An Empirical Study on Various Management Courses in West Bengal: Students' Perception

Prof. Jayjit Chakraborty

Faculty of Management, Department of Business Administration, The Bhawanipur Education Society College, Kolkata, India

Abstract: **This paper relates to the perception of different Management Courses conducted by different Business Schools in West Bengal. The students who are basically from the Middle Income Group (MIG) background were asked to give their opinion about the quality or placement potential of the courses. The analysis of the problem gives us the variance between the dependent variable (rating) and the independent variable (courses). Four Management Courses are considered conducted by various Management Institutes. At random respondents are asked for their preference on the scale of 10 (1 = not liked at all, and 10 = liked very much). One-way Analysis of Variance is done with rating as the dependent variable and the courses as independent variable and the educational background as the blocking factor. Study reveals that the mean rating of the courses are different, and the educational background of the respondents don't have any influence on their rating.**

Keywords: **Management Courses, ANOVA, Randomized Block Design, Business Schools, Variance Study.**

1. INTRODUCTION

Management examines management policies and practices in the context of organizational growth and development, management theory, theories of leadership, communication processes, employment relations and the dynamics of organizational behavior. The importance of managing people and of managing processes generally means that the courses offered in management are relevant to most students seeking corporate positions in the future. With the advent of Distance Education Schemes, many institutes are now offering management courses in West Bengal for UG and PG levels. Both private and government institutions are conducting management courses at affordable prices to students of MIG. But all the management courses do not have the same title or duration, their course contents and other features also vary. They also vary based on approval from premier organization like AICTE, i.e. some courses are approved by AICTE and some are not. Here we present four category of management courses like MBA (AICTE approved and conducted by various institutes all over the state), PGDM (PG Diploma affiliated by AICTE except the 1 year course duration varies from 1 – 2 years depending on the institute, conducted by autonomous institutes), MMA (non – AICTE course, conducted by institutes affiliated to WBUT), MBM (non – AICTE course, conducted by Calcutta University). In this empirical study, we try to establish the perception of the above courses according to the student's ratings.

2. LITERATURE REVIEW

Why go for Management Courses? Transformations in business and society make this question increasingly urgent for executives, business school deans, students, faculty, and the public. [1]In a new book, Rethinking the MBA Business Education at a Crossroads, Harvard Business School's Srikant M. Datar, David A. Garvin, and Patrick G. Cullen suggest opportunities for innovation.

According to Martha Lagace (2013)[2], Business schools are positioned on increasingly unsteady—and unpopular—ground. MBA enrollments fluctuate or decline; recruiters voice skepticism about the value of newly-minted MBA degrees; and deans, faculty, students, executives, and a concerned public wonder what business schools can or should do

to train knowledgeable, principled, and skilled leaders. Against this backdrop of problems, business schools are poised to take advantage of exciting opportunities to cooperate and innovate, argue HBS professors Srikant M. Datar and David A. Garvin and research associate Patrick G. Cullen in their new book, Rethinking the MBA: Business Education at a Crossroads. Employing a wealth of interviews and quantitative data, their book takes the first comprehensive approach in decades to examine the evolving MBA marketplace and its threats as well as possibilities for improvement and growth (http://hbswk.hbs.edu/item/6363.html).

Let us review the basis of the ANOVA method along with the hypothesis testing and sampling distribution approach (Dudewicz, 1976[3]; Tukey, 1977)[4]. A sample is a finite number (n) of scores. Formally, it is described using Sample statistics (that is, numbers which characterize the sample, as such). Examples of statistics are the mean X', mode (Mo), median (M_d), and standard deviation (S_x), to cite some. Because probability models (http://www.itl.nist.gov/div898/ handbook) do exist in a hypothetical world and are not easily knowledgeable, in general, an infinite number of infinitely precise scores of statistics could be considered and the resulting distribution would be a truthful probability model of the population (Tukey, 1977). Population models are characterized by parameters such as the mean μ_x and the standard deviation σ_x. Sample statistics are used as unbiased estimators (Dudewicz, 1976) of the corresponding population parameters. Hence, the mean and standard deviation of samples are estimates of the corresponding population parameters μ_x and σ_x under specific assumptions. The sampling distribution is a "distribution of a sample statistic". It is a model of a distribution of data where data are "statistics" rather than "raw scores". The sampling distribution of the mean is a special case of distribution of sample means which is described using parameters μ_x a nd σ_x. These parameters are closely related to the parameters of the population distribution. Also, the relationship being expressed by the Central Limit Theorem (CLT) stipulates that the mean of the sampling distribution of the mean (μ_x) equals to the mean of the population (μ_x), and the standard error of the mean (σ_x) equals to the standard deviation of the population (σ) divided by the square root of the sample size (n). This is under the assumption of populations being normal or having large size (> 30).

