

# **A PROPOSED MODEL FOR A MASTER’S DEGREE IN MANAGEMENT INFORMATION SYSTEMS WITH A SUPPLY CHAIN MANAGEMENT FOCUS**

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## **ABSTRACT**

A model for developing a graduate curriculum in Management Information Systems with a Supply Chain Management Focus is presented. The global scope of modern business organizations and the competitive environment in which they operate, require efficient and effective supply chain management systems (SCM) to ensure the delivery of the right product, at the right place, at the right time, in the right quantity, and at a competitive price to the customer. This is the motivation for proposing this model.

## **INTRODUCTION**

Computer-Based Management Information Systems (MIS) have become indispensable for performing the management functions of planning, organizing, staffing, and controlling in small to multi-national business organizations. MIS is also widely used in government and other non-profit organizations. These systems have been leveraged by management to improve operational efficiency and productivity in many areas of the organization. These systems are so prevalent these days that they are now looked upon as an essential infrastructure of modern business organizations.

The global scope of modern business organizations and the competitive environment in which they operate, require efficient and effective supply chain management systems (SCM) to ensure the delivery of the right product, at the right place, at the right time, in the right quantity, and at a competitive price to the customer. The supply chain is comprised of suppliers/vendors, manufacturers, distributors, and retailers whose activities are coordinated through transportation, information flows, and financial infrastructure. Management’s objective is to add value to the product or service by focusing on activities along the supply chain. According to Hausman[1], SCM is one of the leading edge strategies for business process re-engineering, cost saving and revenue enhancement today. Vakharia[2] gives the following perspective on SCM: “ SCM is the art and science of creating and accentuating synergistic relationships among the trading partners in supply and distribution channels with the common shared objective of delivering products and services to the right customer, in the right quantity, and at the right time.”

## **PROGRAM DESCRIPTION**

### **A. Educational Objectives**

1. Provide basic foundation in Business Administration.
2. Develop required skills in using computers, popular business software and their applications to business.
3. Develop skills required for analysis and determination of information requirements, and for developing Management Information Systems using commercially available application generators and packages.
2. Develop a good understanding of Supply Chain functions and selected MIS applications in this area.

3. Provide students with the skills required to become knowledgeable users of at least one commercially available and popular MIS application with SCM focus.
4. Prepare students for managerial positions in the MIS/Supply Chain Management area of Construction, Manufacturing, Wholesale/Retail, Energy and Healthcare industries.

## B. Admission Standards

1. Applicants to the graduate program in MIS will meet the general admission requirements and application process of the Graduate School.
2. All applicants must hold at least a Bachelor's degree in any discipline from an accredited university with an acceptable GPA.
3. Applicants must submit a satisfactory GMAT score taken within the last five (5) years.

## C. Degree Requirements

Pre-Requisites: All applicants must have completed the following 24 credit hours of undergraduate business core courses or their equivalent elsewhere:

<u>Course Area</u>	<u>Description</u>	<u>Cr. Hrs.</u>	<u>Remarks</u>
Accounting	Principles of Accounting I & II	6	
Economics	Principles of Economics I & II	6	Macro & Micro
Finance	Basic Financial Management	3	Junior Level
Management	Principles of Management	3	Junior Level
Statistics	Basic Business Statistics I	3	Sophomore Level
Operations Mgmt	Operations Management	3	Junior Level
I T	Information Technology	3	Junior Level
Marketing	Principles of Marketing	3	Junior Level

### Course Requirements for MS Degree in Management Information Systems

<b>Requirements</b>	<b>Semester Credit Hours</b>
Foundation Courses in Business (Total of 12 Cr. Hrs.)	MGMT 636 Organizational and Management Theory ACCT 631 Seminar in Managerial Accounting FIN 652 Managerial Finance MKTG 650 Strategic Marketing Management
Skill Development in Computers, Software and Business Applications (Total of 9 Cr. Hrs.)	MIS 671 Introduction to Management Information Systems MIS 672 Introduction to C++ or JAVA Programming MIS 673 Database Management Systems
Skill Development in Supply Chain Management (Total of 9 Cr. Hrs.)	MGSC 625 Operations Management MIS 674 E-Commerce and Logistics Management MIS 675 SAP Applications in SCM
Skill Development for System Analysis and System Design (Total of 6 Cr. Hrs.)	MIS 676 System Analysis MIS 677 System Development with Packages and Application Generators

6 Cr. Hrs.)	
Internship (Total of 3 Cr. Hrs.)	Work in the MIS/SCM area in a large corporation for the equivalent of 1 long semester/ whole summer
	Total----- 39 Cr. Hrs.

