Content or Convenience? – An Action Research

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1. Introduction

Under-enrollment and falling applications even at prestigious schools highlight management education's crisis[1]. Growth of specialized management subject areas, decrease in opportunities for trained general managers, as well as the long term secular growth of enrollments and graduations are all probable reasons. Within a b-school there is an ongoing push-and-pull between academic, classroom pursuit and an effort among student to build a compelling profile for the job market. Student and faculty feedback systems are amongst the various systems employed in a business school that enable faculty members as well as students to continuously evaluate their position and trajectory of growth, within this larger and highly dynamic environment. Just as faculty members aspire to build a strong set of research skills, students also aspire to build a strong profile so that their classroom experience may be more meaningful and equip them for a highly competitive job market.

One reflection of this importance of experiential learning (via membership in committees with key student responsibilities and other interest groups) is the fact that 3 out of 10 business schools students in the premier business schools of India are members of these committees or groups (Exhibit 1). A number of anecdotal accounts exist regarding the classroom academic effort of students, and a way of measuring this attendance of students in classes. Of particular interest to the action researchers in this project was to assess the relationship between classroom investment of students and the involvement in various committees and special interest groups.

Exhibit 1: *Student Committees* and Membership counts (1st year members)*

Committee	No: of 1st year Student members
ALUMNI	6
EVENT-1	10
EVENT-2	9
CULTURAL	8
EDITORIAL BOARD	4
ENTREPRENEURSHIP AND INNOVATION CELL	4
INFORMATION TECHNOLOGY	6
INDUSTRY INTERACTION CELL	4
EVENT 3	5
MEDIA CELL	6
MERCHANDISING CELL	6
CAFETERIA AND FOOD	4
PLACEMENT COMMITTEE	12
STUDENT COUNCIL	6
SPORTS COUNCIL	5
SOCIAL SERVICE GROUP	6

* Names Changed Except For Generic Committee Names

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[1] http://www.forbes.com/sites/ronaldyeaple/2012/05/30/is-the-mba-obsolete/

