



# A Newly Proposed Analytical robust E-Business Marketing Dynamics model for the dimensions of E-Commerce using the fundamental approach of Data Mining concepts.

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**Abstract**— E-Commerce are one of the most significant trend of today's business marketing management and it's play's a major role to reach the desired and appropriate audience according to their interest and also popular to earned maximum revenue with providing greater flexibility and reliability to their audience. But there are a lot's of areas which requires some major improvisations, so In this context we proposed a dynamic business marketing model, which depends upon the regions of any particular area rather individuals, because the growth pattern of any E-Commerce business trading and marketing management are totally dependent on the reachability to the desired audience correspondence to their interests according to the product, but the regions play's also a very bigger role to create a large reachability to the audience at a very minimum time instance. Because any E-Commerce business growth are totally depend on the audience behavior corresponding to the products and their interest area, so for earned maximum revenue, a wide variety of audience and reachability with that audience play's an significant role. In this paper we proposed a main model which contains two sub models such as DDM model, here DDM stands for Data Dynamics model and MDM (Marketing Dynamics Model), In the main model the overall mechanisms of these business models are demonstrate at generalized level, but In the second model name says DDM model contains some data modelling strategies such as data visualization and some data mining techniques to filter out the purchasing patterns of individuals at particular region, here we use OLAP (Online Analytical Processing) and data warehousing to selects historic record and In the third model name says MDM (Marketing Dynamics Model) are based on the marketing management such as In this model we use some marketing management tools to reach the desired audience to that particular region corresponding to their interests and data items. The next upcoming section represents the detailed mechanisms of this model.

**Index Terms**—E-Business Model, E-Marketing Management, E-Marketing trend analysis model, E-marketing model based on data mining approach.

## I. INTRODUCTION

E-Commerce [1] are one of the most challenging areas in the recent trends of current Marketing Dynamics and Marketing Management [2,3], because the major purpose behind any business model to earn the maximum revenue with better reachability of audience and generate maximum profit benefit according to the interests. E-Commerce [1] are one of the most trending culture of today's multi-disciplinary business age, and it's play's very significant role to grow up any business, because marketing analogy [4] and business tactics are totally dependent on the E-commerce [5,7,8] networking at global region level. A business which spreads overall world contains more economic weightage with better earnable revenue interest and achieve wider reachability to audience and it's also contains outstanding grow up patterns, but a one major and challenging concern is that how we reach audience according to their interests. Many E-commerce [1] giants have capability to filter out content and reach wider audience or people with according to their interest, for this technique they use some many machine learning and Neural Networks [9,10] computing trends are used, but it's also very slow to grow up any E-commerce [1] business on global level at minimum time instance. So In this paper we proposed a dynamic business marketing model which covers all aspects of marketing analogy and provides a tight and wider reachability with audience using some data mining algorithms. Data mining have capability to draw out patterns and Relation between historical data sets or OLAP (Online Analytical Processing) [11, 16] data processing. In the current trend of market analysis it's very significant for earning maximum revenue to sell any products to those regions where much of the audience are interested to purchase them. To grow up any business model reachability of audience play's a major and crucial role. In this paper we proposed three model which based on the approach of Region selection and finding out the purchasing patterns of audience and find out which product or goods sold maximum in past business years, these models are as follows: one are main business model which



