Investigating Few Presumptions Regarding the Academic Performance of Students : A Study on MBA Scholars in Knowledge Park, Greater Noida

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Abstract

Since a long time, researchers have been exploring various dimensions of students' academic performance, including- various factors influencing academic performance and the nature of relationship among them; methods of improvement; the impact of academic performance on the students' career, country, community, etc. The study in hand investigated the report cards of 1645 newly admitted MBA students (enrolled in 29 different institutions of Knowledge Park, Greater Noida, Uttar Pradesh) and tested the authenticity of few popular presumptions about the academic performances of students in Indian society. The research used a descriptive research design and a judgmental sampling technique. The data-sets were cross tabulated and analyzed using the tools of descriptive statistics. The hypotheses were tested using two tailed *t* - tests (i.e. paired - samples *t* - test and independent - samples *t* - test) for large samples. Finally, the research provided statistical evidence to accept or reject the validity of few popular presumptions about Indian students. The research disapproved a popular presumption that 'the students who perform well in internal examinations will also perform well in external examinations.' Further, the research provided a rationale to validate the presumption that 'the females are more studious and perform better than male students.' Further, the research also approved another presumption that 'the origin of the students' religion does not indicate or hint at their academic performance.'

Keywords: **academic performance, gender, ethnicity, marks, AKTU, MBA, report cards**

JEL Classification: I 20, I 23, M00, M10

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Education is the foundation of economic growth and social development. It is also a means to improve the well-being of individuals in a society. Higher education contributes to the development of human resources of a country in multiple ways. The reputation of the institution offering the higher education is often measured in terms of its alumni's contribution to the society and success in their careers.

Academic performance of students is fundamental for any educational institution. The measurement of academic performance involves studying a complex combination of forces (Duggal & Mehta, 2015 ; Phang, Johl, & Cooper, 2014) in the students' overall study environment. Around the world, the academic performance of the students is best judged by the marks (percentage or grades, i.e. GPA) they obtained in examinations (Guru - Gharana & Flanagan, 2012). The report cards of the students not only reflect their strong and weak subject areas, but also, if studied thoroughly and precisely, will indicate several hidden facts and trends.

Master of Business Administration (MBA) course is highly desirable among youngsters seeking their future in

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corporate jobs and entrepreneurship. It is generally agreed that the MBA course is an industry oriented course where the students learn the skills necessary to run various functions of the corporate world (Christensen, Nancy, & White, 2012). This fosters entrepreneurial ability and innovative instincts that determine the success and failure of enterprises (Chavadi & Sirothiya, 2018). On the other hand, many studies supported the finding that the MBA course and students' performance in it does not predict any managerial competency and skill (Bohra, 2013 ; Kass, Christian, & Bommer, 2012). Management education in India seems to be a victim of its own success. Deterioration in the quality of management graduates has resulted in lowering of the job profiles as well as the compensation packages (Bohra, 2013).

Dr. A.P.J. Abdul Kalam Technical University (AKTU) is Asia's largest affiliating university. It affiliates a total of 841 private educational institutions offering B.Tech., M.B.A., M.C.A., B.Arch., B.Pharma., B.H.M.C.T., and M.Tech. courses all over Uttar Pradesh (India). It also affiliates a total of 22 government aided/constituent/associated institutions (AKTU, 2016).

Literature Review

The socioeconomic development of the nation has a direct link to its students' academic performance (Duggal & Mehta, 2015). Some major factors affecting the academic performance of the students are : gender (Dayioglu & Turut-Asik, 2007; Ekpenyong, 2015; Hettler, 2015) ; ethnicity, that is, religion, race, language, nationality, etc. (Rienties et al., 2012 ; Steenkamp, Baard, & Frick, 2009) ; attendance (Broker, Milkman, & Raj, 2014 ; Rath & Kar, 2012) ; mode of education (Simmons, 2014 ; Trawick, Lile, & Howsen, 2010) ; family background and education of parents (Duggal & Mehta, 2015 ; Katsikas & Theodore, 2010) ; teachers' related issues (Naz, Bagram, & Khan, 2012), etc. The academic performance of students is also affected by the students' performance in previous courses (Christensen et al., 2012), performance in admission tests such as GMAT (Kass et al., 2012), personality type (Russo & Kaynama, 2012), and duration of the study (Katsikas & Theodore, 2010). The ultimate goal of an educator is to improve the students' learning, which is generally measured in terms of scores they earn in the course (Guru - Ghana & Flanagan, 2012). Globally, the performance of new students in the examinations (in terms of percentage/grades, pass rate, etc.) is a cause of concern (De Jager & Bitzer, 2013 ; Owusu-Acheaw, 2014; Phang et al., 2014). Often, recruiters consider management students' academic outcomes as an evidence of their seriousness for their careers. Research studies around the world exhibited conflicting results regarding the academic performance of the MBA students and development of employable skills, salary package, and career growth. Many scholars expressed that the students' GPA, that is, grades in examination and employability have no relationship with each other (Kass et al., 2012 ; Rubin & Dierdorff, 2011).

