 0.860   |         |         |         |         |         |         |
| 3: ISVSP           | 0.259   | 0.206   | 0.980   |         |         |         |         |         |
| 4: FinAva          | 0.330   | 0.294   | 0.472   | 0.831   |         |         |         |         |
| 5: Extpr           | 0.476   | 0.495   | 0.575   | 0.357   | 0.812   |         |         |         |
| 6: FrmSZ           | 0.282   | 0.335   | 0.130   | 0.132   | 0.288   | 1.00    |         |         |
| 7: Indstyp         | 0.102   | 0.130   | 0.069   | 0.161   | 0.089   | 0.129   | 1.00    |         |
| 8: IEBT            | 0.476   | 0.495   | 0.575   | 0.357   | 0.582   | 0.288   | 0.093   | 0.781   |

Note:
1. The bold fonts in the leading diagonals are the square root of AVEs.
2. Off-diagonal elements are correlations among constructs.
3. Exttpr = External pressure, FinAva = Financial support availability, Managsupp = Management commitment and support, OrgITcomp = Organizational IT competence, Percdben = Perceived benefits, ISVSP = IS vendor support, FrmSZ = Firm size, Indstyp = Industry type, IEBT = IEBT acceptance

Relationship is indicated by the $\beta$ (Chin, 1998). The SmartPLS 2.0 results for the $\beta$s and the $R^2$ are shown in Figure 2. The path significance levels (t-values) are estimated by the bootstrapping method.

** = significant at p < 0.001

Fig. 2. The SmartPLS 2.0 results of the structural model.
Surprisingly, only two out of the seven hypotheses were supported. Hypothesis (H1) was confirmed to show that management support/commitment is crucial in encouraging IEBT acceptance in Canadian SMEs. Also, the data analysis supported hypothesis (H5), which predicted that external pressure enhances IEBT acceptance. The data did not provide support for the rest of the hypotheses. All the variables together explain 46% of the variance in the dependent construct. This indicates that the proposed research conceptualization possess adequate predictive power and is useful in explaining the acceptance of IEBT for the sampled SMEs. Further discussion on the results is presented in the next section.

5. Discussions
This research project used a modified version of the TOE framework to investigate factors influencing the acceptance of IEBT in SMEs based in Atlantic Canada. The data analysis confirmed the significance of management support/commitment and external market pressure in the adoption process. To the extent that management support/commitment is considered crucial for the successful acceptance of IEBT by Canadian SMEs, this study’s finding provides empirical support for such a claim. SMEs in Atlantic Canada indicated that the levels of IEBT acceptance were higher where management support/commitment was relatively high. This finding lends credence to the body of work indicating that management support/commitment is positively associated with the successful acceptance of technological innovations such as IEBT in small businesses (Thong et al., 1996; Igbaria et al., 1997; Teo et al., 1997; Premkumar & Roberts, 1999).

External pressure was also found to be an important factor positively influencing the acceptance of IEBT in the sampled SMEs. The data is indicating that as the use of IEBT gain in popularity, it is to be expected that SMEs will succumb to the pressure from their customers, partners, and competitors to adopt such innovations. Other previous studies have highlighted the pertinence of such influences in the adoption of technological innovations, inclusion IEBT in SMEs (Hart & Saunders, 1998; Raymond, 2001; Hadaya, 2006; Carmichael et al., 2000; Kula et al., 2003; Cragg & King, 1993; Premkumar & Roberts, 1999; Mehr tens et al., 2001; Grandon & Pearson, 2004). Thus, the finding consolidates the body of knowledge in the area.

The other variables or items used in this research produced results inconsistent with the stated predictions. The Organizational IT competence of the sampled SMEs was not adequate enough to influence their acceptance of IEBT. To some degree, this result corroborates the viewpoint suggesting that the levels of technical expertise available to Canadian small businesses are not adequate (Annis et al. 2005; Noce & Peters, 2006; Martin & Milway, 2007). As well, the environmental factors of firm size and industry type did not appear to have any meaningful relationships with IEBT acceptance to support the views espoused by other IS researchers (Goode & Stevens, 2000; Gibbs & Kraemer, 2004; Chatterjee et al., 2002; Teo, 2007).