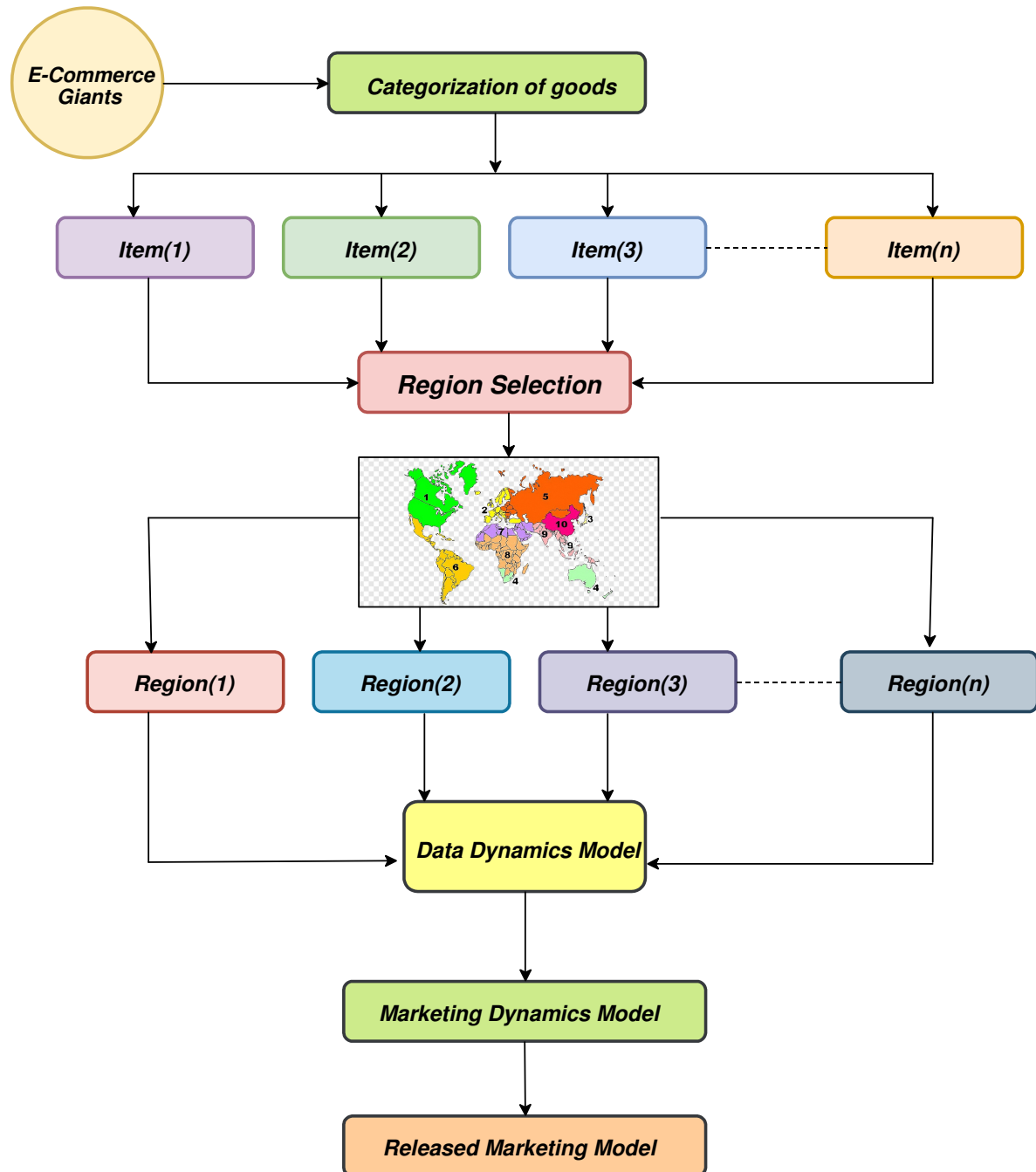
contains the main mechanisms and demonstrate the working patterns of all models. Second model are DDM model, here DDM stands for Data Dynamics model, In this model how Region have to be selected and how data mining algorithms may applies on that regions and how pattern occur these all mechanisms and the working patterns of this are modelled on these DDM (Data Dynamics model). Data mining play's a major role to finding out some correlation between data which generate from past few years or generally called the historic data or OLAP (Online Analytical Processing) [12] data processing. Generally In the current trends of market analysis many E-Commerce giants [13,17] create and generate maximum revenue according to the interest of users by seeing or using the purchasing patterns of the user, but it's very slow to grow up any E-commerce [1] with respect to earning maximum revenue at a small time instance so rather selection of any individual interest we also select any particular regions and draw out the overall region interest pattern by seeing the purchasing patterns of all individuals, which belongs to that particular region. In this third model name says MDM which stands for Marketing Dynamics model are generally modelled for to reach the product corresponding the interest of the people, which belongs to that particular region, In this model, we use some marketing management tools or promotion based tools, to access the desired audience of desired region. So In depth we can say that this model works on the current trends of market analysis by using some data mining algorithms to filter out the desired patterns among the historic or OLAP [14,15,18] processing data of that particular region. This model works on the Region selection strategy rather the selection of any individuals, because E-Commerce [1] business trade are totally dependent on the wider varieties of audience, so it's very hard to earn maximum revenue through individual user interest, because it's a very slow to processing

