# Information mining and e-marketing plan on real time data in cottage industries

## Sumanta Chatterjee, Somsubhra Gupta

*Abstract*— The Government of India in recent times launched various initiatives such as "Make in India", "Digital India", etc. with the help of which India is now leading among the fastest growing economies. (Source: International Monetary Fund [1]). "Make in India" is one of the most ambitious program to promote local manufacturing. Here, the focus is on proposing a new B2C model that will benefit e-marketing in India [14, 20] illustratively the cottage industries of rural India. Various aspects like that of technology, architecture, economy, emotions, promotion, shopping operations linked to this must be taken care of. This will not only help the local economy but also success in this field will build engines of growth for economy. With the success of "Digital India" that connects rural areas through high speed internet network [11], this assist in business as well as increasing employment in the concerned areas.

*Index Terms*— demand analysis, digitization, e-marketing, information mining.

## I. INTRODUCTION

B2C e-commerce or electronic commerce in [2, 4, 5, 7] is used to describe a transaction conducted over the Internet between a business and a consumer. In the year 2015, India crossed a new internet milestone of 375 million internet users, which exceeds the population of US, making it world's 2nd largest country by the number of internet users [9, 10, 11] after China. India is a country well known for exporting items, but India hardly exports its products developed by cottage industries.

The basic advantages of Cottage industries are:
- The cottage industries do not require large capitals to start and the maintenance of such system is also low cost. Most of the works are done by the family members by hand and the production cost also would be less; but the volume of production would be very less.
- General self-sufficiency of the micro societies can be guaranteed, especially for countries based on village life. For a country like India where most majorities of village people can't take part in the result and the merits of Industrial revolution, the small scale cottage industries can be an alternative for big industries and assuring wealth production.
- The self-pride of the village people can be raised and thereby increasing their role in the empowerment of the whole nation. But there exists some common problems, these are:

- Low output
- Lack of standardization, no common spare parts
- High cost of product

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A model has been proposed here which will reduce the problem up to the maximum limit, keeping in mind that the people involved with these operations can showcase their talent accordingly.

## II. METHODOLOGICAL ASPECTS

### A. Frameworks

A Model has been proposed that will reduce the problem up to the maximum limit, keeping in mind that the people involved with these operations can showcase their talent accordingly.
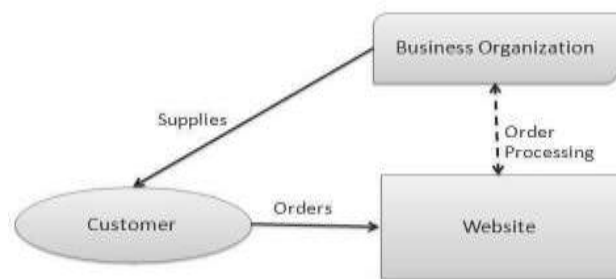


Figure 1: Transitive e-Marketing

Electronic Data Interchange (EDI) is an electronic communication method that provides standards for exchanging data via any electronic means [8]. By adhering to the same standard, two different companies or organizations, even in two different countries, can electronically exchange documents (such as purchase orders, invoices, shipping notices, and many others). EDI has existed for more than 30 years, and there are many EDI standards (including X12, EDIFACT, ODETTE, etc.), some of which address the needs of specific industries or regions The formatted data representing the documents may be transmitted from originator to recipient via telecommunications or physically transported on electronic storage media." It distinguishes mere electronic communication or data exchange, specifying that "in EDI, the usual processing of received messages is by computer only.
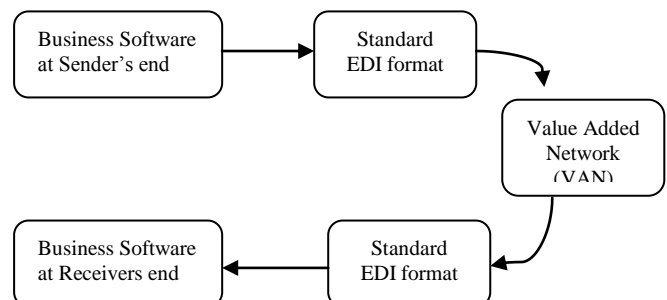


Figure 2: EDI Technology Framework

*B. The EDI Models*

The model is discussed in detailed in [19]. There are three logical levels or "layers" of standards required to achieve EDI information transfer, each layer having its own controlling standards organizations (although some organizations may define more than one layer). This structured approach to EDI allows for the maximum flexibility and also enables future developments in technology and standards to be easily incorporated. From the lowest layer upward, these three layers are:

- The Communications Standards - Defining just how the data is to be transferred from the sender to the receiver.