Note: Course numbers have been used for expositional convenience. Some of the Courses listed below are existing in our campus.

#### Course Description:

##### ACCT 631 Seminar in Managerial Accounting (3)

An examination of the theoretical and practical issues involved in managerial accounting. Emphasis on contemporary issues in managerial accounting. (Pre-Requisites: ACCT 231 or ACCT 636)

##### FIN 652 Managerial Finance (3)

The theory and practice of financial decision making, including tools and techniques for making financial decisions, including those arising from global and ethical challenges. (Pre-Requisites: FIN 301 or Equivalent; MGSC 624/Basic Statistics)

##### MGMT 636 Organizational and Management Theory (3)

Individual, group, and inter-group behavior within organizations in the context of technological change, workforce diversity, ethical challenges and globalization. (Pre-Requisite: MGMT 300 or Equivalent)

##### MKTG 650 Strategic Marketing Management (3)

Key marketing problems of domestic and international organizations, including those arising from issues related to globalization, environmental protection, ethical issues, social trends, and legal constraints. (Pre-Requisites: MKTG 306 or Equivalent; MGSC 671 or Concurrent Enrollment)

##### MGSC 625 Operations Management (3)

The role of operations management as a major task in the supply chain will be introduced. Topics covered will include forecasting, procurement, materials management, production and capacity planning and control, quality control, and distribution. (Pre-Requisites: MGSC 302)

##### MIS 671 Introduction to Management Information Systems (3)

An overview of information systems and their impact on organizations and vice versa. The processes by which these systems are developed and related topics will be presented. (Pre-Requisites: Undergraduate Basic Computer Literacy)

##### MIS 672 Introduction to C++ or Java Programming (3)

A review of the programming features of these languages and development

of moderately difficult business applications with them. These programs will be offered in alternate semesters. (Pre-Requisites: Graduate Standing).

**MIS 673 Database Management Systems (3)**

Database concepts and principles in database design with exposure to a popular relational database like “Oracle.” (Pre-Requisite: MIS 672)

**MIS 674 E-Commerce and Logistics Management (3)**

An introduction to logistics management and an in depth exposure to an Internet based software for performing on-line transaction processing in the area of procurement and distribution. (Pre-Requisites: MGSC 625, MKTG 650 and MIS 673)

**MIS 675 SAP Applications in SCM (3)**

An in-depth exposure to instructor selected SCM modules in SAP. (Pre-Requisites: MIS 673)

**MIS 676 Systems Analysis (3)**

An introduction to concepts and processes for analyzing and determining information requirements for managing a system/subsystem. Use of commercially available software for system analysis will also be introduced. (Pre-Requisites: MIS 673)

**MIS 677 System Development with Application Generators and Packages (3)**

Introduction to automated processes and software packages for system development with project type assignments. (Pre-Requisites: MIS 673 and MIS 676)

Proposed course scheduling for the first five (5) years of the program:

Year	Fall Semester	Spring Semester	Summer
1	MGMT 636, ACCT 631, FIN 652, MIS 671	MKTG 650, MGSC 625, MIS 672	MIS 673, FIN 652
2	MGMT 636, ACCT 631, FIN 652, MIS 671, MIS 674, MIS 675, MIS 676	MKTG 650, MGSC 625, MIS 672, MIS 675, Elective	FIN 652, MIS 673, MIS 677
3	MGMT 636, ACCT 631, FIN 652, MIS 671, MIS 674, MIS 675, MIS 676	MKTG 650, MGSC 625, MIS 672, MIS 675, Elective	FIN 652, MIS 673, MIS 677
4	Same as Year 3	Same as Year 3	Same as Year 3
5	Same as Year 3	Same as Year 3	Same as Year 3

### COMMENTS

The proposed model curriculum for MS in MIS is very likely to produce graduates with focused skills to perform well in MIS/SCM environment in modern business organizations. Our interaction with a large grocery distribution company indicates that this proposed model is in tune with industry requirements.

We are currently working on developing and implementing a program along the lines proposed in this model.

### **REFERENCES**

- [1] Hausman, Warren: Founder Supply Chain Seminars and Professor in the Department of Management Science and Engineering at Stanford University
- [2] Vakharia, Asoo J, “e-Business and Supply Chain Management”, Decision Sciences, Vol. 33, Number 4, Fall 2002