Running Head: IT

Business Intelligence System

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# 1) Expert System

An expert system is one of the computer programs that uses the AI interface. The basic premise behind the premise of the plan is to make sure that some sort of stimulation and judgement must be there in terms of the human an organization. The other thing that is commonly witnessed when one talks about the expert systems is that how they are supposed to have broader knowledge and perspective about the experience field. Most of the times, what happens is that the expert system is bound to incorporate a knowledge base system that must be having an accumulated experience and an inference at the given point of time. It is equally important that an inference system must be abiding and working in accordance with the rules engine. The rules engine is somewhat a driving force behind the AI interface as well as the decision making that is supposed to be done at the broader level at the given point of time. Now, when one talks about the underlying capability of the system, they are broadly based on the knowledge base as well as the eventual set of rules that are supposed to be followed by the organization at the given point of time. The other thing that must be noted that the way current system works, it is supposed to have machine learning interface that means that they performance is going to be based on the experience-based stimulus, pretty much the same way human beings are supposed to work. The key reason that the margin of error is on the lower side with such systems is since how these systems are designed and learning from their own experience.

# 2.1 Scenario in Case of Dollar Rate Falling

One of the decision-making stimuli that is being provided to the system is since how the exchange rate market is supposed to work (Turban et al, 2017, p.45) . In that aspect, whenever there is going to be change in the exchange rate and the dollar rate, the corresponding reflection is going to be witnessed in the marketplace at the given point of time. The idea is to make sure that what are some of the changes that are going to be witnessed in terms of the change in the exchange rate at the given point of time. The way parameters of the system are defined, whenever there is going to be fall in the dollar price, it would ask the user to instead invest in the financial market. One of the reasons for this to be happening is since how the dollar market reacts to the changes that are happening in the financial market at the given point of time. Most of the times, what happens is that whenever there are broader changes in the exchange rate of the dollar, it is going to men that the financial markets are going to be turning into lucrative. The way ES is designed, it is pretty much replicating what happens in the global financial market since most of the times, the financial markets are merely working on the same principle that are defined in the given criterion (Popovič et al, 2016, p.739).

# 2.2 Interest Rates Remain Unchanged

As per the given set of rules that are provided to the client, it has been coded that if there is going to be a case that there are nor broader changes in the exchange rate, the same trend is going to be replicated in the broader financial market instruments. Most of the times, the way financial markets are supposed to work, if there are broader changes that are witnessed in the market, it means that the broader set of changes that are going to be witnessed at the given point of time are going to be witnessed in the financial market as well at that moment in time. Usually what happens, the interest rates are some sort of the broader set of monetary policy guidelines that are being provided to the financial institutions at the point of time. What it means is that in most of the cases, it would mean that the knowledge processing and the fundamental modalities of the financial market are playing an important role in the determination of this role. The key thing that must be seen is that what is the direction that is being taken by the system at the given point of time (Popovič et al, 2016, p.739). The bond market is based on the broader financial market trends that are witnessed at that point of time and as it can be clearly seen, if there are no broader changes in the interest rate, then the likelihood of the other changes happening in the financial market are on the lower side. This system is probably experience and learning based so that would also determine the future trends and advises that go to the user (Olszak and Ziemba, 2017, p.149).

# 3) Functionality of the Decision Support System

A decision support system is an important component as far as the AI decision making is supposed to be made at the given point of time. The idea is to make sure that the travel agency and customers are going to be working in the manner that would make sure that the basis on which the decision making is supposed to be made are done as per the right manner. The way this system can aid the user is by making sure that whatever the bookings that are being done by them at the given point of time are being done in an appropriate manner. The expert system is going to be providing appropriate and low-cost travel routes based on the algorithm and that algorithm is going to aid the business decision making. The key component and the knowledge that must be stored in the system must be regarding the travel routes as well as the distance logs that are going to support the business decision making at that point of time (Gangadharan and Swami, 2016, p.144). The major limitations of such a system is that once the logs are defined, it is going to be hard to make sure that the eventual degree of accuracy is being maintained as far as the way eventualities of the system are going to be working out at the specific point of time (Elbashir et al, 2018, p.135). The lack of flexibility and constant upgradation is also going to make the whole thing a challenging prospect. The key thing that has to be noted here is that there must be enough flexibility in the system to make sure that the all the relative elements of the storage of the information system must be processed out at the given moment (Elbashir et al, 2018, p.135).

# 4) Using DSS Models for Prevention for Fraud

There are two major ways that can be used to make sure that the fraud that is being commonly witnessed in the DSS case can be avoided. The first method that must be used is to make sure that predictive analysis has to be used to ensure that the broader trends that are prevailing in data and based on that trend analysis (Elbashir et al, 2018, p.135). The analytics goes a long way towards making sure that how the DSS model is going to have an insight about the data management in terms of the way most of the things are supposed to be working at the given point of time (Elbashir et al, 2018, p.135). With the support of the predictive analysis, the potential loopholes in the DSS system are going to make sure that the potential cases of fraud are being avoided at the given point of time.

The other thing that must be kept in mind is that what is the state of the information system at the given point of time. Effort must be made to make sure that the security protocols that are being formulated at the level of the organization are designed in the manner that allows all the organizational stakeholders to adhere to them. The strong and more robust information management system is also going to ensure that the way data is stored and transmitted across the board is going to be done through an encrypted server (Elbashir et al, 2018, p.135). When the data encryption protocols are being used, it makes sure that the breach of the confidentiality and the eventual risk that is faced during the whole process is diluted allowing much more robust security controls. Whether internal or external, there are a wide variety of threats posed to enterprises across multiple industries. The most difficult threat to diagnose & address, however, is fraud. Fraudulent activity is a high-cost threat that can compromise the integrity of your company as well as cripple your bottom line. Fraud can take the form of internal activity, such as an employee modifying financial records, or can arise from an external threat, such as customer credit card fraud.

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