Finally, given a confidence interval (CI), the F-ratio is calculated to validate/reject the null hypothesis. The shape of the F-distribution depends on the sample drawn and groups size which means the degree of freedom of MSB and MSE. The type I error ($\alpha = 0.01$, 0.05 or 0.1) is also relevant to the F-distribution shape. ANOVA test is based on two independent estimates of the population variance (σ_x), namely, the Between and the Within estimates:

(i) Mean Square Error estimate (MS_{within}): Since each of the sample variances may be considered as independent estimate of the population variance (σ^2_x), finding the mean of the variances provides a way of combining separate estimates of σ^2_x into a single value. The resulting statistic is termed Mean Square Within (MS_{within}). The MS_{within} estimates the population variance (σ^2) regardless of whether the null hypothesis (H_0: $\mu_1 = \mu_2 = ... = \mu_k$) is true. (N.k. Nag, 2009)[7]

(ii) Mean Square Between estimate ($MS_{Between}$): here, the population variance (σ^2_x) estimate is based on differences among the sample means and under the null hypothesis (H_0: $\mu_1 = \mu_2 = ... = \mu_k$), rigorously. Otherwise, $MS_{Between}$ would estimate a quantity larger/lesser than $\sigma^2 x$.

In an ANOVA, the F-ratio is the statistic used to test the hypothesis that the effects are real which means that the means are significantly different from one another. Two strategic experimental designs have been argued prior conducting this study: Within-subjects and Between-subjects ANOVA. Within-subjects ANOVA, also known under repeated measures factors appellation (Dudewicz, 1976), involves comparison of the same subjects under different condition (levels). Each subject's performance is measured at each level of a given factor. In between subjects ANOVA each subject's performance is measured only once and the comparisons are between different groups of subjects, instead. (Trabelsi & Rezgui, 2010)[6]

Objective of the Study:

To analyze the variance between the Student Ratings and Four Categories of Management Courses in West Bengal.

Hypothesis of the Study:

i) The mean ratings are same for all the four private insurance companies.

$\mu_1 = \mu_2 = \mu_3 = \mu_4$

ii) The type of educational background (BA, B.Sc, BCom, and BBA) has no effect on mean ratings for the course type by the respondents.

3. RESEARCH METHODOLOGY

We assume that the educational background of the respondents undergoing / passed in any of the above courses may have an impact on the rating. Thus we have to test two hypothesis by doing ANOVA with randomized block design. We have taken the variable "rating" as the dependent variable and "course_type" as the factor (independent variable), and the "educational_background" as the block. Here, in this problem the educational background of the respondent could influence the rating. Thus we tried to remove the effect of educational background of the respondents, by "blocking" its effect, else its effect gets included with the error (residual) term, and this may lead to wrong conclusion about the relationship between the course type and the rating. In this respect a randomized block is more powerful than a simple one-way ANOVA, if the block has significant influence on the relationship. Backgrounds of the students are coded as follows:

CODE	BACKGROUND
1	MANAGEMENT
2	SCIENCE
3	COMMERCE
4	ARTS

Instrument:

Structured, non-disguised, close ended questionnaire. In this survey, a pilot study was carried out in three institutes in the district which were not included in the actual data collection. The researcher administered the instruments personally to the respondents. The feedback was used to validate the instruments in readiness for the study. After administering the instruments to the selected respondents, the data obtained was a true reflection of the variables under study.

Sampling Process:

Cluster Sampling method is used. First we select 12 business schools randomly conducting these courses. 4 students from each of the institute's PG Department are selected randomly for the survey purpose. Thus sample size = 48.

Sample Design:

In the input table, course (independent variable) is treated as a categorical variable, rating (dependent variable) as continuous variable and the educational_background (blocking factor) as the categorical variable. Each combination of course and educational_background have been represented thrice in the dataset. This replication in design is necessary to reduce the chances of random error affecting the result of the problem. Course comprises of 4 levels and educational_background comprises of 4 levels. So there is a total of 4 x 4 = 16 treatment combination of the two factors.

