

# Potential E-Commerce Adoption Strategies For Libyan Organization

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## ABSTRACT

The adoption of electronic commerce (e-commerce) has facilitated sound business relationships between manufacturers and customers by customizing new functions that are unique to business transaction which provides reliable support that improves its technological features. These advances earned from e-commerce adoption has paved way for numerous technical enhancements for merchants with unique business needs and has provided supportive enablement to business transaction with isolated location. These versed benefits has increased market expectations among variety of generic consumer as well as the duality of manufacturers and customers. Base on the increasing need for e-commerce integration in business network, this paper explores the role and relevance of policy intervention on the adoption of e-commerce among developing countries base on Libyan business environment. In quantifying the managerial potential of e-commerce as a business enabling technology, Resource Base View theory were used to assess e-commerce capability of e-commerce over traditional mode of transaction.

**Keywords:** *E-commerce, Policy intervention, E-commerce infrastructure, E-commerce adoption Business transaction network*

## 1. INTRODUCTION

Electronic based transaction (E-commerce) refers to business transaction in which the parties involved interact electronically to exchanges information [1]. This form of business transaction encompasses buying and selling over the internet through computer mediated network [2] and encompasses wide range of products and services [3]. E-commerce entails the use of electronic communications and digital information processing technology to create, transform, and redefine relationships for value creation between organizations and organizations as well as individuals. Depending on the type of technology involved and the extent of e-commerce integration into business processes, it may constitute part or the entire business processes.

E-commerce adoption has proven to be a potential approach for enhancing the effectiveness of business practices. These advantages could boost operational efficiency of Libyan organization by widening her marketing network. Owing to the increasing need of e-commerce transaction, this paper discusses the need and relevance for policy intervention in e-commerce adoption as well as government role in e-commerce implementation. This paper tends to explore the role and relevance of policy intervention on the adoption of e-commerce among Libyan business organization. E-commerce capability of e-commerce over traditional mode of transaction were assessed base on Resource Base View theory by quantifying its managerial potential as a business enabling technology and further recommends potential adoption techniques.

## 2. TYPES OF E-COMMERCE

E-commerce transaction exists as business-to-business (B2B), business-to-consumer (B2C), business-to-

government (B2G), consumer-to-consumer (C2C), and mobile commerce (m-commerce) transaction. B2B e-commerce exists between organizations and among businesses. However, about 80% of the e-commerce transaction are of this type and have been assumed to grow faster than the B2C segment [4]. Business-to-consumer (B2C) involves customers gathering information; purchasing physical goods (such as books and consumer products) or information goods (such as software or e-books) through electronically linked network [5]. Consumer-to-consumer (C2C) transaction exists between individuals, private or consumers and is characterized by online auctions especially in industries where firms bid what they want from multiple suppliers [6].

Consumer-to-business (C2B) transactions involve reverse auctions which empowers consumer to influence transaction. Typical instance are common among airlines where travellers are given the best ticket offers in response to encourage traveller to fly from a particular post. C2C sites such as eBay and Napster revealed that its market is very large and produces millions of dollars in daily sales. Mobile commerce (M-commerce) entails purchase and sales of goods and services through wireless network such as handheld devices like cellular telephones and personal digital assistants (PDAs). Japan leads globally in m-commerce transactions [7].

### 2.1 Policy Intervention on E-commerce Processes

E-commerce as a vital component of business strategy can potentially boosts the performance of Libyan organization. The adoption of electronic strategy into business transaction could enhance productivity, reduces transaction cost, and enables mass customization and convenient participation of customer [8]. Almost all the

developing countries currently participate in e-commerce either as seller or buyer. To facilitate e-commerce growth in Libya, there is need to improve e-commerce infrastructures. To achieve this, policy intervention has been recommended as a necessity to overrule [4]:

- High cost of internet access which includes cost of connection service, subscription fees, and charges for websites with sufficient bandwidth.
- Content restriction by national security under public policy which affect information services such as media and entertainment sectors
- Limited availability of credit cards.
- Insecurity in network.
- Development of transportation infrastructure to avoid slow and uncertain delivery of goods and services.
- Inadequate professional information technology workforce.

E-commerce has been noted as a strong tool for sustainable organizational growth. Primary processes that are enhanced in e-commerce transaction network are production processes, customer-focused processes, and internal management processes [9].

1. Production processes include the procurement, processing of payments ordering and replenishment of stocks; production control processes; electronic links with suppliers among others;
2. Customer-focused processes include promotion, sales over the Internet, processing of purchase order for customers, payments and customer support.
3. Internal management processes encompasses employee services, training and recruiting, video-conferencing and internal information sharing. Electronic transaction enhances information flow among production and sales unit to improve productivity [10].