Exhibit 2: *Logistic Model of Classroom Attendance*

Y = ATTENDANCE=PRESENT		Robust Coeff.	Std. Error	Z	P>|z|	[95% confidence inter	
DAY OF WEEK							
	SUN	-0.6237641	0.118346	-5.27	0	-0.85572	-0.3918098
	MON	(base)					
	TUE	0.0939757	0.030265	3.11	0.002	0.034658	0.1532939
	WED	0.2778877	0.02642	10.52	0	0.226106	0.3296693
	THU	0.0775954	0.030832	2.52	0.012	0.017167	0.1380243
	FRI	0.0074887	0.026991	0.28	0.781	-0.04541	0.0603896
	SAT	-0.7690365	0.065386	-11.76	0	-0.89719	-0.6408818
PROFESSOR							
	1	(base)					
	2	-0.5755726	0.1189	-4.84	0	-0.80861	-0.3425322
	3	-0.409072	0.098975	-4.13	0	-0.60306	-0.2150853
	4	0.5271707	0.085676	6.15	0	0.35925	0.6950915
	5	-0.3328402	0.130587	-2.55	0.011	-0.58879	-0.0768935
	6	-0.3152316	0.082067	-3.84	0	-0.47608	-0.1543841
	7	0.4830861	0.087476	5.52	0	0.311637	0.6545349
	8	-0.2591812	0.121362	-2.14	0.033	-0.49705	-0.0213156
	9	0.0515411	0.077835	0.66	0.508	-0.10101	0.2040957
	10	-0.4547565	0.088547	-5.14	0	-0.6283	-0.2812083
	11	-0.0238834	0.110781	-0.22	0.829	-0.24101	0.1932434
	12	-0.5044074	0.12674	-3.98	0	-0.75281	-0.2560021
	13	-0.0234767	0.086589	-0.27	0.786	-0.19319	0.1462352
	14	-0.671775	0.120471	-5.58	0	-0.90789	-0.4356567
	15	0.2343586	0.126469	1.85	0.064	-0.01352	0.482233
	16	-0.2463556	0.075775	-3.25	0.001	-0.39487	-0.0978393
	17	-0.0854722	0.072357	-1.18	0.237	-0.22729	0.0563443
	18	0.4244968	0.097455	4.36	0	0.233488	0.6155058
	19	-0.3957875	0.073188	-5.41	0	-0.53923	-0.2523411
	20	-0.3408216	0.121193	-2.81	0.005	-0.57836	-0.1032874
	21	-0.4244484	0.11494	-3.69	0	-0.64973	-0.1991711
	22	-0.247403	0.076588	-3.23	0.001	-0.39751	-0.0972927
	23	-0.6830329	0.095333	-7.16	0	-0.86988	-0.4961828
	24	-0.5571583	0.079972	-6.97	0	-0.7139	-0.4004163
	25	-0.2038279	0.085587	-2.38	0.017	-0.37158	-0.0360804
	26	-0.478662	0.072582	-6.59	0	-0.62092	-0.336404
	27	0.0357045	0.124433	0.29	0.774	-0.20818	0.2795884
	28	-0.0191469	0.148042	-0.13	0.897	-0.3093	0.2710096
	29	0.2776153	0.123512	2.25	0.025	0.035537	0.5196935
	30	-0.8989014	0.117835	-7.63	0	-1.12985	-0.6679487
	31	-0.1875592	0.097965	-1.91	0.056	-0.37957	0.004449
	32	1.047349	0.104461	10.03	0	0.84261	1.252088
	33	0.0404407	0.080438	0.5	0.615	-0.11722	0.1980968
	34	0.1736138	0.07932	2.19	0.029	0.01815	0.3290778
	35	-0.2925917	0.075493	-3.88	0	-0.44055	-0.1446287
	36	-0.1863317	0.133147	-1.4	0.162	-0.4473	0.0746318
	37	-0.2906224	0.076553	-3.8	0	-0.44066	-0.140581
	38	0.3139971	0.123826	2.54	0.011	0.071302	0.5566922
	39	-0.4534327	0.119126	-3.81	0	-0.68691	-0.2199511
	40	-0.0074535	0.119718	-0.06	0.95	-0.2421	0.2271903
	41	0.1573212	0.088327	1.78	0.075	-0.0158	0.3304384
	42	0.5057034	0.128348	3.94	0	0.254147	0.7572603
	43	0.3707041	0.083406	4.44	0	0.207231	0.5341777
	44	-0.8815506	0.115823	-7.61	0	-1.10856	-0.6545423
	45	-0.3878556	0.120055	-3.23	0.001	-0.62316	-0.1525517
	46	-0.2589935	0.103888	-2.49	0.013	-0.46261	-0.0553778
	47	0.5262699	0.138882	3.79	0	0.254074	0.7984654
	48	0.1351577	0.112215	1.2	0.228	-0.08478	0.3550952
	49	0.2296075	0.141529	1.62	0.105	-0.04778	0.5069997
	50	-0.1318845	0.077108	-1.71	0.087	-0.28301	0.0192442
	51	-0.142874	0.125073	-1.14	0.253	-0.38801	0.102265
	52	0.0319068	0.077006	0.41	0.679	-0.11902	0.1828366
	53	-0.4524314	0.1161	-3.9	0	-0.67998	-0.224879
COMMITTEE MEMBER							
	0	(base)					
	1	0.1642795	0.064579	2.54	0.011	0.037707	0.2908522
	2	0.2650369	0.05167	5.13	0	0.163766	0.3663074
	3	0.1553154	0.053151	2.92	0.003	0.051141	0.2594901
	4	-0.1239214	0.053089	-2.33	0.02	-0.22797	-0.0198693
	5	-0.2338111	0.071086	-3.29	0.001	-0.37314	-0.0944843
	6	-0.3272763	0.070845	-4.62	0	-0.46613	-0.1884225
	7	0.1603949	0.066212	2.42	0.015	0.030621	0.2901687
	8	-0.5663948	0.077275	-7.33	0	-0.71785	-0.414938
	9	-0.015684	0.06742	-0.23	0.816	-0.14783	0.1164569
	10	0.2591326	0.068581	3.78	0	0.124716	0.3935491
	11	-0.0638299	0.062384	-1.02	0.306	-0.1861	0.0584401
	12	0.0559334	0.078651	0.71	0.477	-0.09822	0.2100862
	13	0.186775	0.073337	2.55	0.011	0.043037	0.3305134
	14	0.56297	0.07426	7.58	0	0.417422	0.7085177
	15	-0.5859726	0.040019	-14.64	0	-0.66441	-0.507537
	16	-0.0057865	0.063415	-0.09	0.927	-0.13008	0.1185037

