A PRELIMINARY STUDY OF CHANGING BUSINESS STUDENT
PERCEPTIONS OF INDIVIDUAL FACTORS IN ONLINE VERSUS FACE-TO-
FACE EDUCATION

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WEB APPENDIX

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Business Student Perceptions Online vs. FTF: Individual Factors

Table 1. Number of Students Online and FTF in 2012 & 2018 Surveys

# of Students	Online	FTF	Total
2012	44	67	111
2018	82	52	134
Total	126	119	245

Table 2. 2012 Student Results (Fish & Snodgrass, 2014)

Metric	Average Response		Online Response					Face-To-Face Response				
	OL	FTF	1	2	3	4	5	1	2	3	4	5
Motivation	2.34	4.04	10	11	21	2	0	0	2	15	28	22
Discipline	3.09	3.39	5	9	10	17	3	1	17	16	21	12
Self-directed	2.89	3.97	4	12	16	9	3	0	2	11	41	13
Independence	3.52	3.39	2	7	9	18	8	0	9	26	29	3
Schedule flexibility	4.20	2.67	0	3	5	16	20	7	28	15	14	3
Time investment	2.89	3.38	2	14	15	13	0	1	8	24	31	2
Cost investment	2.70	3.48	1	14	26	3	0	1	7	23	29	6
Happiness	3.36	4.21	3	3	19	13	6	0	0	12	29	26
Appropriateness OL	1.59	1.76	26	10	8	0	0	28	27	12	0	0

Table 3. Chi-Square Analysis FTF Program Factors 2012: OL vs. FTF (Fish & Snodgrass, 2014)

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation

Business Student Perceptions Online vs. FTF: Individual Factors

Motivation	59.55	4	.000 *	.703	.714
Discipline	7.908	4	.095 **	.129	.111
Self-directed	35.560	4	.000 *	.529	.524
Independence	11.064	4	.026 *	-.072	-.104
Schedule flexibility	41.893	4	.000 *	-.602	-.606
Time investment	9.386	4	.052 **	.279	.271
Cost investment	26.294	4	.000 *	.444	.464
Happiness	22.371	4	.000 *	.435	.419
Appropriateness OL	4.095	2	.129	.110	.130

* $p \leq .05$, ** $p \leq .10$

Table 4. 2018 Student Results

Metric	Average Response		Online Response					Face-To-Face Response				
	OL	FTF	1	2	3	4	5	1	2	3	4	5
Motivation	2.69	3.81	10	22	33	15	1	1	5	13	17	16
Discipline	3.33	3.50	4	11	30	28	9	0	11	14	17	10
Self-directed	3.55	3.38	4	10	22	29	17	3	9	13	19	8

Business Student Perceptions Online vs. FTF: Individual Factors

Independence	3.80	3.22	3	6	16	36	21	2	10	17	19	3
Schedule Flexibility	4.37	2.48	1	0	8	32	41	9	19	11	11	0
Time Investment	3.01	3.42	4	12	48	15	3	1	7	20	17	7
Cost Investment	2.83	3.54	3	18	51	10	0	1	5	20	17	9
Happiness?	3.70	3.75	3	6	24	29	20	2	1	17	19	12
Appropriateness	1.22	1.51	67	12	3	0	0	32	12	7	0	0

Table 5. Chi-Square Analysis FTF Program Factors 2018: OL vs. FTF

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation
Motivation	35.487	4	.000 *	.483	.480
Discipline	6.152	4	.188	.082	.070
Self-directed	1.176	4	.882	-.072	-.071
Independence	13.492	4	.009 *	-.277	-.299
Schedule flexibility	73.703	4	.000 *	-.725	-.721
Time investment	10.163	4	.038 *	.224	.223
Cost investment	27.352	4	.000 *	.399	.392
Happiness	1.929	4	.749	.024	.018
Appropriateness OL	7.136	2	.028 *	.231	.133

* $p \leq .05$, ** $p \leq .10$

Table 6. Chi-Square Analysis Online Individual Factors 2012 vs. 2018

Metric	Pearson Chi-	Df	Asymptotic Significance	Pearson's	Spearman
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Business Student Perceptions Online vs. FTF: Individual Factors