At the same time, research studies around the world also showed conflicting results regarding the influence of gender of the students on their performance in the examination (Fallan & Opstad, 2014). The research studies at college and university level conducted among management students found that gender had no predictive ability for the academic performance (Fallan & Opstad 2014 ; Guney, 2009 ; Rudranath 2013). Fogarty and Gouldwater (2010) interestingly held that, though the female students in the accounting subject exerted a greater effort than males, but they did not significantly outperform the male students. Rudranath (2013) investigated the achievement motivation and self concept of management scholars among the sample respondents (male and female students). The author investigated two variables to analyze how male and female students differed from each other in relation to their academic performance. The author observed that academic performance was the outcome of education and he found no significant difference in the academic performance of the male and female students of management.

In a study of Trondheim Business School (Norway), Fallan and Opstad (2014) illustrated that the gender of the management students did not have any significant effect on their performance in the management accounting

subject. They held that the male students performed slightly better than the female students, but the difference was not statistically significant. In a socioeconomic study of the Pittsburgh Metropolitan Statistical Area (MSA), Hettler (2015) found no statistically significant difference between the academic performance of male and female MBA students at the university level.

On the other hand, several studies on university level students found a significant relationship between gender of the student and academic performance (Rath & Kar, 2012 ; Russo & Kaynama, 2012). Such studies concluded that the students' academic performances vary with their gender and in many cases, the gender of the students can be used to guess their academic performances. Numerous research studies conducted on the students of various disciplines indicated that female students frequently performed better (in terms of marks/grades) than the male students (Dayioglu & Turut - Asik, 2007 ; Epstein, Clinton, Gabrovska, & Petrenko, 2013 ; Mirabela-Conostanta & Maria - Madela, 2011), and also put more time and effort into studies than their male counterparts (Fogarty & Gouldwater, 2010). Dayioglu and Turut - Asik (2007) found that in higher education, women often outperformed men in all departments of the university. Their study on a large university in Turkey attempted to find whether there were significant differences in the academic performances of male and female Turkish students. In a study on MBA students of Biju Patnaik University of Technology, Bhubaneswar, India, Rath and Kar (2012) found that the female management students scored significantly higher marks in examination and also attended significantly more number of classes as compared to the male students.

In a personality study, Russo and Kaynama (2012) examined the association between students' gender and their course grade. They found a significant relationship between gender of the student and course grade they achieved. Their study found that the female students performed better than their male counterparts, and students with 'feeling' personality type performed better than 'thinking' (T) personality type ; whereas, 'judging' (J) types performed better than 'perceiving' (P) types. The female students with 'feeling and judging' (FJ) types of personality appeared to perform better in the course than other combinations of gender and personality.

An ethnicity (or ethnic group) is a group of people who share a common language, ancestral, social, cultural, or national experiences (People & Bailey, 2010). Several factors determining ethnicity are : religion, race, language, customs, nationality, political identification, etc. However, bases determining the ethnicity vary hugely in societies and communities around the world (around the world, the race of a person is not determined by the color of skin; all the societies are not divided on the basis of the cast; etc.). The size of the ethnic group depends on the base of categorization and the number of members belonging to the category. Larger ethnic groups may be further subdivided into smaller ethnic sub-groups, which over a period of time may become distinct ethnic groups themselves.

Many social scientists studied the relationship between ethnicity and academic performance of students (Carnoy & Rothstein, 2013 ; Rienties et al., 2012), and in the majority of the studies, a persistent disparity in academic performance was found based on the ethnicity of the MBA students (De Jager & Bitzer, 2013 ; Hettler, 2015 ; Rienties et al., 2012). Rienties et al. (2012) identified four ethnic groups (Dutch, Western, Mixed-Western, Non-Western) while investigating 670 international and 288 domestic management students at five business schools in The Netherlands. They found that the academic performance (in terms of GPA/ECTS) of the Western students was superior than that of Mixed-Western, Non-Western, and Dutch students.