TOTAL CLASSES FOR THE SUBJECT							
	16	(base)					
	24	-0.3660437	0.090311	-4.05	0	-0.54305	-0.1890376
CLASS TIMING							
	OTHERS	0.5082117	0.065696	7.74	0	0.37945	0.6369737
	9:15AM	-0.318769	0.026086	-12.22	0	-0.3699	-0.2676418
	10:45AM	(empty)					
	12:15PM	0.1971302	0.027461	7.18	0	0.143308	0.2509526
	1:45PM	0.2338145	0.027436	8.52	0	0.180042	0.287587
	3:15PM	(omitted)					
FREE BUNKS REMAINING							
	0	(base)					
	1	0.7595065	0.089009	8.53	0	0.585052	0.9339615
	2	-0.1536429	0.076219	-2.02	0.044	-0.30303	-0.0042559
	3	-0.3977868	0.076973	-5.17	0	-0.54865	-0.2469227
	4	-0.3610968	0.078975	-4.57	0	-0.51589	-0.2063087
	5	-0.131545	0.082469	-1.6	0.111	-0.29318	0.0300918
BUNKS ALLOWED >= CLASS ROOM REMAINING							
	0	(base)					
	1	-0.5016613	0.041448	-12.1	0	-0.5829	-0.4204242
EVENTS		-0.163264	0.024377	-6.7	0	-0.21104	-0.1154858
CLASSES REMAINING							
	0	(base)					
	1	-1.010819	0.24429	-4.14	0	-1.48962	-0.5320187
	2	-0.80517	0.244888	-3.29	0.001	-1.28514	-0.3251975
	3	-0.783011	0.245269	-3.19	0.001	-1.26373	-0.3022921
	4	-0.7306503	0.246773	-2.96	0.003	-1.21432	-0.2469845
	5	-0.2472978	0.248715	-0.99	0.32	-0.73477	0.2401745
	6	-0.2317062	0.248436	-0.93	0.351	-0.71863	0.2552192
	7	-0.2708549	0.248505	-1.09	0.276	-0.75792	0.2162059
	8	-0.2175969	0.248685	-0.87	0.382	-0.70501	0.2698175
	9	-0.0191886	0.249451	-0.08	0.939	-0.5081	0.4697267
	10	-0.0133147	0.249777	-0.05	0.957	-0.50287	0.4762388
	11	-0.1658873	0.249239	-0.67	0.506	-0.65439	0.3226114
	12	-0.1884416	0.249507	-0.76	0.45	-0.67747	0.3005822
	13	0.0822351	0.250015	0.33	0.742	-0.40778	0.5722545
	14	0.0756125	0.250531	0.3	0.763	-0.41542	0.5666433
	15	0.1539578	0.250311	0.62	0.539	-0.33664	0.6445579
	16	0.0318787	0.250316	0.13	0.899	-0.45873	0.5224884
	17	-0.1999463	0.251981	-0.79	0.427	-0.69382	0.2939272
	18	-0.1152476	0.25312	-0.46	0.649	-0.61135	0.3808589
	19	0.0746216	0.253554	0.29	0.769	-0.42234	0.5715789
	20	-0.0815493	0.252993	-0.32	0.747	-0.57741	0.4143072
	21	0.1517191	0.255685	0.59	0.553	-0.34942	0.6528531
	22	0.3446219	0.256614	1.34	0.179	-0.15833	0.8475758
	23	0.315273	0.257893	1.22	0.222	-0.19019	0.8207344
	24	-0.0463665	0.25527	-0.18	0.856	-0.54669	0.4539536
CONSTANT		3.050351	0.274893	11.1	0	2.51157	3.589132

	21	0.1517191	0.255685	0.59	0.553	-0.34942	0.6528531
	22	0.3446219	0.256614	1.34	0.179	-0.15833	0.8475758
	23	0.315273	0.257893	1.22	0.222	-0.19019	0.8207344
	24	-0.0463665	0.25527	-0.18	0.856	-0.54669	0.4539536
CONSTANT		3.050351	0.274893	11.1	0	2.51157	3.589132

The second set of dynamics which were the focus of this study was the interaction between classroom attendance and time-of-day, day-of-week effects. It is again anecdotally understood that an efficient manner to undertake travel for students is to club a day or two off days from classes with the weekend. Both these anecdotal accounts point to students' choices while pursuing the MBA is driven by convenience. However, other anecdotal accounts accord high importance to student participation in committees and special interest groups. Students go through a fairly tough selection/ election process to get inducted into one of the 16 committees and groups. This effort is justified, in addition to student passion for the particular committee's mandate, because recruiters are known to use committee and group membership has a quick proxy for assessing student quality. Should this advantage and additional experience come at the expense of the classroom experience, it would only help the student achieve the limited objective of being offered a 'good' job on campus.

