CHAPTER 2

LITERATURE SURVEY

An extensive literature survey is carried out as part of this research in order to analyze the existing features of OPPS and see which features can be enhanced.

With the available literature and research journals, extensive analysis has been made to understand the features of existing OPPS.

[17] O'Mahony et al.,(1997), [37] Laudon and Traver (2002), [22]Guttmann (2003) concluded after their research that the lack of the fit-for purpose payment mechanisms and infrastructure were the main restricting factors among many others that held back the growth and evolution of e-commerce systems.

2.1 FACTORS AFFECTING THE GROWTH OF E-COMMERCE SYSTEMS

Bruno-Britz has identified lack of innovation and research in building e-payment systems were the primary reasons why the e-payment systems have failed to achieve world wide acceptance [8].

Silva carried out a survey to delve into the consumer perception of e-payment [59]. The results indicated an inclination towards on-site payments and purchasing rather than using E-commerce and Internet banking for day to day transactions due to inadequate security design and usability.

Suh et al., have identified a lack of 'trust' in security features offered by e-payment websites and third party involvement as a major deterrent of adoption to e-payment systems [6].

Khan et al., have identified usability concerns related to e-payment system [53]. Customer's perception about technology and an understanding about the system contribute greatly in propagation of a particular payment mechanism. External security threats such as theft, hacking and eavesdropping have led to failure of e-banking and e-payment system. Credit and Debit cards still have inadequate security features in their design which may be exploited easily in a country with volatile security situation. The study also clearly identified loopholes in online business
environment. However, there was no focus on off-line e-payment channels that are required to provide a safe and secure alternative to cash transactions.

Zugelder et al., have identified customer protection as a major issue in development of e-payment systems in countries prone to security threats [42].

2.2 FACTORS CONTRIBUTING TO SUCCESS OF E-COMMERCE SYSTEM

Abrazhevich (2001) pointed out many factors which determine the success of electronic payment system [2]. In his effort to classify and describe the requirements and characteristics of payment systems, he observed that the main features an electronic payment system should possess are reliability, efficiency, scalability, security, multi-currency, privacy, interoperability, authorization type, applicability, convertibility, traceability, as well as trust and usability. With the aim of reducing long bank queues, increasing efficiency and convenience of financial transactions, electronic payment system has been integrated into various types of electronic cards.

2.3 USABILITY ISSUES IN ONLINE PAYMENTS

Appiah et al., studied the electronic retail payment systems in Ghana in an attempt to delve into the user acceptability and payment problems [1]. With an increasing number of people converging to e-payment systems, the paper attempted to discover the main usability issues in e-payment systems and internal and external threats in online payment systems

Malek [41] and Ferguson [28] have addressed the problems of perception of technological innovations in e-payment systems. Although information technology has had a positive effect on e-payment system growth, it has left considerable security and usability problems to be solved in order to render it more effective and reliable.

Humphrey et al., studied if usability and security features in the present payment systems were properly addressed and how effectively they contributed to superseding the conventional paper money [13].

Rehman et al., proposed a viable model that adequately addressed usability and security issues in e-payment systems operating in an online environment [54]. The paper identified ethical issues linked with credit card payments online such as
hidden charges and taxes. Moreover, leakage of private information which is used by malicious eavesdroppers while providing credit card information is also a concern.

Renaud et al., focused on the user online shopping behavior and user experience that concluded to several types of user behavior [31]. He also discussed why customer checkouts without buying anything in the end after adding items to their baskets. Therefore, he suggested the solution for improvement of user online shopping behavior.

2.4 DECENTRALIZED APPROACH OF ELECTRONIC PAYMENT SYSTEM

Palaka et al., presented a model for peer to peer e-commerce transactions with decentralized approach focusing on the reliability issues of centralized payment systems offered by Internet e-commerce websites such as e-bay and Amazon [16]. They argued that a centralized architecture though more secure, was prone to disaster amidst a single point of failure. It also posed problems of bandwidth thereby limiting their scalability.

2.5 IMPACT OF CREDIT CARD TRANSACTION IN E-COMMERCE SYSTEMS

[56] Shafiq Ur Rehman et. al., (2012), [16] Palaka et al., studied credit card security features and their impact on e-payment acceptability as a viable alternative to cash transactions. The study focused on both online as well as offline use in POS machines. Prevention of credit card frauds has been a major security issue in dealing with e-payment transactions. The paper identified several types of credit card frauds and attempts to propose possible solutions. Cardholder not present (CNP) frauds is one of the most widely employed card frauds that have been made possible due to development of e-commerce websites.