De Jager and Bitzer (2013) in their study at Stellenbosch University observed that the students' rate of success in examinations varied with their skin color and language. The success rate of the black students was found to be much higher than the success rate of the white students. At the same time, the success rate for students speaking Afrikaans language was found to be much higher than the success rate of students speaking English language. Carnoy and Rothstein (2013) mentioned that students from more-advantaged groups outperformed students from less-advantaged groups in the studies. Hettler (2015) examined the differences in performance on the basis of race (ethnicity), gender, socioeconomic status, etc. of the MBA and economics students at a mid-sized state university

located in the Pittsburgh Metropolitan Statistical Area (MSA). The author found no statistically significant difference in the academic performance (in terms of grades) of whites and African-American MBA students in the quantitative methods course. He further held that, in most of the cases, there was no statistically significant difference between the academic performance of male and female MBA students.

The Research Gap

There are plenty of studies related to academic performance of students and the factors affecting them at school, college, and university. However, the available academic literature still lacks in terms of empirical studies, specifically on MBA students' academic performance and the affecting factors. Most of the previous studies on MBA students have not directly addressed the issues such as ethnicity (in terms of religion), gender, internal and external marks, and their relationship with the academic performance of the students. The majority of the available studies have focused upon admission test scores (scores in GMAT, GRE, etc.) and academic performance (Kass et al., 2012) as well as mode of education (i.e. online vs. offline, regular vs. distance, etc.) and academic performance (Hettler, 2015 ; Simmons, 2014), etc. The present study investigates the authenticity of few popular presumptions regarding the academic performance of Indian students, which is an unexplored research area and requires due exploration.

Objectives, Research Questions, and Hypotheses

For a very long time, the Indian society has been carrying many presumptions about the academic performance of the students. The academic literature lacks in terms of sufficient investigations to find out evidences regarding the authenticity of such presumptions. The present study attempts to investigate whether few established presumptions about the students in India are true. For this study, I analyzed the report cards and investigated the academic performance of MBA Ist semester students enrolled in AKTU affiliated institutions.

↳ **Problem Statement :** "Undertaking a research study to test the authenticity of few established presumptions about the academic performance of Indian students pursuing the MBA course."

According to AKTU norms, the total marks (150 marks) in a particular subject is the sum of marks in external examination (100 marks based on a written test) and marks in the internal examination (50 marks based on the class tests, attendance, and teacher assessment). The internal marks in a subject depend on the written class tests (known as Pre-University Test or PUT), the attendance of the students, and the assessment of the subject teacher during the semester. It is generally assumed that the students who perform well (score good marks) in the internal examinations will also perform well in the external examinations. In other words, the students' performance does not change in two examinations (internal and external), and the performance (in terms of marks) in one examination can indicate the same students' performance in other examination.

Research Question 1 : Whether there is a change in student performance (in terms of marks) in two examinations (i.e. internal and external) in the MBA course?

↳ **H01:** There is no significant difference in the mean marks scored by the students in internal and external examinations.

The Indian society generally believes that the female students are more studious and more sincere than the male students on all the levels of academics. Board examination results (CBSE, ICSE, etc.) and merit list of various

competitive examinations (IIT JEE, CPMT, etc.) often confirm the superior performance of the female students at various levels. The present research attempts to find out whether the female MBA students showed superior performance (in terms of marks) than their male counterparts ?

Research Question 2: Do the female students perform better (in terms of marks) than male students in the MBA course ?

↳ **H02a:** There is no significant difference between the mean external marks scored by male and female MBA students.

↳ **H02b:** There is no significant difference between the mean internal marks scored by male and female MBA students.

↳ **H02c:** There is no significant difference between the mean total marks (external + internal) scored by male and female MBA students.