and take much longer time to earn maximum revenue, because more processing are required to apply these mechanisms on e-Commerce [1, 19] business trades. In this paper a versatile dynamic business marketing model have to propose which are responsible to get maximum revenue at very small time instance using the mechanisms of data mining algorithms [20]. The next upcoming sections of this paper determines the detailed mechanisms of this model.

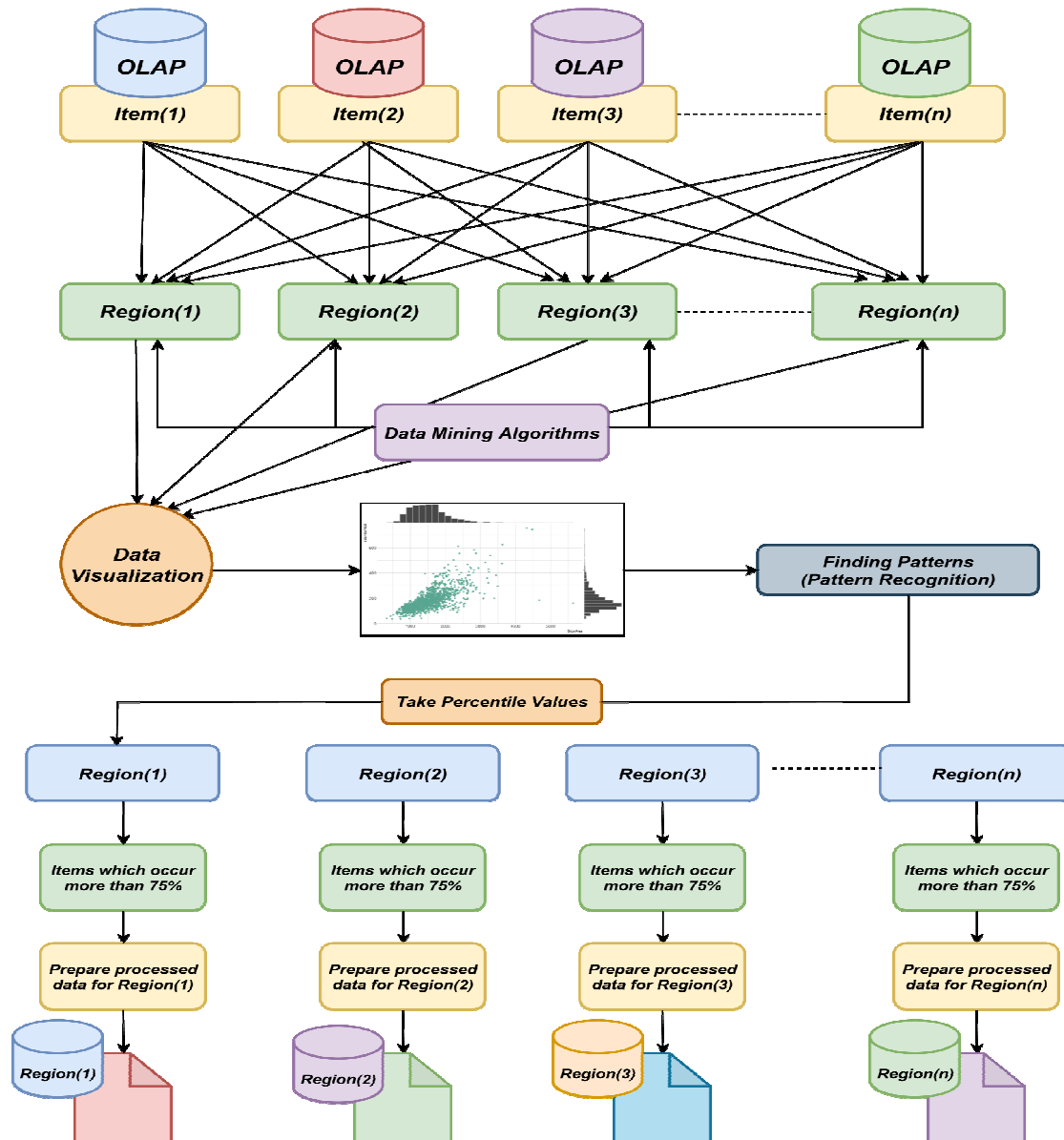
## II. A NEWLY PROPOSED E-BUSINESS MODEL FOR E-COMMERCE BUSINESS MARKETING MANAGEMENT