- The Syntax Standards - Defining what overall standards format the EDI file will be in.

- The Message Standards - Defining exactly what the message is and what information is to be placed where within this message.

It is important to remember that whatever standards are used within each layer, the layering process is required to allow flexibility. For example not all users will wish to use a specific communication protocol; some may even wish to copy the data onto a floppy disk and send it in the post! So the communications level is now a floppy disk but the higher levels still remain [12]. This principle of multiple methods of achieving the same goal is found over and over again within the EDI regime. It is not an attempt at duplication but is designed to give users the best possible solution and flexibility in all cases. The Communications Standards are described in a section of their own.

*C. Advantages of an EDI System:*

Following are the advantages of an EDI System:

- Reduction in data entry errors − Chances of errors are much less being use of computer in data entry [13].

- Shorter processing life cycle − as orders can be processed as soon as they are entered into the system. This reduced the processing time of the transfer documents [6].

- Electronic form of data − It is quite easy to transfer or share data being in electronic format

- Cost Effective − as time is saved and orders are processed very effectively, EDI proves to be highly cost effective.

- Standard Means of communication − EDI enforces standards on the content of data and its format which leads to clearer communication.
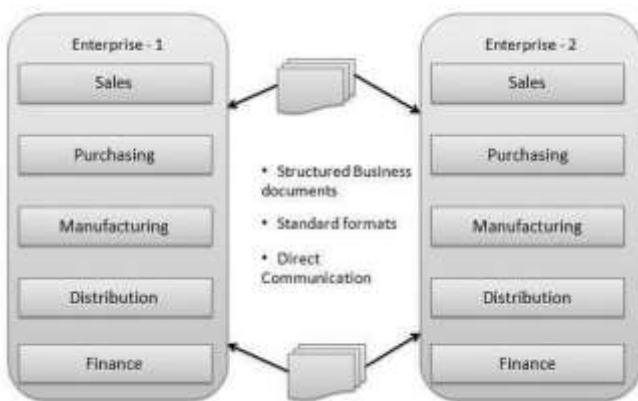


Figure 3: Enterprise correlation

However, security is concern as compared to any internet transaction and is widely circulated in the literature [3, 15, 16, 17, 18].

III.   CASE STUDY

The network enterprise business models are widely circulated in the literature [11]. The most important sector of India is agricultural sector. The prime source of income for entire region comes from this sector. In our country, majority of the population lives in rural sector and depends upon agriculture. Now a days, this sector is facing several problems and challenges in the entire region, affecting its growth and sustainability. Different factors are negatively affecting the agricultural growth and sustainability. Such as

- Rising and sustainability agricultural growth.
- Economic factors.
- Changes in energy scenario.
- Impact of Natural resources.
- Time management and productivity.

To improve the economic conditions of the nations, the only way to improve agricultural sector in our country. Supply Chain Management (SCM) which will give the successful implementation for this challenges. SCM, which basically deals with the products as well as information between different Supply Chain Members. The parts of the SCM are

- Demand analysis.
- Information Mining.
- E-marketing.
- Supply planning.
- Production planning.
- Quality control.
- Scheduling.

To impact the market for demand Analysis, an essential marketing plan needs to be developed for anticipating the business growth. The objectives are to produce a new marketing plan on Real time data in the area of Cottage Industries for digitization and Enhanced Productivity through which we can forecast the volume of sales and growth rate on market Analysis.

To improve customer service and sales, many businesses invest in a Customer Relationship Management (CRM) system. To make sure the right technology is chosen for your customers, it is necessary to have planning to use some business strategy as an integral part of marketing in the area of Cottage Industries for digitization and Enhanced Productivity.

The demand indicates the volume of sales i.e., multiple number of units sold by unit price. It is emphasized that demand is influenced by six factors such as, assessment of quality, competition with other competitive product, Analysis of historical records, population density, Analysis of per capita income, customer's intention, and marketing campaign. Each factor denotes the function of demand and these after integrating all the function of demand, we will get total integrated demand.To optimize the demand it is necessary to forecast marketing plan and strategies. After implementing marketing plan and strategies the demand will be increasing in the area of Cottage Industries in coming years.