Although prior studies have shown that external support from IS vendors boded well for the adoption of technological innovations, including IEBT in small organizations (Gatignon & Robertson, 1989; Doolin et al., 2003; Thong et al., 1996; Poon & Swatman, 1999; Al-Qirim, 2007), the study’s finding did not provide support for the claim. It is possible that the measurement items used in this study did go as far as capturing the depth of services...
provided by IS vendors. Further to this, contextual factors could also account for the result obtained herein. It is also possible that the sampled SMEs may not have a favorable view of IS vendors in their contexts. It is also plausible that local IS vendors may be having difficulties in meeting the specific needs of SMEs in their contexts.

This research did not confirm the availability of financial resources as an important factor needed to enhance IEBT acceptance among the sampled SMEs in Canada. This finding may have extraneous underpinnings. For example, the head of Canadian Bankers Association disproved the notion suggesting that banks in the country “don't serve the small business market in Canada” well enough. On other hand, a report from the Canadian Federation of Independent Business raises “questions as to whether [some major financial institutions in the country] have intentionally adopted a domestic strategy that focuses less importance on the SME market” (Lam, 2010). The discordance between the two parties, to some degree, lends support to the viewpoint among some practitioners in Canada who are of the opinion that SMEs may not be receiving adequate financial support from banks to accept IEBT. The finding in this study may be highlighting the state of affairs in the country on this matter.

Overall, the foregoing results (affirmed and rejected) support the viewpoint suggesting that factors related to management support/commitment and external pressure may be possible enablers of IEBT acceptance for SMEs based in Canada. On the other hand, the variables related to organizational IT competence, IS vendor support/pressure, and financial resource availability could be classified as possible inhibitors to the process (Gibbs & Kraemer, 2004). Firm size and industry type are wider environmental factors deserving of further examination. The diagrammatic illustration provided in Figure 4 indicates that more efforts may be required to push the items or variables identified as inhibitors to improve the accentuate of IEBT in the sampled SMEs in Canada while the enablers may require little or no attention.

![Diagram of Inhibitors and Enablers of IEBT Acceptance](image)

Fig. 3. Inhibitors and enablers of IEBT acceptance by SMEs.

**Implications for research and practice**

To facilitate greater acceptance of IEBT and related technologies in the Atlantic region of Canada, the government could consider committing resources towards sensitizing SMEs’
owners and their employees about the pertinence of such innovations in enhancing business operations. For the same reasoning, the need for e-business mentoring, coaching, and training (Simpson & Doherty, 2004) becomes more cogent. Awareness campaigns tailored for SMEs’ owners would be useful in increasing their knowledge of how an IS can be used in business operations. The information provided in this study may benefit IS local vendors and financial institutions regarding areas where efforts could be expended as concerted attempts are made to strengthen Canada’s e-economy aspirations.

With respect to research, this research broadly lends credence to findings and observations regarding the salient factors i.e. management support/commitment and external pressure that influence the adoption and acceptance of IEBT in SMEs. To that end, this research effort provides support to prior studies that had highlighted significant of such factors in comparable research (Gatignon & Robertson, 1989; Jeyaraj et al., 2006; Chong & Pervan, 2007; Huang et al., 2008). Specifically, this current study affirms the views indicating that external pressure and management support are important predictors of innovations adoption in Canada’s small businesses. This study’s finding related to the pertinence of management support concurs with results in Raymond and Bergeron (1996) and de Guinea et al. (2005) that signifies their importance for achieving IS success in Canadian’s SMEs. The inadequate levels of IT expertise, and overall lack of awareness of IS products/issues in Canada (Warda, 2005; Noce & Peters, 2006) is supported by this study’s findings.