2.6 IMPACT OF DEBIT CARD USAGE IN E-COMMERCE SYSTEMS

Despite claims of cost saving and greater efficiency, consumers and merchants have been reluctant to switch from traditional payment methods to the debit card. Caskey and Sellon (1994) analyzed the factors that have limited the debit card's success and examined prospects for future growth [30].
2.7 ADVANTAGES OR VALUES THE ELECTRONIC PAYMENT SYSTEMS

According to Laudon & Traver, 2002, e-commerce enriched business-to-business relationships, eliminating inventory, operational and distributional costs that indirectly provide customers with lower prices [37]. E-commerce could help businesses to increase production flexibility by ensuring timely availability of components from suppliers, to improve quality of the products by increasing cooperation between buyers and sellers and reducing quality issues, to increase opportunities for collaborating with suppliers and distributors, and to create greater price transparency — the ability to see the actual prices on the market. In this way e-commerce responded to the customer demand of lower prices and greater convenience.

According to Cobb (2004), the value of electronic payment was way beyond the immediate convenience and safety of cards, contributing to a great extent to the overall economic development [10].

According to a study by Fiallos and Wu, the arrival of the internet has taken electronic payments and transactions to an exponential growth level [19].

In a related work by Lee et. al.,(2003), a secure electronic cash system could guarantee anonymity of legitimate users but also provided traceability about illegally issued cash or laundered money [40]. If illegal activity did take place, it could cancel anonymity of the digital cash in order to protect the bank. Lee et. al., (2004) added that since digital money could trace double spending, and double spending protects content by exposing the double spender’s identity, digital cash was a fool proof way of guarding against illegal redistribution of intellectual property and materials [39].

Electronic Payments as argued by Cobb (2005), had a significant number of economic benefits apart from their convenience and safety [12]. These benefits when maximized could go a long way in contributing immensely to economic development of a nation.

Humphrey et al., (2001) concluded with their research that the introduction and use of electronic payment instruments held the promise of broad benefit to both business and consumers in the form of reduced costs, greater convenience and more
secure, reliable means of payment and settlement for a potentially vast range of goods and services offered worldwide over the internet or other electronic networks [15].

2.8 WHY NEW FEATURES OR ENRICHMENT ARE IMPORTANT TO GROWTH OF E-COMMERCE SYSTEMS

[34]Kuljis et al., (1998), [20]Fuller (2000), [32]Kendall & Kendall (2001), [43]MacGregor and Vrazalic (2008), talked about the power of E-commerce and how the shift in paradigm would help customers as well as the business. According to them electronic commerce was not just another mechanism to sustain and enhance existing business practices but it was a paradigm shift that was radically changing traditional ways of doing business.

Mantel and McHugh (2001), discussed some of the drivers and impediments to the development of new online payment systems [7]. Three different approaches could be taken to the development of consumer online payment markets. One approach emphasized that there were significant institutional, design, competition and/or customer irrationality challenges that might require public sector involvement. A second suggested that market forces would allow development of an optimal payment market as long as efficient solutions were identified by consumers, merchants and financial providers and steps towards their implementation clearly planned, i.e. efficient co-ordination among all market participants was necessary which was also discussed by Caskey and Sellon (1994) [30]. A third approach argued that markets were efficient and that as a consequence optimal results could be achieved even without co-ordination, despite network effect.

Rochet and Tirole (2003) did analysis about factors affecting growth of business which hold good for online business industry also and business in the perspective of two-sided platform market where buyers and sellers interacted through a common platform [52]. Success for new platform entrants was determined by getting both sides of the market to participate - the traditional chicken-and-egg problem. New entrants might also adopt a variety of pricing strategies and pricing levels to optimize revenues and these might also determine uptake and structure of the new payment system. Furthermore, there could be resistance to change in the
supporting infrastructure network because large, long-term investments and sunk costs were necessary for a stable and reliable infrastructure.

Jansen-Vullers, and Reijers (2004) expressed that little research focused on the relationship between business process and successful adoption of electronic commerce by using credit cards and it was this seamless integration that would help in growth of e-commerce [29]. A powerful yet user friendly ecommerce system blended with business process would work wonders.

According to Sandy (2006) it had been observed and verified in many studies that small and medium enterprises had been actively looking for suitable solution and methods of adopting and integrating electronic commerce into their business process [55].

2.9 CONCLUSION

Modern OPPS have a lot of features that will help to handle various situations and needs of the customers. With the advancement of science and technology the needs and expectations of users also have increased multifold.

Now the OPPS providers are focusing on providing a lot of features and user friendly options to

- Win confidence of more users with attractive features
- Get recognized globally as a pioneer
- Increase their market share of business and profit.
- Provide stable and secured system so that customers will have peace of mind and encourage users providing required comfort.

Few enhancements to the existing features given below are conceived in this thesis to add more value

- Split Tender Payment option
- Multiple Payment option
- Recurring Payment option

It has been found that the above existing features are good but when enhanced they will provide more benefits and options to the users which are suggested in the thesis.