	13	0.186775	0.073337	2.55	0.011	0.043037	0.3305134
	14	0.56297	0.07426	7.58	0	0.417422	0.7085177
	15	-0.5859726	0.040019	-14.64	0	-0.66441	-0.507537
	16	-0.0057865	0.063415	-0.09	0.927	-0.13008	0.1185037
TOTAL CLASSES FOR THE SUBJECT							
	16	(base)					
	17	-0.5679528	0.076188	-7.45	0	-0.71728	-0.4186265
	20	(omitted)					
	24	-0.3660437	0.090311	-4.05	0	-0.54305	-0.1890376
CLASS TIMING							
	OTHERS	0.5082117	0.065696	7.74	0	0.37945	0.6369737
	9:15AM	-0.318769	0.026086	-12.22	0	-0.3699	-0.2676418
	10:45AM	(empty)					
	12:15PM	0.1971302	0.027461	7.18	0	0.143308	0.2509526
	1:45PM	0.2338145	0.027436	8.52	0	0.180042	0.287587
	3:15PM	(omitted)					
FREE BUNKS REMAINING							
	0	(base)					
	1	0.7595065	0.089009	8.53	0	0.585052	0.9339615
	2	-0.1536429	0.076219	-2.02	0.044	-0.30303	-0.0042559
	3	-0.3977868	0.076973	-5.17	0	-0.54865	-0.2469227
	4	-0.3610968	0.078975	-4.57	0	-0.51589	-0.2063087
	5	-0.131545	0.082469	-1.6	0.111	-0.29318	0.0300918
BUNKS ALLOWED >= CLASS ROOM REMAINING							
	0	(base)					
	1	-0.5016613	0.041448	-12.1	0	-0.5829	-0.4204242
EVENTS		-0.163264	0.024377	-6.7	0	-0.21104	-0.1154858
CLASSES REMAINING							
	0	(base)					
	1	-1.010819	0.24429	-4.14	0	-1.48962	-0.5320187
	2	-0.80517	0.244888	-3.29	0.001	-1.28514	-0.3251975
	3	-0.783011	0.245269	-3.19	0.001	-1.26373	-0.3022921
	4	-0.7306503	0.246773	-2.96	0.003	-1.21432	-0.2469845
	5	-0.2472978	0.248715	-0.99	0.32	-0.73477	0.2401745
	6	-0.2317062	0.248436	-0.93	0.351	-0.71863	0.2552192
	7	-0.2708549	0.248505	-1.09	0.276	-0.75792	0.2162059
	8	-0.2175969	0.248685	-0.87	0.382	-0.70501	0.2698175
	9	-0.0191886	0.249451	-0.08	0.939	-0.5081	0.4697267
	10	-0.0133147	0.249777	-0.05	0.957	-0.50287	0.4762388
	11	-0.1658873	0.249239	-0.67	0.506	-0.65439	0.3226114
	12	-0.1884416	0.249507	-0.76	0.45	-0.67747	0.3005822
	13	0.0822351	0.250015	0.33	0.742	-0.40778	0.5722545
	14	0.0756125	0.250531	0.3	0.763	-0.41542	0.5666433
	15	0.1539578	0.250311	0.62	0.539	-0.33664	0.6445579
	16	0.0318787	0.250316	0.13	0.899	-0.45873	0.5224884
	17	-0.1999463	0.251981	-0.79	0.427	-0.69382	0.2939272
	18	-0.1152476	0.25312	-0.46	0.649	-0.61135	0.3808589
	19	0.0746216	0.253554	0.29	0.769	-0.42234	0.5715789
	20	-0.0815493	0.252993	-0.32	0.747	-0.57741	0.4143072
	21	0.1517191	0.255685	0.59	0.553	-0.34942	0.6528531
	22	0.3446219	0.256614	1.34	0.179	-0.15833	0.8475758
	23	0.315273	0.257893	1.22	0.222	-0.19019	0.8207344
	24	-0.0463665	0.25527	-0.18	0.856	-0.54669	0.4539536
CONSTANT		3.050351	0.274893	11.1	0	2.51157	3.589132

2. Materials

MBA students undertake the core compulsory curriculum in the first year of the program. This consists of 24 core courses taught over 3 terms (each term approximately of 3 months duration). These courses span all the eight academic areas of the institution which are Information Technology and Systems, Economics, Finance Accounting and Control (FAC), Humanities & Liberal Arts in Management (HLAM), Organizational Behavior & Human Resources (OBHR), Marketing, Quantitative Methods & Operations Management (QMOM) and Strategic Management (SM). These courses are taught by 53 faculty members covering each of the six sections into which the batch is divided.