This current work complements the emerging desire among some researchers to specifically focus on and bring into the limelight issues related to the adoption of IEBT and similar technologies in less endowed regions of advanced countries. For example, the studies by Premkumar and Roberts (1999), Scupola (2003), Grandon and Pearson (2004), and Simpson and Doherty (2004) focused on rural USA, Southern Italy, the Yorkshire region of the UK, and Mid West region of the US, respectively. Additionally, the dependent variable, i.e. acceptance as used in this research departs from prior research efforts that tend to operationalize such constructs with a single item of Use (Usage) or Intention to use. The utilization of such singular items may obfuscate reality and has, in fact, been criticized for limiting insight (Legris et al., 2003). In that respect, the measures used to operationalize acceptance in this study may be beneficial to others wishing to investigate comparable issues.

Limitations and future research

Asking only one respondent to present a view on behalf of their organization may be problematic. The foregoing fact might have negatively impacted the results obtained and discussed in this research. The research project included a variety of IEBT, the possible levels of complexity in the use of such technologies were not controlled in this study; this may be limiting. For example, perceptions of email use and e-ERP use in the sampled SMEs may not be similar. Thus, the inclusion of both types of technologies might negative influence the result. What was discussed here applies to sampled SMEs in a region of Canada; it is not advised that the study’s findings be generalized to the whole country’s small businesses. Caution should be taken in interpreting the results presented herein.

This study has opened opportunity for future research. Some of the aforementioned limitations could be addressed in subsequent studies. This research can be replicated in other regions of Canada to reify or debunk claims presented in this study. The data used in
this study is cross-sectional in nature; future efforts could consider using longitudinal data to facilitate more insight. It is possible that other factors not included in this study could be identified to enhance insight. The research framework could be further reinforced with the identification of other relevant organizational and environmental factors such as government support not considered in this study. Future research using meta-analytic approaches could examine the enablers and inhibitors of IEBT adoption in SMEs in comparable parts of the developed world. Knowledge from such efforts stands to consolidate theories related to the acceptance of IEBT and related technologies in SMEs.

6. Conclusion
This research, to some extent, drew from the TOE framework in investigating the acceptance of IEBT in SMEs based in Atlantic region of Canada. The study’s findings indicated that management support/commitment and external pressure are significant predictors of the acceptance of IEBT in the study’s setting. The factors of organizational IT competence, financial resource availability, IS vendor support/pressure, firm size, and industry type were found to be insignificant in the acceptance process of IEBT by the sampled SMEs. The foregoing results permitted the identification of possible enablers and inhibitors of IEBT acceptance in the sampled Canadian SMEs. It is hoped that the discussions and conclusion provided in this study would benefit practitioners and policy makers in the country and elsewhere. The study has offered some useful contributions to the growing body of works researching the factors influencing IEBT acceptance in SMEs across regional contexts, and it seeks to complement past research efforts in Canada.

7. Appendix
The constructs and items used in the questionnaires.

| Management commitment & support |  |
|---------------------------------|--|
| Management is interested in the use of internet/e-business technologies in our operations. |  |
| Management is supportive of the use of internet/e-business technologies in our operations. |  |
| Our business has a clear vision regarding the use of internet/e-business technologies. |  |
| Management communicates the need for internet/e-business technologies usage in the firm. |  |

| Organizational IT competence |  |
|------------------------------|--|
| Our firm knows how information technology (IT) can be used to support our operations. |  |
| Our firm has a good understanding of how internet/e-business technologies can be used in our business. |  |
| We have the necessary technical, managerial and other skills to implement IEBT. |  |
| Our business values and norms would not prevent us from adopting IEBT in our operations. |  |

| External pressure |  |
|-------------------|--|
| Some of our competitors have already started using internet/e-business technologies. |  |
Our competitors know the importance of IEBT and are using them for operations.

We know our customers are ready to do business over the Internet.

Our customers are demanding the use of IEBT in doing business with them.

Our partners are demanding the use of IEBT in doing business with them.

We know our suppliers and partners are ready to do business over the Internet.