The Indian society is a multi-religion, multi-cast, and multi-lingual society. The Indian civilization is believed to be one of the oldest civilizations of the world, and the traces of it were found in the remains of urban communities of Harappa, Mohenjodaro, Mehargarh, and Lothal (Mishra & Ojha, 2017). It has been enriched by successive migrations from other religions and geographies of the world. Today's Indian society is mainly composed of six major religions namely, Hinduism, Buddhism, Jainism, Sikhism, Islam, and Christianity. Among these religions, Hinduism, Buddhism, Jainism, and Sikhism (also called as Indian religions) have emerged from the Indian subcontinent ; whereas, Islam and Christianity (also called foreign religions) originated outside the Indian subcontinent (Bandyopadhyay, Morais, & Chick, 2008) and were brought to India by roaming saints, invaders, and traders. Despite many differences, all the Indian religions share certain key similarities in concepts and rituals, such as the existence of body and self (i.e. *Atma*) and *Moksha* (liberation from the cycle of rebirth).

Religion is a strong ethnic base for studying the behavior of people. Various research studies at the international level claimed that the performance of the students is hugely influenced by their ethnicity and their societal background (Hettler, 2015 ; Rienties, Beausaert, Grohnert, Niemantsverdriet, & Kommers, 2012). In the Indian society, though it is generally observed that due to numerous socioeconomic reasons, members of few particular casts (irrespective of their religion & grouped in SC, ST, & OBC categories, that is, scheduled cast, schedule tribe and, other backward communities) underperform in studies and competitive examinations. And hence, Indian constitution protects their interests by giving them relaxation in qualifying marks and age, reservation in jobs, fee concessions, etc. However, the origin of the students' religion (Indian vs. Foreign) seems not to have any influence on their academic performance, and the students of both religious origins are presumed to be equally studious and performing.

Research Question 3: Do the students following the 'Indian religions' perform better (in terms of marks) than students following the 'foreign religions' in MBA course?

↳ **H03a :** There is no significant difference between the mean external marks scored by the MBA students following the Indian religions and MBA students following the foreign religions.

↳ **H03b :** There is no significant difference between the mean internal marks scored by the MBA students following the Indian religions and MBA students following the foreign religions.

↳ **H03c :** There is no significant difference between the mean total marks (external + internal) scored by the MBA students following the Indian religions and MBA students following the foreign religions.

Research Methodology

The aim of the research is to study the academic performance of the MBA Ist semester students of AKTU in the light of few established presumptions in India. The study uses a descriptive (cross-sectional) research design to achieve its aim. A judgmental sampling technique was used to draw samples. After a discussion with the knowledgeable people, all the AKTU affiliated management institutions of the Knowledge Park institutional area (situated in the National Capital Region of India) were chosen for the study. Knowledge Park is a premier centre of professional education in India, and it attracts students from all the geographies and demographics of the country. It is spread in approximately 1400 acres with more than 300 educational institutions offering a variety of technical and vocational courses. Presently, more than 2 lakh students from distinct areas of India and abroad are enrolled in various institutions of Knowledge Park. On the basis of the opinions of knowledgeable people, all the MBA Ist semester students studying in AKTU affiliated institutions (excluding MBA in Tourism and Hospitality course) of Knowledge Park, Gr. Noida (Uttar Pradesh) were included in the sample. The sample excluded institutions which are affiliated to AKTU but had zero enrollments during 2015-2017.

The entire process of the present research (from conceptualization to finalization) was done between January 2016 - January 2018. To avoid any response bias, the study used authentic data obtained from the website of the AKTU, and MBA Ist semester (session 2015-2017) report cards were downloaded from the AKTU's website between 16-05-2016 and 20-07-2016. Initially, the available report cards of all the 1654 MBA students (studying in 29 different institutions of Knowledge Park) were thoroughly observed. Further, it was decided to consider only those students who appeared in the examinations of all the eight theory subjects and whose results were completely declared (1301 MBA students) during the data collection period. Due to the non declaration of one/few subjects results or absenteeism in one/few theory subjects, a total of 353 students were excluded from the study sample (Table 1).

Table 1. Sample Profile

		Sample Size			
		Total		Qualified*	
		No.	%	No.	%
Gender	Male	1221	73.8	951	73.1
	Female	424	25.6	350	26.9
	Total	1645	99.5	1301	100.0
	Missing	9	.5		
	Total	1654	100.0		
Ethnicity	Indian Origin	1444	87.3	1134	87.2
(in terms of origin of religion)	Foreign Origin	201	12.2	167	12.8
	Total	1645	99.5	1301	100.0
	Missing	9	.5		
	Total	1654	100.0		

Note. *Excluding students whose results were not declared in one or few subjects or/and who were absent in one or few theory subjects.