This model infrastructure are dependent on the three models which defined the detailed mechanism of this model. The diagrammatic representation of this main model are as follows:

In this model firstly and most significant steps are the categorization of goods, In this phase we categorized goods and based on the Region Selection mechanisms we find out that which Region are suitable for selling these goods based on some data mining algorithms. Now according to this model these all goods are partitioned by some categories such as item(1), item(2), item(3),.....,item(n) and we find or to discover some appropriate and adequate regions to selling them. Based on some Region selection strategies Regions are subdivided into some partition such as Region(1), Region(2), Region(3),.....,Region(n), and these Regions and categories of goods are gives as an inputs to DDM model, here DDM represents Data Dynamics Model. The detailed diagrammatic representation of Data Dynamics model are in fig b.



*Fig a: A main model of E-Commerce Business Marketing Trading.*



**Fig b: DDM (Data Dynamics Model).**

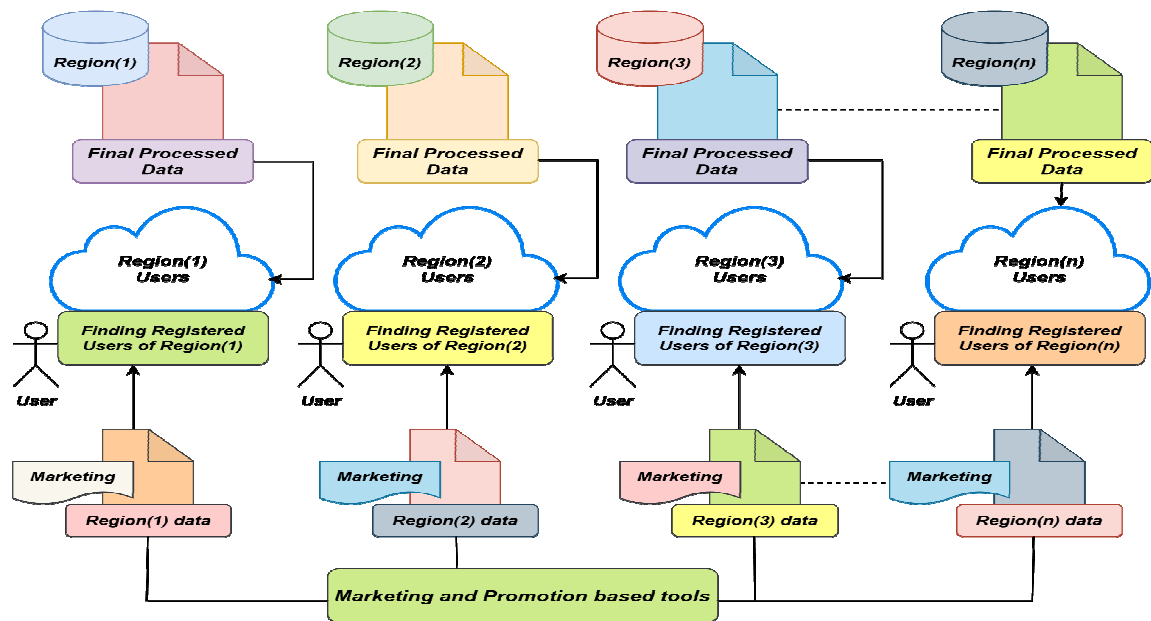
In this Data Dynamics model Regions and the items are given as an input, In this model all items are given as an input to all the Regions as the diagram represents such as item(1), item(2), item(3), ..., item(n) are given as an input to Region(1) and similarly these all items are given as an input to Region(2) and similarly as all items are given as an input to Region(n) after given all items as an inputs to all regions applying some data mining algorithms such as Principal Component Analysis (PCA) and some K-means Algorithms to find out the pattern and relationship among the data items after visualization of data items of all regions using some scatter plot or some bar chart or pie chart after analysis these data visualization we