The batch of students being studied consists of 364 students. The institution has a policy of penalizing students with a 'grade drop' should their class attendance fall below 80% in that particular course. In order to implement this policy, meticulous attendance records are kept by the administrative office of the MBA program and are indeed available on the IT systems at a very granular level. The student wise, class wise attendance information yields 175,648 rows of data. Each row has the following fields – Date, Roll number of the Student, Subject code and name, professor name, Class timing, Term, and whether the student was present for that particular class or not.

To this base dataset, using various emails sent by concerned student officials, information of student membership in each of

16 committees was obtained and subsequently appended to the base dataset using the Roll number field. Similarly, the MBA handbook was used to identify the timing of various campus events and these were appended to the base dataset by using the Date field.

3. Method

We estimated a logistic regression model where the event is a particular student attending a particular class and the non-event is a particular student missing a particular class. The model we estimated is as follows:

Event (Attend Class) = f (DoW, Professor, Committee membership, Total classes in Course, Class Timing, Bunks remaining, Event, Bunks allowed Remaining, Classes Remaining) + e

The 'free' Bunks remaining, Classes remaining and differences between free bunks remaining class remaining was computed in the dataset.

4. Results

Of the sixteen committees, students belonging to 7 actually have a higher, statistically significant probability of attending classes. Student members of 5 groups have a lower, statistically significant probability of attending classes.

Of the 53 faculty members who handled classes in the first year, in 8 faculty members' classes there was a statistically significant higher level of class attendance. 30 faculty members had statistically significant lower attendance levels in their classes.

Class timings did play an important role in the attendance levels in classes. Time slots just before and just after lunch had the highest levels of attendance whereas the morning class slot had the poorest. There was a popular perception that students very diligently utilized the bunks allowed without being assessed a grade drop. Our analysis points to the contrary. Students are more likely to attend classes when there is one bunk remaining, not necessarily so when there are no remaining bunks. Students are also more likely to attend classes when they have their full quota of bunks remaining. In between, they do not attend classes more or less simply because of their bunks remaining. As expected however, when the 'free' bunks remaining are more than the number of classes remaining to go, students are less likely to attend classes. Students also are more likely to attend classes on days Tuesday to Friday as compared to a Monday. They are less likely to attend should the class be scheduled on a weekend. In line with anecdotal evidence, students are more likely to miss classes with only a few of the sessions remaining.

5. Conclusion

Our analysis of the student and scheduled class level attendance data confirms a couple of popularly held notions while revealing contrary to other popularly held notions. Allegiance to weekend and various activities that typically goes on till late at night does impact propensity to attend the morning class (9:15 AM). Mondays see attendance propensities that are lower only to classes held on Saturdays or Sundays.

One popularly held notion that is debunked is the one pertaining to membership in one of the 16 student committees/ groups. Membership in 12/ 16 student groups studied here have a statistically significant impact on the probability of attending classes. Of these membership in 7 of the groups is actually associated with higher probability of class attendance. 5/12 has a lower probability of class attendance, whereas the popular notion held was that all student group memberships came with a hard constraint on academic pursuit. Clearly there appears to be understood in this direction.

Even within minimum attendance policy in place in the institution, there appears to be significant variations in attendance levels across faculty members. Of the 53 faculty members who taught the first year students, 38 had a statistically significant difference in the probability of students attending their classes. 8/30 had a higher and the remaining had a lower probability of students attending their classes. This reveals significant heterogeneity that may be worth looking into with a view to understanding best practices. It is also possible that those with a relatively lenient grading policy may have lower student attendance probability because the actual cost of a grade drop is bearable (a 'B+' to a 'B', not a 'C-' to a 'D+'). On the other hand, they may have a higher student turnout perhaps because going hand in hand with a lenient grading policy is a more relaxed learning environment.

A significantly lower probability of attending classes is also observed toward the end of a course. This could itself be a sign that there is broad student tendency to conserve bunks in order for them to be used up in the last couple of weeks of the course. Or it may simply be students spending their time close to end-term exams to prepare for examination (this is not seen for mid-term examinations though). A similar tendency to miss classes is observed toward the fag end of courses when some students may have more 'bunks to give' than classes remaining. The immediate week prior to examination (end-term or mid-term) as well as weeks corresponding to events and festivals on campus again sees a secular trend toward lower attendance probability.