The report cards were downloaded using the roll number of the students admitted to the session 2015-17. All the students enrolled in AKTU got their 10 digit roll number according to a predefined and easy to anticipate mechanism. For example, the digits in the roll 1522570023 represent the students' year of admission (2015), college code (225), branch code (70), and students' serial number (023) according to the first alphabet of their names. The information available on AKTU's website was used to decide colleges located in Knowledge Park, Greater Noida ; number of MBA students in various colleges; etc.

Besides the marks of the MBA students, the research also required information regarding the gender and ethnicity (in terms of the origin of religion) of the students. The full name of an Indian is often a clear indicator of his/her gender and the religion he/she belongs to. Hence, the gender and ethnicity of the students were determined by observing the names of the students and that of their fathers in report cards.

Data obtained from report cards were entered in SPSS 20.0 (Statistical Package for Social Sciences 20.0) for further statistical analysis. The data were cross tabulated according to gender and ethnicity vs. performance (in terms of pass/fail and grades). The tools of descriptive statistics such as percentages, arithmetic mean, and standard deviations were used to uncover several hidden facts. The hypotheses were tested by applying two tailed *t*-tests (paired-samples *t* - test and independent-samples *t* - test) for large samples at the 95% level of confidence. A paired-samples *t* - test was applied to determine the significance of the difference in the student performance (in terms of mean marks) in the internal examination versus same student performance in external examination. An independent-samples *t* - test was applied to know the significance of difference between the performance (in terms of mean marks) of two large samples, that is, male vs. female and 'students following the Indian religions' vs. 'students following the foreign religions.'

Analysis and Results

The Table 2 presents the cross-tabulation of the students' gender and ethnicity (in terms of origin of their religion) with their performance (in terms of pass/fail). It was observed that in AKTU's MBA Ist semester examinations, a total of 54.3% students performed well and passed in all the subjects ; whereas, more than 55% students underperformed and failed in one or more subjects. Among underperformers, a total of 30.64% students severely underperformed and failed in three or more subjects (14% of total students).

The cross-tabulation of the students' gender with their performance (in terms of pass/fail) indicated a superior performance of female students over the male students. More than 70% female students performed well and passed in all the subjects against 48.3% male students. At the same time, more male students emerged as severe

Table 2. Cross Tabulation : Gender & Ethnicity vs. Performance (in Terms of Pass/Fail)

		Performance (in Terms of Pass/Fail)									
		Pass		Fail in 1 subject		Fail in 2 subjects		Fail in 3 or more subjects		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Gender	Male	459	48.3	220	21.3	112	11.8	160	16.8	951	100
	Female	248	70.9	47	13.4	33	9.4	22	6.3	350	100
	Total	707	54.3	267	20.5	145	11.1	182	**14.0**	**1301**	**100**
Ethnicity (in terms of origin of religion)	Indian Religions	629	55.5	225	19.8	120	10.6	160	14.1	1134	100
	Foreign Religions	78	46.7	42	25.1	25	15.0	22	13.2	167	100
	Total	707	54.3	267	20.5	145	11.1	182	**14.0**	**1301**	**100**

Table 3. Cross Tabulation : Gender & Ethnicity vs. Performance (in Terms of Grades)

		Grades Assigned										Total	
		A^+ (Very Good)		A (Good)		B (Average)		C (Poor)		C^- (Very Poor)			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Gender	Male	0	0	203	21.3	588	61.8	158	16.6	2	0.2	951	100
	Female	11	3.1	171	48.9	154	44	14	4	0	0	350	100
	Total	11	.8	374	28.7	742	57	172	13.2	2	.2	1301	100
Ethnicity (in	Indian Religions	10	.9	340	30	638	56.3	144	12.7	2	.2	1134	100
terms of origin	Foreign Religions	1	.6	34	20.4	104	62.3	28	16.8	0	0	167	100
of religion)	Total	11	.8	374	28.7	742	57	172	13.2	2	.2	1301	100

Note. Grading rule: A^+ Very Good = 75% - 100% total marks, A Good = 60% - 75% total marks, B Fair/Average = 45% - 60% total marks, C Poor= 30% - 45% total marks, C^- Very Poor = 0% - 30% total marks.

underperformers than the female students. A total of 16.8% male students severely underperformed and failed in three or more subjects against 6.3% female students (Table 2).