## 2.2 Relevance of the Internet to E-Commerce Transaction in Libya

The internet is a vast network that allows people from different geographical location to interact inexpensively and reliably. It encompasses global collection of networks connected to share information via common sets of protocol [11]. The emergence of the internet has facilitated e-commerce transactions in Libya at reduced cost. Before the use of the internet for commercial transactions in Libya, organizations used private networks like electronic data interchange to transact businesses which are expensive to install and maintain [12]. However, the integration of the internet into the transaction network of Libya could rapidly spread e-commerce adoption primarily because of its low costs and

open standards [13]. Internet-based transaction could facilitate the transaction of goods and services which may have required interconnection by allowing for an instantaneous flow of vital information through efficient and effective integration of the organizational processes [14]. These benefits are viewed as an ideal strategy to boost the economic state and market network of Libya organization.

## 2.3 Role of Libyan Government to E-Commerce Adoption

Government policy and incentives plays vital role in encouraging the adoption of e-commerce practices [14]. For wider adoption of e-commerce, Libyan government should encourage firms and organizational participation by adopting e-commerce into all government transaction networks with policies that guarantees secure online transaction and give incentives for e-commerce infrastructure. This will enable firms and organizations to tap the potential benefits of e-commerce. To ease the adoption and creation of favourable environment there is need for [14]:

1. The creation of favourable policy environment for e-commerce and
2. By becoming a leading user of e-commerce in their respective operations as well as encouraging its mass usage.

Among the favorable policy environment for e-commerce adoption, Libyan governments should heed to include:

- Promoting access to inexpensive and easy internet access to information networks
- Legal recognition of e-commerce transactions
- Protection of consumer from internet fraud
- Protecting of consumer's right and privacy
- Legal protection against unauthorized access to computer systems
- Protection of intellectual property
- Policy and legal framework for e-commerce in Libya should address the above issues. It is also important for Libyan government to adopt laws, policies that promote trust and confidence among e-commerce participants that is compatible with international norms on e-commerce [15].

Ray et al., [16] proposed numerous ways in which government in the developing countries could encourage the adoption of electronic-based transaction. Similarly these measures can be applied among Libyan organizations. Libyan government can also motivate organizations and individuals to adopt e-commerce practices through:



**E-procurement:** Government agencies should trade electronically with suppliers through e-procurement information systems.

**Customs clearance:** through the computerization of customs processes and operations covering electronic submission, processing, payment, and automated systems for data entry to integrate customs tables, codes and pre-assessment.

**Tax administration:** through electronic transmission and processing of tax return information, permits, issuances of tax clearances via online, licenses and electronic registration processes of businesses and taxpayers.

However, the private sectors could be discouraged from participating in e-commerce transaction if Libyan government fails to engage in e-procurement, secure their records online or electronically remit customs fees, [17].

### 3. CRITERIA FOR E-COMMERCE ADOPTION IN THE DEVELOPING COUNTRIES

Based on Rao, et al., [18] e-commerce development and implementation encompasses presence, portals, transaction integration and enterprise integration. Presence is the first step in which most e-commerce organizations displays the product, brochure and offer on a Website. The portals stage comprises of order placing through the use of profiles and cookies by customers and suppliers transactions integration involves financial transactions between partners while enterprises integration refers to full integration processes of businesses that makes old business route indistinguishable to online business.

The use of model for the adoption of online transaction has proven to be subject of distinct and unique phenomena [10, 17, 19-22]. However, the adoption of e-commerce for organization processes can be motivated through the use of appropriate model.

Effective organizational criteria are important variables that can influence the adoption changes associated with e-commerce among organizations in the developing countries [23]. Business organization varies in propensity to deploy e-commerce and is influenced by top management, information systems professional's characteristics as well as the business structure of the organization [9]. The effectiveness these variables can be used to evaluate e-commerce adoption in the developing countries. To successfully utilize e-commerce, buyers and sellers must have sufficient information system infrastructures for maximum participation over every transaction. The readiness of a buyer could be traced from the extent at which information systems are used in purchasing, the extent at which internet purchasing activities are conducted and the extent at which supply

chain management activities are used [18]. Effective organizational criteria reported from previous literature are as shown in table 1 and 2 respectively.

