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# MANAGEMENT SCIENCE TEACHING METHODOLOGIES: CORPORATE LEADER'S LECTURE ROOM TOOL BOX SKILLS

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***ABSTRACT***

*Based on the strategic nature of management science and the particular branding characteristics adopted by Business Schools, this paper considered approaches to enhance teaching of Masters of Business Administration program by utilizing management science teaching methodologies. Eight possible approaches, six thinking hats, menu engineering approaches, case study, concept mapping, virtonomics, thesis writer's circles, game theory and interpretive structural modeling 'were proposed. Corresponding peer assessment, constant review, short tests, discussion as well as document production schemes were used for evaluation in the preliminary research to select the approaches. Also discussed were possible challenges of combining these strategies with the traditional ones and the extent to which these methods could contribute to the improvement of teaching and learning for future managers. The results of the study revealed that a suitable and appropriate climate in class was prerequisite for opinions exchanges among student managers. Moreover, the approaches promoted, communication, teamwork, development of critical thought and presentation skills. The study further revealed that a combination of this method with traditional methodologies created a multiplier effect on the traditional approaches. The right application of management science teaching strategies helped to produce the best managers.*

**Keywords**: *Competitive MBA; Management Science; Critical Thinkers; Ranking CEOs; Tool Box Skills*

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## INTRODUCTION

Higher education teaching is analogous to delivering services in various business sectors. Students are regarded as customers of universities having specific needs and wants, which, if well recognized, can lead to creating delightful student experiences and high ranking business schools (Kirby, 2007; Bejou, 2010). The Education market of Masters of Business Administration (MBA) in post graduate business schools has been the prime mode of

addressing these wants. The program is an incubator for preserving and propagating business models and operations strategies that work (Feng, 2011). Masters of business administration program is a fast growing program in postgraduate studies. Higher order skills, such as critical thinking, creative problem solving, teamwork and communication are some of the skills that give MBA its competitive advantage (Que, 2011).

Even more fundamentally, MBA product mix particularly strategic management has been pursued by CEO's all over the competitive world (Jiao, 2009). Though this is the case, many questions have been raised as to the quality of the program offered in the different business schools. Globally, research by Muhammad (2014) attribute this to poor methodology since the expectations are that MBA teaching and learning are optimal when pedagogy is practical to the real business environment as well as the business expectations. Corroborating the former, Duan (2009) reports that 94% of business students in the 21st century, are not acquiring knowledge for its sake but for competitive advantage.

On the supply side, strategic institutions have positioned themselves as service products of quality managers and providers of models that equip managers with tool box skills to excel in the competitive world (Arambewela & Hall, 2006). Such institutions operate business and operations clubs where managers with commercial visions congregate to share models and operations strategies. On the demand side, business graduates are fine-tuned to effectively work in teams and multi-cultural environments to produce wealth unrivalled (Steven, Charlier, Brown & Sara 2011). In such circumstances, business schools have a significant responsibility and obligation to provide post graduate students with the right training that increases their marketability, satisfy market requirements and produce ranking CEOs with collaborative problem solving, responsibility and first mover advantage skills.

Even with the perfectly inelastic demand for MBA education design, pedagogy in higher education is not simply the lecturers' transmission of facts retention (Feng 2011). Handling and expert interpreting mindset, problem solving and critically thinking is core. Moreover, skills such as producing original insights and valuable knowledge for the benefit of business objectives are vital. As previously argued, most business schools have failed to impart this sets of skill. For instance, Ochieng's (2009) national survey of Kenyan businesses found that 71% of the industry stakeholders wanted business school to increase efforts in developing would be and practicing managers as critical thinkers, creative problem solver, team workers and communication gurus.

Nevertheless, leading universities understand the need to change pedagogy from fact-based traditional lecturing to interactive strategies aiming to foster the required durable expert mind. The business schools need train managers to approach challenges with curiosity, creativity and innovatively tackle complex real-world problems. Scholars such as Lin (2005) contends that the selection of an appropriate strategy or method must be based on the operational applications, goals, high self-efficacy, defined industry, personal and professional identity and insightfulness.