The cross-tabulation of ethnicity (in terms of the origin of religion) with the performance (in terms of pass/fail) indicates a better performance of students following the Indian religions over the students following the foreign religions. On one hand, a total of 55.5% students following the 'Indian religions' performed well and passed all the subjects against 46.7% students following the 'foreign religions.' On the other hand, students following the 'Indian religions' (14.1%) also emerged as severe underperformers and failed in three or more subjects than their foreign counterparts (13.2%) (Table 2).

The Table 3 presents the cross-tabulation of gender and ethnicity with the performance (in terms of grades assigned) of MBA Ist semester students. The students were assigned a grade from A^+ (very good) to C^- (very poor) on the basis of percentage total marks (internal + external) obtained in the examinations.

Besides achieving the superior pass percentage in the AKTU's MBA Ist semester examination (Table 2), the female students achieved higher total marks (hence, superior grades) than male students (Table 3). A total of 3.1% female students scored more than 75% total marks (Grade A^+) against 0% male students ; whereas, a of total 48.9% female students scored total marks between 60% -75% (Grade A) against total 21.3% male students.

The cross-tabulation of ethnicity with the performance (in terms of grades assigned) indicated a better performance of students following the Indian religions over the students following the foreign religions. A total of 0.9% students following the 'Indian religions' scored more than 75% total marks (Grade A^+) against 0.6% students following 'foreign religions' ; whereas, a total of 30% students following the 'Indian religions' scored total marks between 60 % -75% (Grade A) against a total of 20.4% students following 'foreign religions' (Table 3).

The Table 4 presents the mean marks scored by the students in the external and internal examinations. In MBA Ist semester examinations, the students' best performance appeared in (scored maximum total mean marks) Communication for Management (58.44%) followed by the subjects : Business Environment (57.67%), Marketing Management (57.09), and Fundamentals of Computer & Information System (56.10%). At the same time, the students' performance was poor (scored minimum total mean marks) in the subjects : Business Accounting (49.46%) followed by Business Statistics (52.12%), Managerial Economics (53.77%), and Managing Organization (54.32%). The maximum variation in students' performance, that is, consistency in performance is found in Business Statistics (*S.D* = 23.94) ; whereas, minimum variation is found in Communication for Management (*S.D* =12.92).

The Table 4 reveals a huge difference between the students' performance in the external and internal examinations. Irrespective of the subjects, the students scored much higher marks in the internal examinations

Table 4. Mean Marks in External and Internal Examinations

S.N.	Name of Subject & Code	External Examination (100 marks)			Internal Examination (50 marks)			Total (150 marks)		
		Mean		*S.D*	Mean		*S.D*	Mean		*S.D*
		No.	%		No.	%		No.	%	
1	Managing Organization (NMBA011)	40.29	40.29	16.37	41.19	82.38	4.799	81.48	54.32	18.16
2	Managerial Economics (NMBA011)	39.64	39.64	12.55	41.00	82	5.112	80.65	53.77	15.21
3	Business Accounting (NMBA011)	32.93	32.93	14.19	41.27	82.54	5.162	74.19	49.46	17.06
4	Business Environment (NMBA011)	45.30	45.30	13.99	41.21	82.42	4.828	86.51	57.67	15.72
5	Business Statistics (NMBA011)	37.80	37.80	21.22	40.38	80.76	5.545	78.18	52.12	23.94
6	Marketing Management (NMBA011)	44.40	44.40	15.84	41.23	82.46	4.877	85.64	57.09	17.80
7	Communication for Management (NMBA011)	45.99	45.99	10.66	41.67	83.34	4.837	87.66	58.44	12.92
8	Fundamentals of Computer & Information System (NMBA011)	42.64	42.64	13.35	41.50	83	4.966	84.15	56.10	15.46

Note. *S.D* = Standard Deviation

than external examinations. The mean marks obtained by the students in the external examination lies between 32.93% and 45.99% ; whereas, mean marks obtained by the students in the internal examination lies between 80.76% and 83.34%. At the same time, it is also observed that the students' performance in internal examination is more consistent (*S.D* between 4.799 & 5.545) than their performance in external examination (*S.D* between 10.66 & 21.11).

(1) Paired Samples *t* - test

Research Question 1 : Whether there is a change in student performance (in terms of marks) in two examinations (i.e. internal and external) in MBA course?