4. EMPIRICAL RESULTS

Table 1: Descriptive Statistics

Dependent Variable: **Rating**

Courses	Background(Block variable)	Mean	Std. Deviation	N
MBA	Management	9.00	.000	3
	Science	7.00	.000	3
	Commerce	5.00	.000	3
	Arts	8.00	.000	3
	Total	7.25	1.545	12
PGDM	Management	8.00	.000	3
	Science	8.00	.000	3
	Commerce	4.33	.577	3
	Arts	4.00	.000	3
	Total	6.08	2.021	12
MMA	Management	5.00	.000	3
	Science	7.00	.000	3
	Commerce	7.00	.000	3
	Arts	6.00	3.000	3
	Total	6.25	1.545	12

MBM	Management	4.33	.577	3
	Science	5.00	.000	3
	Commerce	4.33	.577	3
	Arts	8.00	.000	3
	Total	5.42	1.621	12
Total	Management	6.58	2.065	12
	Science	6.75	1.138	12
	Commerce	5.17	1.193	12
	Arts	6.50	2.153	12
	Total	6.25	1.769	48

Table 1 reveals that MBA and PGDM is highly rated by the students of management and science background, whereas the non AICTE (MMA & MBM) courses are highly rated by Commerce and Arts students.

Table 2: Analysis of Variance

Dependent Variable: **Rating**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	40.458[a]	6	6.743	2.714	.026
Intercept	1912.688	1	1912.688	769.926	.000
Courses	27.229	3	9.076	3.654	**.020**
Background	13.229	3	4.410	1.775	**.167**
Error	101.854	41	2.484		
Total	2055.000	48			
Corrected Total	142.313	47			

From **Table 2,** it is revealed that the p – value of the courses is .020 <.05. Thus at 5% significance level and degree of freedom (df) = 3, we reject the first null hypothesis and conclude that the mean ratings of all the four courses of management are not at all same.It is also seen that the p-value of the background (educational) is .167 > .05, thus we can accept the second null hypothesis and conclude that the educational background of the respondents are not statistically significant at 5% significance level and degree of freedom(df) = 3.

Table 3: Estimated Marginal Means

Dependent Variable: **Rating**

Courses	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
MBA	7.500	.455	6.581	8.419
PGDM	6.083	.455	5.164	7.002
MMA	6.250	.455	5.331	7.169
MBM	5.417	.455	4.498	6.336

Table 3 suggests that MBA got the most rating (mean = 7.5) whereas MBM got the least rating (mean = 5.4). Thus MBA leads the race among all the four management related courses.

Table 4: Post Hoc (Multiple Comparisons)

Rating Tukey HSD

(I) Courses	(J) Courses	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
MBA	PGDM	1.42	.643	.140	-.31	3.14
	MMA	1.25	.643	.227	-.47	2.97
	MBM	2.08[*]	.643	.012	.36	3.81
PGDM	MBA	-1.42	.643	.140	-3.14	.31
	MMA	-.17	.643	.994	-1.89	1.56
	MBM	.67	.643	.729	-1.06	2.39
MMA	MBA	-1.25	.643	.227	-2.97	.47
	PGDM	.17	.643	.994	-1.56	1.89
	MBM	.83	.643	.571	-.89	2.56

MBM	MBA	-2.08[*]	.643	.012	-3.81	-.36
	PGDM	-.67	.643	.729	-2.39	1.06
	MMA	-.83	.643	.571	-2.56	.89

Based on observed means.

 The error term is Mean Square(Error) = 2.484.

*. The mean difference is significant at the .05 level.

Table 4 represents the output from **Post Hoc Analysis (Tukey HSD).** It reveals that mean rating of MBA and MBM course is statistically significant at 5% significance level. The paired comparison between other courses however doesn't show any statistically significant mean difference in rating at 5% level.

5. CONCLUSION

From the above Analysis it may be concluded that the mean ratings of all the four management courses are different. MBA is highly suited management course whereas respondents are not very comfortable with the MBM course. Educational background of the respondents does not influence the rating process of courses. Thus it is suggested to the existing education institutes or the new entrants in the academic fields to conduct MBA (AICTE approved) course in preference to others. As MBA course is mainly AICTE approved so it follows a standard from the student intake to the final placement procedure.

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