

Role of Information Technology in Agri-Business

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Introduction

Successful managing of agribusiness requires information. To acquire this information poses certain challenges to the agribusiness manager. The human brain can only cope with processing a relatively limited amount of information. We are also limited by our ability to acquire information as well as the knowledge to interpret this information.

Information technology (IT) systems enable managers to overcome these obstacles to a large extent. With the help of these systems more information can be gathered with less effort and it can be interpreted with the combined knowledge of specialists in different fields. The interpretation of the information can be done in seconds. This puts a very powerful tool in the hands of the agribusiness manager to use in decision making.

Role of IT in Agribusiness

The role of IT systems in agribusiness should mostly be seen as taking a decision support role and for this reason are also referred to as decision support systems. The systems are used as an aid to the decision making of the agribusiness manager. This stands in contrast to decision replacement systems where decisions are automatically made based on information gathered. Because of the fact that the decision making process of humans are not fully understood yet and because IT systems cannot yet apply common sense, these systems largely assume a decision support role. IT systems have a wide scope of application for agribusiness management. Virtually any facet of the agribusiness' information needs can be addressed by IT systems. For example

- **Software:** Computer software is the core of the IT system. It is the primary mechanism whereby the manager interacts with the various underlying IT systems and therefore also the primary means of reporting the processed information to the manager to base decisions on.

Challenges Faced in Agribusiness

Gathering the information presents the real challenge in optimal decision making. It takes time, money and effort to accurately gather and process information and therefore it represents a cost which must be accounted for. In agriculture it is difficult and in some cases even impossible, to measure certain parameters. Other parameters are time consuming to measure or create a large burden on the people involved. In other words, the cost of gathering and processing the required information may outweigh the benefits of having it.

Another challenge in the gathering of information is that an information overload may result. Trying to interpret too much information often results in poorer decision making. Despite the lack of information, agribusinesses are also subject to a relatively large administrative burden. This burden is created by the various accreditations that agribusinesses must comply with as well as certain statutory requirements. Also, the larger an agribusiness becomes, the heavier this administrative burden will be. Therefore the ability for an agribusiness to cope with its administrative burden will impact not only its profitability, but also its growth prospects.

Factors Affecting Adoption of IT in Agriculture

- **Complexity of Farm:** The more complex the farm the more necessary it would seem for computerized systems. However, on the other side it would also require more complex software and require more time and effort to capture the data. These demands are often seen as outweighing the benefits.
- **Degree of External Support:** Support is already offered by various institutions to the farmer (eg. accountants that keep financial and tax records etc). This brought the question of how much the farmer really needed to do it himself by utilizing a computer.
- **Age:** The old saying of “You can’t teach old dog new tricks” is believed to be true by some farmers.
- **Time Learning** and configuring software takes a lot of time. This time has to be subtracted from available time for farming-related activities.
- **Experience:** Previous experiences with computers dictate the attitude towards further use. If a negative perception is created it will negatively affect future use.



- **Availability of Information:** Information about available software is not freely available. Subsequently farmers are unsure about which product would be worth the buy.

Summary and Conclusion

The future for IT systems in agriculture holds much promise. Technology is constantly improving to solve human problems more easily. Innovation in technology to solve specific problems is driven by market demand. Adoption of IT in agriculture seems to be on the rise as agribusiness managers increasingly discover the need and consequently see the value of these technologies. This will serve to drive the demand for these technologies and therefore stimulate new innovation and decrease costs. As these technologies progress and our understanding of human decision-making increases then we should see a gradual shift from decision support systems to decision replacement systems.

References

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