**IS vendor support/pressure**

IS vendors in the region are actively promoting IEBT and other technologies by providing incentives for adoption.

IS vendors are encouraging our business to adopt IEBT by providing us with free training sessions.

We can obtain support easily from local IS vendors as we implement IEBT.

**Financial resource availability**

Supporting institutions e.g. banks provide financial assistance for SMEs wishing to adopt e-business technologies.

Our own business will take e-business more seriously if we receive adequate financial support from local banks.

We believe that financial support for e-business engagements can be obtained easily from banks and other financial institutions.

**Acceptance of IEBT**

Our company makes use of IEBT, very often.

Our company uses IEB e-commerce/e-payment, at all times, for its transactions.

Our company uses IEB its critical operations.

The number of business operations and activities in my company that requires IEBT is high.

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9. References

Al-Qirim, N. (2007). The adoption of ecommerce communications and applications technologies in small businesses in New Zealand. Electronic Commerce Research and Applications, 6(4), 462-473.

Annis, R.C., McNiven, J., & Curri, M. (2005). Industry Canada Broadband Impact Study Final Report. Brandon, Manitoba: Rural Development Institute, Brandon University.

Attewell, P., 1992. Technology diffusion and organizational learning: The case of business computing. Organization Science, 3(1), 1-19.
Beatty, R.C., Shim, J.P., & Jones, M.C. (2001). Factors influencing corporate web site adoption: A time based assessment. Information and Management, 38(6), 337–354.

Caldeira, M.M., & Ward, J.M. (2002). Understanding the successful adoption and use of IS/IT in SMEs: An explanation from Portuguese manufacturing industries. Information Systems Journal, 12(2), 121-152.

Carmichael, C., Turgoose, C., Gary, M.O., & Todd, C. (2000). Innovation and SMEs the case of Yorkshire, UK. Journal of Industry and Higher Education, 14(4), 244-248.

Chapman, P., James-Moore, J., Szczygiel, M., & Thompson, D. (2000). Building Internet Capabilities in SME’s. Logistics Information Management, 13(6), 353-361.

Chatterjee, D., Grewal, R., & Sambamurthy, V. (2002). Shaping up for e-commerce: Institutional enablers of the organizational assimilation of web technologies. MIS Quarterly, 26(2), 65-89.

Chau, Y. K., & Jim, C.F. (2002). Adoption of electronic data interchange in small and medium enterprises. Journal of Global Information Management, 10(4), 61-85.

Chin, W. (1998). Issues and opinion on structural equation modeling. MIS Quarterly, 22(1), vii-xvi.

Chircu, A.M., & Kauffman, R.J. (2000). Limits to value in electronic commerce-related IT investments. Journal of Management Information Systems, 17(2), 59–80.

Chong, S., & Pervan, G. (2007). Factors influencing the extent of deployment of electronic commerce for small and medium-sized enterprises. Journal of Electronic Commerce in Organizations, 5(1), 1-29.

Chong, A. Y-L., Ooi, K-B., Lin, B., Tang, S.Y. (2009). Influence of interorganizational relationships on SMEs' e-business adoption. Internet Research, 19(3), 313-331.

Chwelos, P., Benbasat, I., & Dexter, A.S. (2001). Empirical test of an EDI adoption model. Information Systems Research, 12(3), 304–321.

Cragg, P., & King, M. (1993). Small-firm computing: Motivators and inhibitors. MIS Quarterly, 17(1), 47-60.

de Guinea, O.A., Kelley, H., & Hunter, M.G. (2005). Information systems effectiveness: Extending a Singapore model in Canada. Journal of Global Information Management, 13(2), 55-79.

Doolin, D., Mcleod, L., McQueen, B., & Watton, M. (2003). Internet strategies for establishing retailers: four New Zealand case studies. Journal of Information Technology Cases and Applications, 5(4), 3–19.

Drew, S. (2003). Strategic uses of e-Commerce by SMEs in the East of England. European Management Journal, 21(1), 79-88.