**Statement of the Problem**

Business schools in east Africa, notably offering MBA and undergraduate business programs, have attempted to impart successful corporate manager skills for several years. Responses have typically taken the form of substantially increasing teamwork assignments throughout the curriculum, research thesis and case study methods. However, the majority of business schools are blamed for imparting team knowledge instead of team skills. Other strategies cited include the reliance on inappropriate grading strategies to evaluate student team projects, lecturing and assigning all members same grades, regardless of the magnitude of their contribution (Bejou, 2010). These approaches have

not worked in most universities. In Kenya, the anomaly, has left 2% of the business schools (all private universities) to be centers of excellence and academic oligopolies in the provision of MBA education.

**Objective of the Study**

Our preliminary research shows that the performances and interests of students studying for MBA have waned. This research was therefore carried out to ascertain the appropriate and most effective management science instructional methods and strategies that could enhance the teaching and learning activities of MBA. Operations Management units are taught in MBA and its ideal that their approaches are interrogated. The findings from the research would increase the interest of learners as well as MBA lecturers, aiding in heightening expected learning outcomes.

**MBA Success Theory Learning Theory: Act Theory**

The Adaptive Character of Thought (ACT) theory was employed as a pedagogic guide in formulating strategic program for MBA students. ACT theory focuses on human learning of complex behavioral skills (Kirby, 2007). According to Moravec et al (2008) as cited in Jiao (2009) this form of learning should ideally progress through three stages. In the first stage, a person acquires factual or declarative knowledge about the target skill. Then the student combines declarative knowledge with procedural knowledge about the steps involved in actually skill performance. Opportunities to practice the behaviors in problem solving, expert mind setting and report writing in the target skill are essential for success in this effort. Finally, the third stage in his model involves extensive, repeated practice. This enables the target skill behaviors to become more automatic and easier to exhibit to others.

**METHODOLOGY**

The researchers pivoted the study in the qualitative and quantitative approaches. Julie, Ramana, Turner and Ahuja (2019) opine that the qualitative research is concerned with the interpretation of a phenomenon in its natural setting to make sense in terms of the meanings people assign to those settings. Interpretative narratives were constructed from the data (quantitative) to capture the complexity of the phenomena under study whilst helping the researchers to judge the effectiveness of policies or practices (Bernard & Bernard, 2012). Since these researchers wanted to gain enough insight into how the management science instructional methods and strategies used for the teaching of MBA are organized and to strategically impact on learning heightening learning outcomes and promoting the demand of MBA programs of particular business schools, the interpretative method was ideal a methodology.

This study employed a case study methodology where data were collected from post graduate business students enrolled in two university colleges in western Kenya. The underlying reason for this business school's selection is their thorough understanding of MBA management policy. The other reason is that these university colleges have endeavored to transform their business schools to be market-orientated. Semi-structured interviews and focus group discussions were conducted with ten (10) MBA lecturers who have experimented with various instructional strategies and know their strengths and weaknesses. This furnished the researcher with rich experiences and attitudes. Twenty (20) students from Jomo Kenyatta University of Agriculture and Technology (JKUAT) and Kaimosi Friends University College (KAFUCO) were purposively selected since they had spent at least two years in the field. This constituted a sample of thirty respondents. A sample of 30 respondents is considered appropriate for qualitative study as the emphasis is on the quality of data instead of quantity (Paucar-caceres, 2008: Bernard & Bernard, 2012)

## RESULTS AND DISCUSSIONS

### The Response Distribution among the Graduate Schools

The study sought to establish the response distribution, among the two graduate schools. This is shown in table 1.0

**Table 1.0: The Response distribution among the graduate schools**

| Respondents | MBA Institution | | Total | |
|---|---|---|---|---|
| | JKUAT | KAFUCO | | |
| Lecturers | 6 | 4 | 10 | 33 |
| Students | 10 | 10 | 20 | 67 |
| | **16** | **14** | **30** | **100** |

The outcome shows that sixty-seven (67) percent were drawn from lecturers while 33% from the MBA students population. This implies that the group was made up of a fair college representation based on the fact that students were the customers and the demand side information was highly sought to align the supply side of MBA education market.