The paired-samples *t* - test rejects the null hypothesis H01 (Table 5). Hence, it is reasonable to believe that for 1301 students, the mean marks in the internal examination (82.36% marks) are significantly greater than the mean marks in the external examination (41.13%) at the 95% level of significance. In other words, the students' performance changes greatly in two examinations, and hence, the performance in one examination (internal or external) cannot indicate the same students' performance in the other examination. This finding disapproves the presumption that 'the students who perform well in internal examinations will also perform well in external examinations.'

Table 5. Paired Samples *t* - test : External Marks vs. Internal Marks

Paired Samples Statistics	Mean	*S.D*[1]	*M. D.*[2]	*S. E.*[3]	*p*-value	H01 is[4]
External Marks						
(% of external marks obtained in total external marks i.e. 100*total external obtained/800)	41.13	10.62	-41.24	0.28	.000	Rejected
Internal Marks						
(% of internal marks obtained in total internal marks i.e.100*total internal obtained/400)	82.36	8.90				

Note. 1: Standard Deviation, 2: Mean Difference, 3: Standard Error, 4: At 5% Level of Significance (2 tailed).

Table 6. Independent Samples *t* - test : Gender vs. Performance

	Gender	Mean	*S.D*[1]	*M. D.*[2]	*S. E* Diff.[3]	*p*-value	H0 is[4]
Marks in external examination (Out of 800)	Male (951)	313.56	80.10	-57.40	5.07	.000	H02a is
	Female (350)	370.96	83.84				Rejected
Marks in internal examination	Male (951)	323.54	35.20	-21.97	2.14	.000	H02b is
(Out of 400)	Female (350)	345.51	31.58				Rejected
Total marks obtained	Male (951)	637.10	100.22	-79.37	6.31	.000	H02c is
(Out of 1200)	Female (350)	716.47	102.88				Rejected

Note. 1: Standard Deviation, 2: Mean Difference, 3: Standard Error of the difference, 4: At 5% level of significance.

(2) Independent Samples *t* - test

Research Question 2 : Do the female students perform better (in terms of marks) than male students in the MBA course ?

The independent - samples *t* - test rejects all the three null hypotheses (H02a, H02b, and H02c). In the external examination, female students scored higher mean marks (370.96 marks) than male students (313.56 marks), and the mean difference is found to be significant (Table 6). Hence, it can be concluded that 'the female students perform better than male students in the external examinations.' In internal examinations, female students again scored higher mean marks (345.51 marks) than male students (323.54 marks). Further, the rejection of the null hypothesis leads us to conclude that 'the female students perform better than their male counterparts in the internal examinations' also (Table 6).

In case of total marks (external + internal), the female students once again scored higher mean marks (716.47 marks) than the male students (637.10 marks), and the mean difference is found to be significant (Table 6). Hence, it is reasonable to believe that 'the overall performance (external + internal) of female students is better than that of the male students.'

The rejection of the hypotheses provides sufficient evidence to believe that the performance of female students was significantly different from the male students in terms of external, internal, and total marks obtained in the MBA Ist semester examination. This finding approves and validates the presumption that the 'female students are more studious and performed better than the male students.'

Research Question 3 : Do the students following the 'Indian religions' perform better (in terms of marks) than students following the 'foreign religions' in MBA course?

Table 7. Independent Samples *t* - test: Ethnicity vs. Performance

	Ethnicity (in Terms of Origin of Religion)	Mean	*S.D*[1]	M. D.[2]	S. E Diff.[3]	*p*-value	H0 is[4]
Marks in external	Indian religions (1134)	330.74	85.41	13.58	7.04	.054	H03a is
examination (out of 800)	Foreign religions (167)	317.17	81.36				Accepted
Marks in internal	Indian religions (1134)	330.52	35.60	8.34	2.94	.005	H03b is
examination (out of 400)	Foreign religions (167)	322.18	34.93				Rejected
Total marks	Indian religions (1134)	661.27	107.52	21.92	8.84	.013	H03c is
obtained (Out of 1200)	Foreign religions (167)	639.35	100.56				Rejected

Note. 1: Standard Deviation, 2: Mean Difference, 3: Standard Error of the Difference, 4 : At 5% level of significance (2 tailed).

The independent-samples *t* - test accepts the null hypothesis H03a (i.e. for marks in external examination vs. ethnicity). Further, the test rejects the null hypotheses H03b (i.e. for the marks in internal examination vs. ethnicity) and H03c (i.e. for the total marks obtained vs. ethnicity) (Table 7).

