Research Notes

An empirical investigation of student's motivation towards learning quantitative courses

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A B S T R A C T

Purpose: In today's data driven economies, the organizations are collecting data from different touch points. However, only a minimal percentage of this data is utilized for effective decision making. The organizations are facing a dearth of skilled professionals who can understand and analyze the huge big-data and convert it into meaningful information. A manager, by using quantitative techniques can change a complicated problem into a manageable one. Keeping this perspective in mind, the curriculum of management studies is designed in order to inculcate and strengthen the analytical skills of the students. The main objective for conducting this study is to gauge the factors responsible for motivating the students to perform in quantitative subjects (Statistics and Research Methods). The study also intends to explore the impact of identified factors on students' motivation towards learning quantitative courses.

Research design: This research is descriptive in nature. The data has been collected from various private Institutes and Universities of India. The empirical study is done through thirty-eight item questionnaire to measure the factors that motivates the student to learn quantitative subjects and inhibit their understanding of quantitative courses. All the students (respondents) have undergone courses on Business Statistics and Research Methods. Convenience sampling is used for collecting data.

Findings: In order to validate the proposed framework statistical techniques like descriptive analysis, factor analysis and multiple regression analysis were used. The result indicates that motivation towards learning of quantitative subjects has a strong relationship with learning value, attitude, learning environment and achievement goals. The study revealed that motivation for learning quantitative subjects has positive and significant relationship with learning value, attitude and learning environment. However, the fourth construct achievement goals has no significant relationship with motivation towards learning quantitative subjects.

Managerial implications: This study is of immense importance for the business schools and universities which could help in addressing the reasons for low inclination towards learning of quantitative subjects, despite growing importance of information based decision making in the corporate world. Although the screening tests like CAT, MAT, XAT etc. have the component of mathematical skills and data analytics, business schools should also assess necessary quantitative ability and skills of the students at the time of admission. Pedagogy and enabling learning environment enhances the learning of quantitative subjects by students.

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1. Introduction

As per AACSB (The Association to Advance Collegiate Schools of Business), India is a country with highest number of institutes in management education. In India, Management education officially started in 1953 with the first B-School incepted by Government of West Bengal and Kolkata University, Indian Institute of Social Welfare and Business Management (IISWBM) (Shweta & Kumar, 2011). As per Indian Management Education: Vision 2025, India has a sixty year older history in Management Education much richer as compared to other countries like China where management education started in 1991. As per the AACSB, (most prestigious accreditation association for business schools), India has five accredited business schools as compared to twenty-five in China (List of Accredited Schools, 2015). In terms of professional skills required, the quality concerns are so depressing that globally researchers in this discipline have concluded to the extent that MBA business programs and their curriculum are major reasons for the shameful quality of management graduates (Ghoshal, 2005; Mintzberg, 2004). Today, India lags behind China and other countries on parameters for quality essentials in management education. Even the top B-school in India like Indian Institute of Management-Ahmedabad, Indian Institute of Management -Bangalore and the like cannot compete with their Asian counterparts in terms of research, accreditation, rankings, admission of foreign students etc. (*Times Higher Education* Asia University Rankings, 2015).

In India, MBA education boom was witnessed in 1990s when the number of B-schools increased exponentially fueled by economic liberalization and subsequent growth of corporate sectors. In this era, management education has come forward as the most alluring course in higher education furthered by an increase in requirement for professional managers. The flip side of the growth is the mushrooming of bottom tier management schools with no clear objectives and direction in education. They were funded and managed by the promoters having no quality background in education. This tier of management school has posed a serious threat on the credibility of management education in India (see Table 1).

Table 1
Number of B-Schools in different countries (Source: MBAuniverse.com analysis).

Country	Total No. Of B-Schools	AACSB Accredited B schools
India	3902	5
China	1082	25
South Korea	240	15
Thailand	108	3
UAE	24	5
Singapore	5	3

The first and foremost task of a manager is to make the right decisions at the right time. They need to respond swiftly in the ever competitive environment. In the current era, business environment is multi-layered and each layer of business has abundant information. It has become more complex for managers to amalgamate the enormous information and to make decision out of it. Here comes the significance of quantitative techniques which provides a tool for systematic and scientific decision making. The quantitative methods help managers to understand the cause and effect relationship between the variables and to measures the associated risks related to basic business operations. It also helps the managers to eradicate individual and orthodox biases which has influenced the decisions taken in the past. Managers and associative statistical information system need to be dependable on each other for making proper decisions.

Contemporary organizations believe in scientific decisions that are supported by the facts and communicated numerically. Quantitative analysis results in data must be gauged and used in aggregation with the information from other sources. Issues related to performance are often raised when employees lack in required technical skills related to their work area (Cooper, 1998). Quantitative techniques aids in probing situation from different perspective and the results may be tested by using scenario modeling or simulation techniques. The decisions must lie at the center of the quantitative techniques. As per EY and Nimbus Ninety report (2015) eighty-one percent of respondents (senior executives across different functional area from United Kingdom) agreed that data should be at the heart of all decision-making.

Many organizations are data rich but they are unable to provide relevant information of the students. If we consider the career perspective, it has been observed that more than 1.2 lakhs students having Engineering/Management/IT degrees are not able to beat the process because of poor analytical and quantitative skills. (Chakraborty, 2014). Management graduates are expected to have a sound understanding of basic mathematics and statistical skills which they need to apply in day-to-day business operations, in their future roles as managers in their respective organizations. Many studies (Bishop, 1989; Ma, 1997; Murmane 1998) have emphasized a positive correlation between expertise in quantitative subjects and performance in job, owing to computational tasks required in most managerial roles. As per the empirical study conducted by Rajanibala and Srivastava (2014) the principal factors deciding the job prospectus of management graduates are analytical skills, general management and work culture, leadership and communication. Decision making, predominantly, at an organizational level is complex and has increasingly become data driven, so in current business scenario, managers should be proficient in extracting the relevant data. Needless to mention, quantitative techniques explain mathematical and statistical models which