Successful adoption of e-commerce requires suitable environment to yield its advantages. Basis on previous literatures various criteria of e-commerce adoption have been identified at different organizational levels as summarized in the tables 1 and 2

#### 3.1 Recommendation on E-commerce Adoption

The importance of e-commerce is undisputed among developing nations [24]. Different reasons are responsible for the asymmetry like positive attitude towards e-commerce and better qualifications for staff. E-commerce activities concentrate on B2B although its adoption could be determined on its efficiency. The adoption of e-commerce requires that the emerging market establishes its transaction strategies. Base on the need for effective e-commerce implementation, this study recommends potential steps necessary for e-commerce adoption in Libya.

Twelve Recommended steps for effective e-commerce implementation aims promoting e-commerce adoption among Libya organizations. The recommendation includes:

**E-commerce features:** website as tools for e-commerce tool tailors global markets such as Europe, America and Asia and should comprise of features like corporate information, products and services, information, frequently asked questions (FAQs), useful information on non-product like weather, online enquiries, security statements, online reservations, reservation tracking and online payment strategy

**Customer Relationship Management (CRM):** website uses effective electronic CRM helps to encourage customers and to create impression that could captures their preferences, requirements however, their is need to include contact details, e-mail, an online feedback form, an electronic newsletter, promotions, special offers and other loyalty schemes, a call-back service, and personalization through customized content.

**Website promotional campaigns:** the Internet could be used to promote products and services at a reduce cost owing to the unprecedented level of connectivity and the ability to communicate efficiently and effectively and directly with customers.

**Knowledge transfer facilities:** website provides interactive environment for the exchange of knowledge that cane used by organizations to provide products and services to their customers through electronic guestbook or user review facility, instant messaging facilities, electronic newsletters, bulletin boards and online tracking of orders.



**Increasing website traffic:** Organizations should include websites facilities to attract more customers through techniques such as doorway pages, customer accounts, effective Meta and title tags, and registration of websites on major search engines. The website used for transaction should be regularly updated.

**Web content accessibility:** Website content should be accessible and usable by all people, including those with disabilities by following the Web Content Accessibility Guidelines (World Wide Web Consortium) [25] when developing and designing their websites.

**Overcoming security and legal barriers:** Sensitive data of customers such as credit card details and personal information should be protected during e-commerce transaction by using firewall, entrapment server, user accounts, proxy server, virus email updates, encryption, anti-spyware, audit logs, digital certificates, anti-virus software, Internet usage policy, secure electronic transaction, secure socket layer, digital signatures, prepayment systems, user accounts, disaster recovery plans, trust seals, privacy and security statements, and a security payment link.

**Overcoming the technological barriers:** Organizations should use appropriate technology to setup e-commerce system taking into consideration the need for modern payment infrastructure and a high speed, reliable Internet connection.

**Overcoming organizational barriers:** Organizational culture and should accommodate e-commerce-induced changes. Owing to this, organizations carry out thorough investigations before the implementation of e-commerce-induced changes.

**Overcoming behavioural barriers:** The adoption and use e-commerce should consider mutual relationship the employer and employees so as not to resist change when it comes. However, to reduce the risk of key staff leaving the organization after being trained, there is need to investigate employee's commitment and involve top management in decision before training.

**Overcoming the financial barriers:** Adequate finance is needed to run e-commerce system. In a situation where fund is insufficient, the organization can borrow from financial institution using investment risk analysis, return on investment, cost-benefit analysis to manage the financial commitment starting with basic inexpensive e-commerce facilities.

**Training to prepare for e-commerce adoption:** there is need to train key personnel on e-commerce strategy so as to overcome most significant barriers such as the security and technological associated barriers. A typical measure to overcome these is through the adoption of resource based

view theory which emphasis on managerial skill and e-commerce transaction network.

#### 4. RESOURCE-BASED VIEW (RBV) THEORY ATTRIBUTES TO E-COMMERCE CAPABILITIES

Resource-based View (RBV) model developed by Mata et al., [26] revealed that e-commerce resources, its managerial skills and business network are sources for competitive advantage because of their valuable, imperfect immobility and heterogeneous distribution across business organizations. RBV added that durable e-commerce capabilities are often involves long process of development between people and technology with respect to the history of the organization. The development process of an organization involves thousands of repertoires, routines and managerial decisions among employees, suppliers, business partners and competitors. The skills to coordination and integrate existing resources into capabilities often requires organization-specific knowledge on e-commerce. These elements cannot easily be codified since they are imitable as a result of social complexity and casual ambiguity. Base on this fact, e-commerce capability is a strategic resource with durable advantages for business organizations.