Though, in the external examination, the students following 'Indian religions' scored higher marks (330.74 marks) than the students following the 'foreign religions' (317.17 marks). However, the mean difference is found to be insignificant (i.e. H03a is accepted). Hence, it is reasonable to say that the performance of students following Indian religions are similar to their non-Indian counterparts in the external examination (Table 7).

In internal examinations, the students following the 'Indian religions' scored superior marks (330.52 marks) as compared to the students following 'foreign religions' (322.12 marks) and the mean difference is found to be significant (Table 7). Hence, it is reasonable to conclude that 'the students following Indian religions performed better than their foreign counterparts in the internal examinations.' Finally, in case of total marks (external + internal), the students following the 'Indian religions' scored higher (661.27 total marks) than the students following the 'foreign religions' (639.35 marks), and the mean difference is found to be significant (Table 7). Hence, it is reasonable to believe that 'the overall performance (in terms of total marks) of students following the Indian religions is better than the students following foreign religions.'

In terms of their performance in the external examination, the students of both the religious origins are found similar and not significantly different. However, in terms of the overall performance (internal + external) and performance in internal examinations, the students following the 'Indian religions' are found to be significantly better than the students following 'foreign religions' (Table 7). Further, the present study already disapproves the presumption that 'the students who perform well (score good marks) in the internal examinations will also perform well in the external examinations' (H01) and the students' performance in the internal examinations cannot indicate their performance in external examinations. Hence, in this context, the superior performance in the internal examinations (a sum of marks for class tests, attendance, and teacher assessment) and superior overall performance (internal + external) by the students following 'Indian religions' over students following 'foreign religions' does not lead to any concrete conclusion.

In the light of the above revelations, the research finds insufficient rationale to accept that the students following the 'Indian religions' performed better than the students following the 'foreign religions'. And hence, the present study provides statistical evidence to approve the presumption that 'the origin of students' religion does not indicate or hint their academic performance.'

Discussion and Conclusion

Students are the future of a country. A nation's present academic environment and its contribution in nurturing a culture of inquisitiveness as well as research may decide its future achievements and prosperity. The ultimate goal of an educator is to improve the learning of its students, which is generally measured in terms of scores earned in examinations (Guru - Gharana & Flanagan, 2012). The academic performance of students has been a topic of research in the recent past (Duggal & Mehta, 2015). It is not only an indicator of a university's quality of education, but also an indicator of the nation's human resource capital.

The aim of the research was to test the authenticity of few popular presumptions about the academic performance of students in Indian society. The research investigated the report cards of newly admitted MBA students and concluded that the performance of students in the internal examinations cannot indicate or hint at their performance in external examinations. This finding disapproves the presumption that 'the students who perform well in internal examinations will also perform well in external examinations.' Further, the study provides sufficient evidence to believe that the 'female MBA students were more studious and performed academically better than the male MBA students' during their Ist semester examinations. And finally, the study approves the

presumption that 'the origin of the students' religion does not indicate or hint at their academic performance.' In other words, we can conclude that the students of both the religious origins were similarly studious and talented.

Managerial Implications

There are many implications of the study's findings. The higher rate of underperformers/ severe underperformers creates a need to re-look at the university's academic policy and its execution. The study also indicates an urgent need to review the process and the relevance of the university's internal examinations. Very high internal marks and its huge difference with external marks may lead to believe that institutes and teachers are simply gifting internal marks to their students. Superior academic performance of female students over male students supports the Government of India's initiative, *'Beti Bachaoo, Beti Padhaoo'* (save the girl child, educate the girl child). This may also help in reducing the gender disparity among the society and the workplace. Similar academic performance of students of both the 'religious origins' not only develops a sense of harmony, but also denies the demand of reservation on religious grounds.

Limitations of the Study and Scope for Future Research

The findings of the research cannot be generalized in the global context due to the unique characteristics of each country and society. The present study was restricted to MBA Ist semester students enrolled in AKTU affiliated private institutions situated at Knowledge Park, Greater Noida, Uttar Pradesh, India. The study was purely based on the report cards (downloaded from the AKTU's website) of the students, which provided an access to only few pertinent data. Future researchers can expand the study to government institutions, institutes located in other geographies, and affiliated to other universities. At the same time, the data on the report cards can also be supplemented with personal interviews of the scholars. Few more presumptions can be considered for statistical validation as well as some other dimensions of students' academic performance can be explored (for example, early/late marriages and academic performance ; coaching/tuition and academic performance ; hours of study and academic performance, etc.).

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