find out the relationship or some patterns among data and find out the percentile values corresponding to all items that which items are to be sold utmost an apply the 75% rule that a data item which selling pattern are more than 75% are selected and entries these data items are on the Region(1) final conclusive data set. Similarly data mining algorithms play's a bigger role to find out the patterns among data, here we use the OLAP databases, here OLAP stands for Online Analytical Processing, OLAP contains some historic records data such as the past 10 or 15 years old data, after select these old data we applying some data mining algorithms and construct a training model, which trained this model by given as previous



year old historic data as an input and find out the detailed pattern or relationship among the data, here we used K-means and Principal Component Analysis (PCA) algorithms are to be used to find out the detailed pattern such as which data sold utmost in the past few years correspondent to particular regions and here we use the rule of 75% selling data such as data which sold more than 75% in the past few years have to be selected for particular regions and construct an log file of items corresponding to particular regions, which selling them more than 75% after preparing these separate log files according to particular regions these all log files gives as an

input to MDM model, here MDM stands for Marketing Dynamics Model. These Marketing Dynamics model are given are filtered or to selected those users which belongs to particular regions and achieve a wider reachability to the audience according to interests of their particular regions rather the interests of individuals. The diagrammatic representation of this MDM (Marketing Dynamics Model) are as follows:



**Fig c: MDM (Marketing Dynamics Model).**

In this Marketing Dynamics Model (MDM) each processed or OLAP (Online Analytical Processing) data corresponding to their regions are given as inputs and based on this inputs all register individuals have to be selected as a target audience corresponding to their regions and using some marketing management tools such as e-marketing as an ad-sense and ad-ware and some other marketing promotion based tools are used to promote the products to all individuals which belongs to that of particular regions and reach a wider audience based on some regions and after at the end a potential marketing model have to released which creates a wider reachability with wider audience. So these are the mechanisms of these all three models.

As we known that data mining play's a very bigger role to find out the relationship among data, In the previously traditional E-Commerce marketing model, some old strategies have to be used that we creates a wider reachability according to the interests of individuals, which based upon the purchasing

patterns of individuals, and it's very slow mechanisms to create a maximum revenue among some E-Commerce trading, so rather selection some individuals, we selects a whole Regions and these Regions are to be partitioned into some other sub regions, and we analyse some OLAP (Online Analytical Processing ) or some historic data such as previously 10 to 20 years old data and find out the relationship and patterns among the data. Here we use some data mining algorithms such as K-means and Principal Component Analysis (PCA) to draw out a relationship among the data. Some data visualization tools are required to seeing the appropriate pattern among the data set, so Region selection are the best mechanisms to draw out an exact pattern among the data. Marketing Dynamics model play's a major role to reach out the wider audience among that regions, because here product have to sold out to seeing the purchasing patterns of regions rather individuals, so this models works with the region selection, because a process which out all individuals interest patterns and seeing them their purchasing patterns are



more typical and slow in nature, so here we use the context of regions selections to reach a wide variety of audience.