Farhoomand, A.F., Tuunainen, V.K., & Yee, L.W. (2000). Barriers to global electronic commerce: A cross-country study of Hong Kong and Finland. Journal of Organizational Computing and Electronic Commerce, 10(1), 23-48.

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equations models with unobservable variables and measurement error. Journal of Marketing Research, 8(1), 39-50.

Gatignon H., & Robertson T.S. (1989). Technology diffusion: An empirical test of competitive effects. Journal of Marketing, 53(1), 35–49.
Gibbs, J.L., & Kraemer, K.L. (2004). A cross-country investigation of the determinants of scope of e-commerce use: An institutional approach. Electronic Markets, 14(2), 124-137.

Goode, S. & Stevens, K. (2000). An analysis of the business characteristics of adopters and non-adopters of World Wide Web technology. Information Technology and Management, 1 (1/2), 129-154.

Grandon, E.E., & Pearson, J. (2004). Electronic commerce adoption: An empirical study of small and medium US Businesses. Information and Management, 42(1), 197-216.

Hair, J.F. Jr., Anderson, R.E., Thatham, R.L., & Black, W.C. (1998). Multivariate data analysis. Upper Saddle River, NJ: Prentice-Hall International, Inc.

Hart, P.J., & Saunders, C.S. (1998). Emerging electronic partnerships: Antecedents and dimensions of EDI use from the supplier’s perspective. Journal of Management Information Systems, 14(4), 87-111.

Hadaya, P. (2006), Determinants of the future level of use of electronic marketplaces: The case of Canadian firms. Electronic Commerce Research, 6(2), 173-185.

Huang, Z., Janz, B.D. & Frolick, M.N. (2008). A comprehensive examination of Internet-EDI adoption. Information Systems Management, 25(3), 273-286.

Iacovou, C.L., Benbasat, I., & Dexter, A.S. (1995). Electronic data interchange and small organizations: adoption and impact of technology. MIS Quarterly, 19(4), 465-485.

Iifinedo, P. (2011). An empirical analysis of factors influencing Internet/e-business technologies adoption by SMEs in Canada. International Journal of Information Technology & Decision Making, 10(4), 731-766.

Igbaria, M., Zinatelli, N., Cragg, P., & Cavaye, A.L.M. (1997). Personal computing acceptance factors in small firms: A structural equation model. MIS Quarterly, 21(3), 279-305.

Industry Canada (2001). Micro-enterprises Survey 2000: A Progress Report Small Business Policy. Available at <http://www.ic.gc.ca/epic/site/sbrp-rppe.nsf/en/rd01992e.html>, 2001>. Accessed April 13, 2008.

Jeyaraj, A., Rottman, J. W., & Lacity, M.C. (2006). A review of the predictors, linkages, and biases in IT innovation adoption research. Journal of Information Technology, 21(1), 1-23.

Kula, V., & Tatoglu, E. (2003). An exploratory study of Internet adoption by SMEs in an emerging market economy. European Business Review, 15(5), 324-333.

Lam, E. (2010). CIBC ‘far and away the worst bank’ for smaller businesses: report. Available at <http://www.canada.com/business/CIBC+away+worst+bank+smaller+businesses+report/2877729/story.html>. Accessed August 3 2010.

Lawson, R., Alcock, C., Cooper, J., & Burgess, L. (2003). Factors affecting adoption of electronic commerce technologies by SMEs: an Australian study, The Electronic Journal on Information Systems in Developing Countries, 14(1), 1-9.

Levenburg, N., Magal, S.R., & Kosalge, P. (2006). An exploratory investigation of organizational factors and e-business motivations among SMEs in the US. Electronic Markets, 16(1), 70-84.
Li, D., Lai, F., & Wang, J. (2010). E-business assimilation in China’s International trade firms: The technology-organization-environment framework. Journal of Global Information Management, 18(1), 39-65.

Martin, R.L., & Milway, J.B. (2007). Enhancing the Productivity of Small and Medium Enterprises through the Greater Adoption of Information and Communication Technology, Information and Communication Technology Council Report. Available at <http://www.ictc-ctic.ca/en/> Accessed 14 June 2008.