The proposed e-marketing model has been presented in the Annexure –I



**Annexure-I**
**Proposed E-Marketing model based on Demand.**
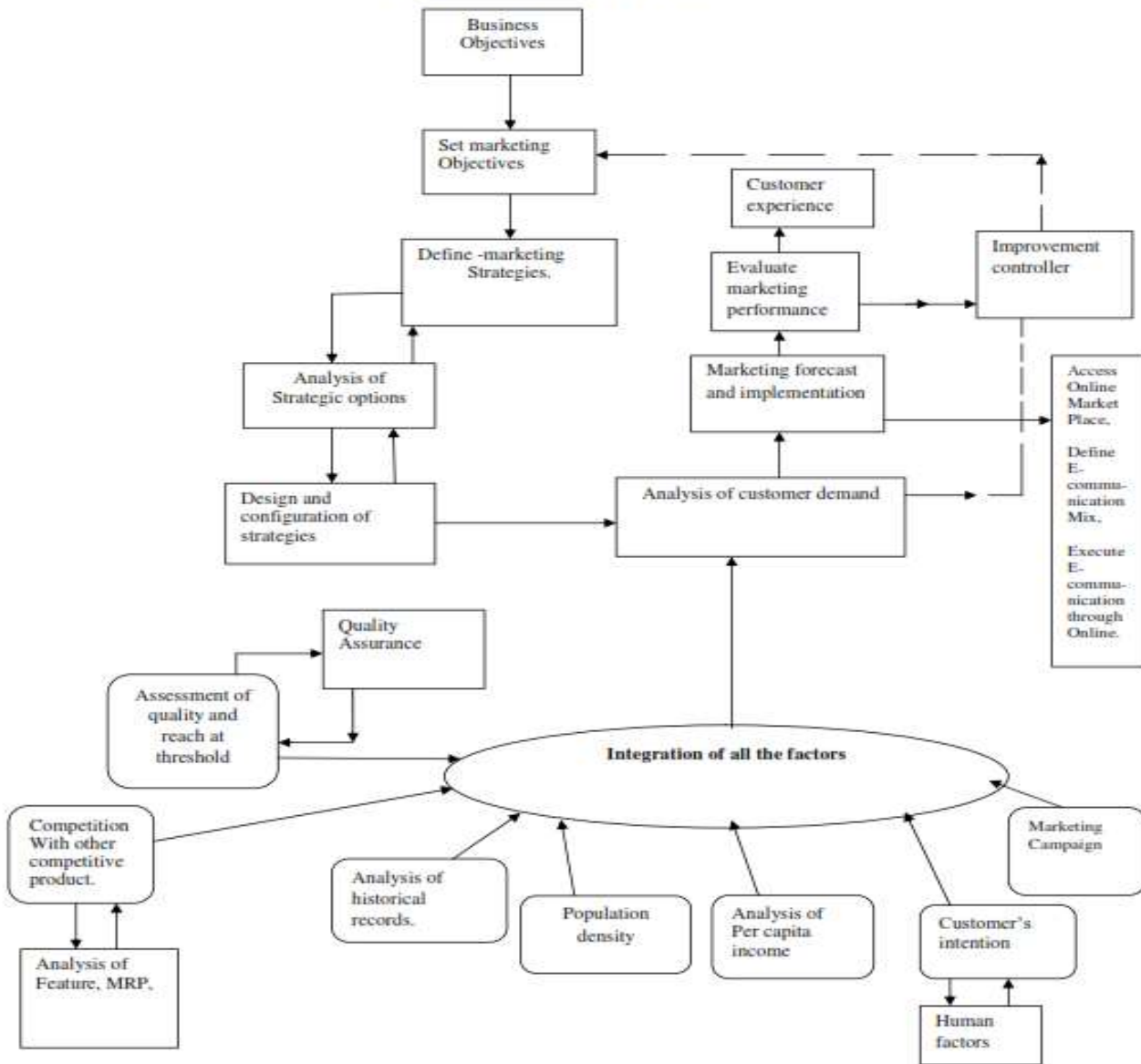
This model is useful to promote improving the marketing method through data analysis and information mining. The model can influenced the volume of sales and growth rate on market analysis on real time data in the area of cottage industries for enhanced productivity. After implementing marketing plan and strategies the demand will be increasing in cottage industry segment in coming years also the improvement controller monitoring the entire process and strategies and thereafter it (improvement controller) can change the marketing objectives and strategies.

Both Hardware and software play a vital role in the development and *maintenance* of supply chain's information system. The Hardware is basically related to the data storage and software that help in proper storage data, Reliable planning, Processing, transaction management control and decision making.

## IV. CONCLUSION

The emergence of Information and Communication Technology (ICT) has opened a new way in knowledge management that could play important roles in the cottage industry sector for exchanging and disseminating knowledge and technologies. The prime purpose of knowledge

management is to transfer information and intellectual assets into enduring value.

Content management which including data bases and multimedia are the core technologies of information and knowledge management. Geographic Information System (GIS) are needed to store databases about natural resources to access these data easily using geographical map. Decision support system technique can be used to build computer system that can model different production policies on the economy and management makes decision.

## ACKNOWLEDGMENT

We are grateful to our institution for providing us support from all aspects.

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