### Industrial Distribution of Respondents

The study sought to establish the spread of respondents in the industry; this is shown in table 2.0.

**Table 2.0: Industrial Distribution of Respondents**

| Industry | Tally | Percentage |
|---|---|---|
| Private sector | 18 | 57 |
| Public sector | 12 | 43 |
| | **30** | **100** |

Outcome on industrial distribution of respondents show that Fifty-seven (57) percent were drawn from the private while 43% were from the public sector. This implies that the group was made up by a fair industry representation and the responses represented each of the groups.

### Popularity of Teaching Method

The thirty (30) respondents formed two focus groups to rate the popularity of the methods and fill the interaction matrix. The results are shown in table 3.0

**Table 3.0: Popularity of Teaching Method**

| Teaching strategy | Popularity Rates | Proponent Authors | Skills Imparted |
|---|---|---|---|
| • Thesis writers circles/collaboration report writing, | 8.22 | Carlson & Fleisher, M.S. (2002), Brown, (2004), | • Teamwork<br>• report writing |
| • Interpretive Structural Modeling | 7.41 | Kirby (2007). Muhammad (2014) | • Team work<br>• Creative problem solving |
| • Menu Engineering approaches, | 6.76 | LeButo,Ashley& Quain,(1995),Duan (2009) Chan,W. & Au, Chou,& Fang, (2013), | • Quick decision making<br>• activity-based costing<br>• Product development |
| • Virtonomics | 8.34 | Connolly(2003), | • Creative problem solving<br>• implementation skills<br>• resource distribution |
| • Case Study, | 8.23 | Muhammad (2014) Paucar-caceres, (2008) Steven et al (2011). | • Creative problem solving<br>• Evidence based management<br>• report writing |
| • Game Theory | 6.6 | Lin (2005): Franco, (2009) Crider (2012). Prisner (2014). | • Critical thinking<br>• Strategic Moves<br>• Conflict management |
| • Concept Mapping, | 6.8 | Beatty(2004) | • Critical thinking<br>• Organization & action oriented communication |
| • Six Thinking Hats | 7.32 | (Arambewela, &Hall, (2006). | • Critical thinking<br>• report writing<br>• creativity within decision making<br>• Creativity training<br>• Analytical thinking<br>• Parallel thinking |

All the approaches were rated above 5 out of 10 and this implies that all were ideal for producing critical thinkers, high ranking CEOs and business gurus.

**ISM Iteration**

ISM methodology was applied by adopting the following eight steps

Step 1: Identification of relevant factors through, brain storming sessions and MBA student and lecturer' opinion.

Step 2: A contextual relationships establishment among factors with respect to which pairs of factors would be examined.

Step 3: A structural self-interaction matrix (SSIM) was prepared based on pair-wise comparison of factors of the system under consideration.

Step 4: A Reachability Matrix was Developed from the SSIM and checking the matrix for transitivity.

Step 5: Partition of the Reachability Matrix into different levels was done.

Step 6: Based on the relationships given in the Reachability Matrix and the determined levels for each factors, a directed graph was drawn and the transitive links were removed.

Step 7: The resultant digraph was converted into an ISM by replacing variable nodes with statement.

Step 8: The developed ISM model was reviewed to check for conceptual inconsistency and necessary modifications made.

**The Structural Self-Interaction Matrix (SSIM)**

Based on the opinion of the MBA students and lecturers the SSIM as shown in Table 4 was developed. Four symbols were used to understand the direction of relationship between quality dimensions (i and j)

The symbols are:

- V for the relation from element i to element j and not in both directions;
- A for the relation from element j to element i but not in both directions;
- X for both the direction relations from element i to j and j to i;
- 0 (zero), if the relation between the elements does not appear valid.