In the next Marketing Dynamics model which contains some marketing management tools to promote the desired product corresponding to their regions based on the interest of individuals to some past few historic business years by applying some data mining strategies. In this model to reach the audience according to their purchasing interest patterns and applying some marketing management tools to promote the desired product corresponding to their regions. So this model creates a wider reachability at very small time instance, because here selection and promoting of desired product not the interests of individuals, here we will done some Region based selections where regions have to be selected according to the interests of individuals according to the past few years of individuals purchasing data patterns. So this main models contains three parts, the first part are called the main model which demonstrate the overall mechanisms or the blue print of this business marketing model, and the second model which is DDM model which stands for Data Dynamics model, In this model some data mining algorithms have to be applied on the regions and the data items, here data items and the regions are given as an input and applying some data mining strategies or algorithms to find out the exact relationship or pattern among the data sets, and the third model, which are MDM (Marketing Dynamics Model), In this model, some marketing based tactics are to be used such as some marketing or promotion based tools such as ad-ware and as-sensed to promote any product according to the interests of individuals of particular regions.

E-commerce business trading are totally dependent on the reachability and the promotion based marketing strategies, so In this present era of global marketing trend analysis, the need of the hour is that we have some potential model to reach out a wider variety of audience according to their interests and earned a maximum revenue. In this context we used some Data Mining algorithms, which find out an appropriate and adequate patterns and relationship among data such as which product sold utmost in the recently past few business years, here we used some OLAP (Online Analytical Processing) or historic data are used to find out an adequate patterns among data, In this reference we use some Data Warehousing which stores some previous data of individuals such as past 10 to 15 years old data and find out the appropriate patterns among the data.

### III.FUTURISTIC SCOPE

In this model multiple variations and advancements are possible in the near future. This model works with the technique of data mining algorithms. So this model are totally based upon the working patterns of these data mining algorithms such as an algorithm which are more superior and reliable than other previously developed some traditional algorithms efficient and appropriately finding the accurate data patterns and lead to accuracy. Because the accuracy and adequateness are totally dependent upon the data mining algorithms, because this model works with some data mining

algorithms such as K-means algorithms and Principal Component Analysis (PCA). In the near future various new efficient and more technical algorithm have to be launched, which works with the huge data set and finding patterns and relationship among the data in a more efficiently and appropriately ways. Data mining are one of the most challenging and typical trending culture for Business analytics and Business Data Management, In this era It's very significant to analyze data and find out the dynamics data patterns behavior, which changes according to the instance of the time. In this model a sub model name says Marketing Dynamics Model (MDM), which uses the marketing management tools to promote goods and products to the related audience based on the region selection according to their interest are also improvised in the near future, because there will be a various advancements have to be done in the reference of marketing management tools. To reach wide variety of audience in the small time instance with greater flexibility and reliability are really a very tedious task, so the need of the hour is that we have some superior and advance algorithmic model which provides reliability and flexibility to reach a wider variety of audience with greater significance and small time instance. Marketing Business Analytics are one of the most challenging era of new business tactics and marketing strategy because there are various tools which are used for marketing purpose such as ad-sense and ad-ware, generally all social media platforms are used these e-gadgets panels such as ad-ware and ad-sense are used to promote their goods and products to the desire audience, but there are also many advancements have to pending for marketing management tools. So In the near future marketing management tools are one of the most Research Oriented Area in these model. Because this model works with E-commerce trading and marketing, so any E-Commerce platforms and E-Commerce giants are required to connect their business tactics with wider and large variety of audience to earn maximum revenue, but that's the most tedious task in this present era of Business Marketing analogy because today's the E-Commerce space are frequently spread according to the needs and interests of the audience, so the required and significant product have to be delivered to the desired audience are one of the most tedious tasks, so here In this model we used some Region Selection criteria to select any particular region rather some individuals, and according to their regions audiences are selected for their regions according to the historic business patterns record of individuals, which belongs on that particular area, so here in this model we works at wide and generalized parameters, which works efficiently and works much faster relatively to some other previously developed traditional approach based E-commerce models. In the near future many advancements have to be done in this model generally data mining algorithms decide the overall flexibility of this model, If our algorithms works more accurately and fastly, so this model works reliably, because these data mining works on some huge data set which is historic data such as OLAP (Online analytical Processing) data so there are huge computation



