**HOW DATA-DRIVEN ENTREPRENRUR ANALYZES IMPERFECT INFORMATION FOR BESINESS OPPORTUNITY EVALUATION**

**ABSTRACT:**

 High market uncertainty impedes an entrepreneur’s Ability to evaluate the state of the market for a business opportunity. For many entrepreneurial ventures, data collection and analysis techniques and technologies are becoming an important source to manage uncertainty. This trend is often referred to as “data driven entrepreneurship. “We consider a dynamic approach using data to overcome market uncertainty for business opportunity related evaluations. In particular, we examine the entrepreneur’s investment portfolio in which each investment generates expected returns and some information about a specific aspect of the market for a single business opportunity. We develop a model that analyzes imperfect market data (e.g., financial, social, regulatory), while factoring in the entrepreneur’s risk preference and operational shortages of resources, routines, reputation, and regulations. Our numerical findings show that, rather than pursuing the highest expected returns, an entrepreneur may choose perfect information, risk hedging, or market-controlling investments based on his/her cash level and risk preference. Hence, the entrepreneur, fueled by the availability of data analysis, could overcome uncertainties and obtain better insights for business opportunity decisions.

**ARCHITECTURE:**

 

**MODULES:**

There are four modules can be divided here for this project they are listed as below

* Average Analysis
* Business Opportunity
* Graphical analysis

From the above three modules, project is implemented. Bag of discriminative words are achieved

**MODULE DESCRIPTION:**

 The modules are implemented as given in the following ways

**Average Analysis**

The first step for over all data set analyzing for average. This data set contains for Investment details, Return amount details, Profit details, and another one is Loss details. They will be find as Investment average, return amount average, profit average, and another one is loss average .This average analysis for very useful in perfect decision making in business opportunity evaluations.

**Business opportunity**

 One of the next process in business opportunity .This evaluation in calculated and analyzing for best way used in one of popular machine learning algorithms .In this machine learning algorithms for Markov Chain Model algoritham.This algorithms is explained as one process is defends as another one previse process. They will be find out the profit and return amount is conceder as the main process in profit values in defines is one main process is the business opportunity.

**Graphical Analysis**

 User Find out the evaluation process is one by one .This graphical process mainly used in easy way to analyzing and understanding the business opportunity .This sections is explains as investment average graphical analysis ,next one is calculates as return amount is calculated as and graphical statement ,another one is profit average analyzing in the process, and final is main process is calculated as the loss average calculated and another is completed process.

**EXISTING SYSTEM:**

Consider an entrepreneur who is evaluating a business opportunity

for a market in a multiperiod setting. The state of bathe market—whether the market has a positive or negative outlook for the entrepreneur’s opportunity—depends on a variety of external market factors such as economic, governmental, social, and regulatory that may not be directly observable and may change over time. Furthermore, the entrepreneur’s risk preference and operational shortages of one or more of 4Rs (i.e., internal constraints) influence the entrepreneur’s ability to observe the state of the market and take control over market changes. To exemplify the impact of an external factor on opportunity assessment, we offer a simulated example of an entrepreneurial venture in a developing industry (e.g., clean energy). The entrepreneur may not have established know-how of external market regulations and lobbying practices for the technology (i.e., shortage of external regulations). Although the new venture’s investors may provide some policy and regulatory assistance, the regulations for an emerging technology may

be transient, which is likely to result in a hidden market. Therefore, he or she might not be able to fully evaluate the true economic outlook—positive or negative—without understanding the regulatory conditions, particularly among the rapidly changing laws surrounding energy. Information about the state of regulations and policy is needed to evaluate the valuation of the market for the clean energy innovation through hiring legal services, lobbying practices and active participation

in discussions about pending regulations The entrepreneur in our model gathers information about the market by allocating her/his total funds *X* across a portfolio of *i*nvestments in *f* independent external market factors over T *P*eriods. To maximize potential returns of a business opportunity, a resource-constrained entrepreneur could invest small amounts of his/her resources, while minimizing risk exposure . For example, prior to Turkey’s passage of a renewable energy law in 2005, most clean energy entrepreneurs made relatively marginal investments to reflect the market’s appetite for solar. The level of information, as denoted by *νjk* *∈* [0*,* 1], about the market factor *j ∈ {*1*, . . . , f}* depends on investment *k ∈ {*1*, . . . , m}*, whose return provides information about factor *j*. Subsequently, the investment returns form the state values of an observable process as characterized by the observed market factors.