The results were shown in table 4.0

**Table 4.0: structural self-interaction matrix (SSIM)**

| Items | Element | Element Number | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
| 1 | Interpretive Structural Modeling | V | V | X | O | X | A | A |
| 2 | Virtonomics | V | V | V | V | V | V | |
| 3 | Concept Mapping, | V | O | V | V | V | | |
| 4 | Menu Engineering approaches | V | V | O | A | | | |
| 5 | Six Thinking Hats | O | O | V | | | | |
| 6 | Game Theory | V | V | | | | | |
| 7 | Case Study | O | | | | | | |
| 8 | Thesis writers circles | | | | | | | |

Steps 4, 5 and 6 were performed and the model developed is shown in figure 1

**MBA ISM Based Model**

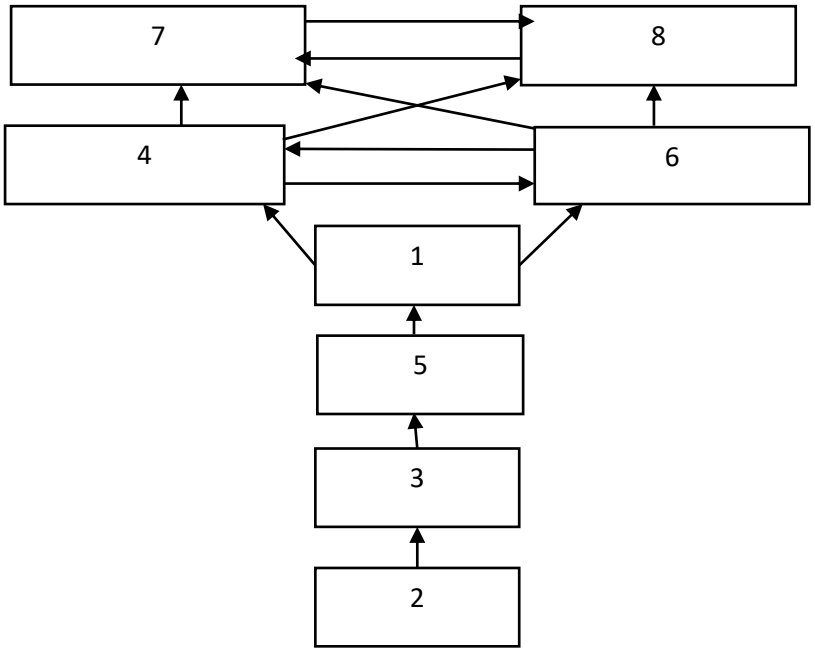


**Figure 1: ISM**


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**Managerial Implications**

There are several methods of imparting MBA pedagogy and getting the best. How they are approached and modeled defines the outcome. The digraph of the ISM model shows that virtonomics is at the bottom suggesting that this element directly influences other factors. Hence it can be concluded that virtonomics should create the backbone of a manager. The next level is of Concept Mapping, which exerts considerable influence on the other factors. This is followed by Six Thinking Hats, essentially Six Thinking Hats is needed in sufficient amount to support a vibrant critical thinker. The next dimension is that of Interpretive Structural Modeling. Modeling the best manager can be influential not only by critically thinking but placing the resources strategically to support others. This is followed by two elements, Game Theory and Menu Engineering approaches to equip the managers with First-Mover Advantage. Preparing MBA students to control the market sharpens them finally with report and communication skills attained through the final level has a two-way relationship of elements, namely, Case Study analysis and Thesis writer's circles reporting skills. These critical approaches could be complemented with traditional methodologies to create a multiplier effect.

**Further Research**

Despite the meaningful contextual contribution, this research study has several limitations. First, the data are collected from two business school, thus limiting the generalizability of the findings. Future research studies are highly recommended to focus on collecting data from other universities and taking opinions of students enrolled in other disciplines.

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