required to processing these data and find out the useful patterns among the data, so In the near future some optimization techniques are required to optimize some previously developed traditional approach based algorithms. Because K-means and Principal component Analysis works with accurately and efficiently but for large data sets it's take a lot of time for computation and processing, so in the near future optimization algorithms play's a very bigger role to make this algorithms versatile, which runs smoothly and works with reliably in efficiently manner.

#### IV.CONCLUSION

This model are suitable for all E-Commerce business, which works at small scale level or a large scale level. Because In today's business environment era there are a huge of varieties existing in the market, and Information and Computation technology play's a very bigger role for trading or to growth and trading any E-Commerce businesses marketing. So In the present context we proposed a new model which are the fusion of Information technology and some marketing tactics and draw out an outstanding and suitable model to grow up and E-Commerce business marketing, because this model dependent on the techniques of marketing strategy because E-Commerce business growth dependent upon the analogy of audience interaction and audience reachability and it's very typical to reach an exact audience according to their needs and it's very tedious tasks to select or to filter particular individual to marketing any product according to their interest, but here we proposed a dynamic model, which works on the concepts of regions. In this model we selects a particular region to draw out the purchasing pattern of individuals in the past recent business years and extract these historic data from data warehousing, which contains older records and the past historic data records of individuals and use OLAP (Online Analytical Processing) data processing model, and after getting these historic records of any particular regions based on the purchasing patterns of individuals, we applying some data mining algorithms on these data record and finding out some useful relationship and patterns among data and discover the purchasing patterns of individuals in the past recent business years and then we use some prediction methodology and marketing management tools such as those product which purchase approximately 75% in the Region have to be selected for marketing on that region. So using these data mining algorithms such as here we use K-means and Principal Component Analysis (PCA) we draw out an exact purchasing patterns of individuals and according to their interest we sell those desired products on that Regions and earned maximum revenue. This model also works with some marketing management tools, In these marketing management tools we use some e-marketing gadgets such as ad-ware and ad-sense to marketing or promoting any particular product corresponding to that region, so we will also uses some other marketing management tools to reach a wider variety of audience and

creates maximum interests among the individuals to purchase the desired goods or products. In the present era of business analytics management there are a huge research oriented areas, so In this model various advancements have to be done in the near future, In this context we use some data mining algorithms have to be used to draw out the relationship and patterns among the data, so the accuracy and the reliability of this model depend upon the data mining algorithms. A algorithm which works more efficiently and reliably and much flexible for computation so better marketing model have to be developed, which are also flexible and superior. In the Marketing Dynamics Model (MDM) also used some marketing management tools, so this area also a research oriented, In the near future improvisations and advancements also have to be done in this phase such as the need of the hour is we also developed various marketing management tools which works effectively and much fastly with respect to accuracy. So In this model there require a lot of improvisations. This model is also very suitable to reach a wider audience at very small time instance and this model also capable to grow up any business at a very small time instance, because the potential and the revenue of the E-Commerce trading are totally dependent on the reachability of the audience according to their interests. So reachability are the main concern for any E-commerce trading and marketing management. So this model is also very flexible for both small scale E-Commerce business management and as well as large scale business management.

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#### CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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