RBV model was postulated to test the capabilities of e-commerce as well as its sustainable competitiveness. RBV is a promising contemporary theory which combines strategic and organization insight and competitive advantage on firm existence [27]. RBV applications involve studies base on information technology system resources with capabilities to yields sustainable and competitive advantage [28]. The following section examines the three attributes of e-commerce capabilities base on RBV model and theoretical conclusion for future study such as e-commerce technology resources, managerial e-commerce skills and business networks.

##### 4.1 E-Commerce Technology Resources

Most studies focused on the economic values of e-commerce technology resources that improve organizations operation and effectiveness as well as differentiating its respective products and services [29-31]. However, electronic devices are rare and immobile resources because hardwires and software can be purchased from the market. In the other hand, critics on RBV stressed that electronic mediums are not strategic resources because, they lack of inimitability [32]. E-commerce technology resources are made up of sets of infrastructure, information strategy (IS), network applications, and electronic architecture plan [33]. In addition to its complexity, there development processes evolves over long period through complex interaction between people, business processes, and technology which are homogeneously valuable across firm. However, managerial skills of e-commerce such as the use of e-

commerce infrastructures (such as the internet) facilitate its adoption among organizations.

## 4.2 Managerial E-Commerce Skills

Managerial e-commerce skills encompasses (1) the information technology (IT) manager's ability to understand the needs of a firm, stakeholders, employees, suppliers and customers, (2) the capability to adopt e-commerce strategies to the firm's business structure, value-chain and its transaction networks (3) the capability to work collectively by managers towards a common goal with the aim to reduce cost, improve speed, productivity and to increase revenue. Researchers pointed out that the skill of managers provides sources for competitive advantage [33 & 30]. This is not an exemption under RBV theory where human skills have proven to play a vital role for competitive performance in various sectors like e-commerce, manufacturing and retailing, [30, 34 & 35].

It has been reported that managerial skills and level of firm performance has significant relationship [36]

however; the development of managerial e-commerce skills requires long time to accumulation learning experiences as well as to overcome trial and error [37].

## 4.3 Business Networks

Business network sustains competitive advantage through e-commerce. Intensified competition makes firms to depend on the network of supplier and customer to create value. Accumulation of more customers in online business generates integrated knowledge and relationships that considerably extends beyond their personal resources and control [38]. It has been reported that customer value are improved through customers and suppliers networks [39 & 40]. A network-based community focuses on the need for trust and greater collaboration to facilitate information sharing across the value chains [38]. The adoption of e-commerce technology into firms in the developing countries can break-off barriers associated with distance and integrate suppliers and customers network in a domain.

**Table 1: Effective organizational criteria for e-commerce adoption in the developing countries generated from previous literatures**

Criteria's	Sources
Leadership and management issues	[19, 40-44]
Human resource management issues	[42 & 45].
Size of the organization or organization	[23, 41 & 46]
Organization culture	[19 & 42]
Organizational structure	
Products	[20]
Financial structure	[42]
Organizing	[47]

Adapted from Rao, et at., [18]

**Table 2: Criteria for e-commerce adoption among business organizations in the developing countries**

Criteria's	Sources
High competition	[10, 19-23 & 41].
Customers pressure	[17, 19-21].
Suppliers pressure	[19-21]
Customers readiness	[10, 48 & 49]
Demonstration of electronic purchasing	[50]
Readiness of business organizations	[10]
Lack of vital expansion	[19, 41 & 49]

Adapted from: Rao, et at., [18]



## 5. CONCLUSION

E-commerce is a smarter approach to conduct business and the best approach is for organizations to manage their activity as an integral part of their approach to developing and sustaining customer relationship. E-commerce technology is available and affordable, and is an international uptake that presents ways for companies to demonstrate their capability through the use of IT systems for business transaction. E-commerce-base transaction uses electronic and digital information processing technology to create, transform, and redefine relationships for value creation between organizations and organizations as well as individuals. The internet plays a central role in mediating transaction processes in implementation of e-commerce among Libyan organizations. Reports show that e-commerce adoption is enhanced through policy intervention on its processes and provision of e-commerce infrastructures as well as the provision of incentives. The RBV model revealed that e-commerce technology provides competitive advantages that are vital in enhancing imperfect market across firms. RBV further revealed that e-commerce development process involves numerous organisational routines, repertoires as well as managerial decision among business partners, employees, suppliers, and competitors.

## ACKNOWLEDGEMENT

The research was funded by The General People's Committee for Higher Education, Bane waleed University, Libya.

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