Mcdonagh, P., & Prothero, A. (2000). Euroclicking and the Irish SME: Prepared for e-commerce and the single currency. Irish Marketing Review, 13(1), 21–33.

Net Impact Study Canada (2002). The SME Experience - A Preliminary Report - November 2002 - Canadian e-Business Initiative. Available at <http://www.cebi.ca/epic/site/ecic-ceac.nsf/vwapj/NL_SME-e.pdf/$file/NL_SME-e.pdf> Accessed 20 April 2009.

Nunnaly, J.C. (1978). Psychometric theory. New York, NY: McGraw-Hill.

Pearson, M. & Grandon, E. (2004). E-commerce adoption: perceptions of managers/owners of small and medium sized firms in Chile. Communications of the Association for Information Systems, 13, 81-102.

Poon, S., Swatman, P.M.C., & Vitale, M. (1996). Electronic networking among small business in Australia-An exploratory study. In proceedings of the 9th International Conference on EDIIOS, Bled, Slovenia, June 10-12.

Poon, S., & Swatman, P. (1999). An exploratory study of small business Internet commerce issues. Information and Management, 35 (1), 9-18.

Premkumar, G., & Roberts, M. (1999). Adoption of new information technologies in rural small businesses. Omega: International Journal of Management Science, 27(4), 467-484.

Raymond, L., & Bergeron, F. (1996). EDI success in small and medium-sized enterprises: A field study. Journal of Organizational Computing & Electronic Commerce, 6(2), 161-172.

Raymond, L. (2001). Determinants of web site implementation in small businesses. Internet Research, 11(5), 411-422.

Reynolds, W., Savage, W., & Williams, A. (1994). Your own business: a practical guide to success. Nelson Australia, South Melbourne, Victoria, Australia.

Ringle, C.M., Wende, S., & Will, A. (2005). SmartPLS 2.0 (M3) beta, Hamburg: http://www.smartpls.de.

Scupola, A. (2003). The adoption of Internet commerce by SMEs in the South of Italy: An environmental, technological and organizational perspective. Journal of Global Information Technology Management, 6(1), 52-71.

Tan, Z., & Wu, Q. (2003). Globalization and e-commerce I: Factors affecting e-commerce diffusion in China. Communications of the Association for Information Systems, 10(2), 25-35.

Teo, H.H., Tan, B.C.Y., & Wei, K.K. (1997). Organizational transformation using Electronic Data Interchange: The case of TradeNet in Singapore. Journal of Management Information Systems, 13(4), 139-166.

Teo, T.S.H. (2007). Organizational Characteristics, Modes of Internet Adoption and Their Impact: A Singapore Perspective. Journal of Global Information Management, 15(2), 91-117.
Thong, J., & Yap, C. (1995). CEO characteristics, organisational, characteristics and information technology adoption in small business. Omega: International Journal of Management Sciences, 23(4), 429-442.

Thong, J.Y.L., Yap, C.S., & Raman, K.S. (1996). Top management support, external expertise and information systems implementation in small business. Information Systems Research, 7(2), 248-267.

Tornatzky, L.G., & Fleischer, M. (1990). The processes of technological innovation. Lexington, MA: Lexington Books.

Turban, E., King, D., & Lang, J. (2010). Introduction to electronic commerce. New York, NY: Prentice Hall, NY.

Warda, J. (2005). Incentive for ICYT adoption: Canada and Major Competitor. Available at <http://www.itac.ca/uploads/research/05july.pdf>. Accessed July 20 2010.

Wymer, S. & Regan, E. (2005). Factors influencing e-commerce adoption and use by small and medium businesses. Electronic Markets, 15(4), 438-453.

Zhu, K., Kraemer, K.L., & Xu, S. (2006). The process of innovation assimilation by firms in different countries: A technology diffusion perspective on e-business. Management Science, 52(10), 1557-1576.
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