**DISADVANTAGES:**

* More are less is probability based
* In this process is not secured for the data analyzing system
* 100 percentage is not successful

**PROPOSED SYSTEM:**

Although our model has enabled us to examine a new method of evaluating a hidden market process, several assumptions, limitations, and related extensions to this research need to be acknowledged. First, our key assumptions pose inherent limitations on our model. For example, although our assumption about an exogenous and independent change in the valuation of investments does not necessarily change our insights, the relaxation of this assumption could lead to more profound insights into the market. Second, a DP allows for nonlinearity, path-dependence, and unpredictability. These properties are important,

assuming that a Markov model is a close representation of decision-making in real-world entrepreneurial contexts. Third, we did not account for dependence between market factors (i.e., spill-over effects within the entrepreneur’s accumulated information) and selection bias for market factors. Nor did we check the validity of the received information, which raises the question of how an entrepreneur can ensure that he/she is inputting the right information. It would be fruitful for researchers to examine both the selection and validation of market factors (e.g., financial) that we investigated, as well as factors that we overlooked (e.g., political and regulatory). Finally, it would be helpful to examine how entrepreneurs adapt to market realities while their internal processes and technologies evolve. These areas, if explored, could provide important insights for the fields of strategy, OM, and entrepreneurship.

**ADVANTAGES**

* Business opportunity calculated is easily
* Time is save for this process
* Money is not waste in this analysis
* Most secured process

**ALGORITHM**

**SUPPORT VECTOR MACHINE (SVM)**

“Support Vector Machine” (SVM) is a supervised machine learning algorithm which can be used for both classification or regression challenges. However, it is mostly used in classification problems. In this algorithm, we plot each data item as a point in n-dimensional space (where n is number of features you have) with the value of each feature being the value of a particular coordinate. Then, we perform classification by finding the hyper-plane that differentiate the two classes very well (look at the below snapshot). The SVM algorithm is implemented in practice using a kernel. The learning of the hyperplane in linear SVM is done by transforming the problem using some linear algebra, which is out of the scope of this introduction to SVM. A powerful insight is that the linear SVM can be rephrased using the inner product of any two given observations, rather than the observations themselves. The inner product between two vectors is the sum of the multiplication of each pair of input values. For example, the inner product of the vectors [2, 3] and [5, 6] is 2\*5 + 3\*6 or 28. The equation for making a prediction for a new input using the dot product between the input (x) and each support vector (xi) is calculated as follows:

 f(x) = B0 + sum(ai \* (x,xi))

This is an equation that involves calculating the inner products of a new input vector (x) with all support vectors in training data. The coefficients B0 and ai (for each input) must be estimated from the training data by the learning algorithm.

**REQUIREMENT ANALYSIS**

The project involved analyzing the design of few applications so as to make the application more users friendly. To do so, it was really important to keep the navigations from one screen to the other well ordered and at the same time reducing the amount of typing the user needs to do. In order to make the application more accessible, the browser version had to be chosen so that it is compatible with most of the Browsers.

**REQUIREMENT SPECIFICATION**

**Functional Requirements**

* Graphical User interface with the User.

**Software Requirements**

For developing the application the following are the Software Requirements:

1. Python
2. Django
3. MySql
4. MySqlclient
5. WampServer 2.4

**Operating Systems supported**

1. Windows 7
2. Windows XP
3. Windows 8

**Technologies and Languages used to Develop**

1. Python

**Debugger and Emulator**

* Any Browser (Particularly Chrome)

**Hardware Requirements**

For developing the application the following are the Hardware Requirements:

* Processor: Pentium IV or higher
* RAM: 256 MB
* Space on Hard Disk: minimum 512MB

**CONCLUSION**

 The entrepreneurial environment is characterized by high levels of uncertainty about the markets that entrepreneurs wish to enter .We develop a dynamic data analysis technique based on a POMDP model to answer our research question about how to analyze imperfect market data for business opportunity evaluation, while accounting for the entrepreneur’s individual risk preference and operational shortages. Specifically, we obtain a probabilistic information measure in the form of an emission matrix. That measure enables insights from an observable process related to external factors, which, in turn, helps assess the state of the hidden market. Owing to Markovian modulation of the POMDP model, the findings of our dynamic model are more realistic than standard static models. Whereas one can derive a closed-form solution for certain probabilistic measures using a POMDP, closed-form analytical expressions cannot be obtained for certain cases, such as situations where the investment dollar amount determines the level of

Information gain. Therefore, our algorithm numerically mimics the POMDP-based model. We offer insights from our numerical analysis in response to our research question on the impact of the entrepreneur’s risk preference and operational shortages on the data-driven investment portfolio. Rather than pursuing the highest expected returns, an entrepreneur may choose perfect information, risk hedging, or market controlling investments, based on his/her cash level and risk preference, in order to maximize the venture’s prospects.