	Square Value		(2-sided)	R	Correlation
Motivation	6.930	4	.140	.178	.166
Discipline	4.994	4	.288	.107	.083
Self-directed	10.995	4	.027 *	.281	.290
Independence	2.865	4	.581	.128	.125
Schedule flexibility	6.375	4	.173	.095	.073
Time investment	10.768	4	.029 *	.071	.065
Cost investment	2.118	3	.548	.090	.103
Happiness	4.130	4	.389	.152	.159
Appropriateness OL	9.977	2	.007 *	-.279	-.262

* $p \leq .05$, ** $p \leq .10$

Table 7. Chi-Square Analysis FTF Individual Factors 2012 vs. 2018

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation
Motivation	4.241	4	.374	-.127	-.099
Discipline	1.149	4	.886	.052	.048
Self-directed	15.230	4	.004 *	-.307	-.274
Independence	3.922	4	.417	-.099	-.082
Schedule flexibility	3.554	4	.470	-.091	-.080
Time investment	5.711	4	.222	.025	.010
Cost investment	2.649	4	.618	.030	.020
Happiness	9.101	4	.059 **	-.265	-.243

Business Student Perceptions Online vs. FTF: Individual Factors

Appropriateness OL	5.279	2	.071 **	-.168	-.183
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* $p \leq .05$, ** $p \leq .10$

APPENDIX A Student Perceptions Survey

With the rise in online education, we are interested in gathering information as to student perceptions of educational methods. We would greatly appreciate you completing this anonymous form. Thank you!

Background Information:

What is your class level?	Freshman (1) Sophomore (2) Junior (3) Senior (4) Graduate (5)
Are you a transfer student to This University?	Yes (1) No (2)
What is your major?	Accounting (1) Accounting Information Systems (2) Economics (3) Entrepreneurship (4) Finance (5) International Business (6) Management (7) Marketing (8) Other (9)
Which program are you pursuing your MBA in:	Flexible (part-time evening) MBA One-Year MBA MBA in Professional Accounting
Do you have a concentration? (MBA)	Yes, I have a concentration. (1)

Business Student Perceptions Online vs. FTF: Individual Factors

	Undecided on a concentration. (2) No, I will not be completing a concentration (3)
If you are pursuing a concentration, what concentration are you pursuing?	Financial Services (1) Global Supply Chain Management (2) International Business (3) Marketing in the New Economy (4)
Are you:	Male (1) Female (2)
How old are you?	
Would you classify your technology understanding as:	<ul style="list-style-type: none"> • Do not use technology. (1) • Beginner/Novice (e.g. use Microsoft Office Powerpoint and EXCEL (or similar projection software) as part of communicating and email). (2) • Advanced Beginner (e.g. use 'some' Powerpoint (or similar projection software), some Desire2Learn features, Microsoft Office or similar to communicate). (3) • Intermediate (e.g. Use Microsoft Office Suite and other computer applications (such as SPSS, R, etc.) to communicate and program). (4) • Extensive (e.g. extensive knowledge and use of various computer software programs) (5)
Have you taken an online course at This University?	Yes (SECTION A) (1) No (SECTION B) (2)

SECTION A - AT LEAST ONE ONLINE COURSE AT THIS UNIVERSITYThis University

How many online courses have you taken:	
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Business Student Perceptions Online vs. FTF: Individual Factors

Have you taken an online course at a school other than This University?	Yes (1) No (2)
How many online courses have you taken at a school other than This University?	
Prior to taking an online course, did you take a course to prepare you for the online environment?	Yes (1) No (2)
If 'yes', was the course offered by Canisius College or the book publisher?	Canisius Book Other College (1) Publisher(2) (3)
With respect to the online courses that you have taken at This University compared to face-to-face (traditional classrooms), please rate the following responses:	
I perceive online courses to be _____ in difficulty than face-to-face courses.	(1) Significantly Easier (2) Easier (3) The Same Difficulty (4) Harder (5) Significantly Harder
I am _____ motivated in online courses than face-to-face courses.	(1) Significantly Less (2) Less (3) Equally (4) More (5) Significantly More
I _____ the interaction with other students in the online environment compared to the face-to-face course environment.	(1) Significantly Dislike (2) Dislike (3) Equate

Business Student Perceptions Online vs. FTF: Individual Factors

	<p>(4) Like</p> <p>(5) Significantly Like</p>
I ____the interaction with the instructor in the online environment compared to the face-to-face course environment.	<p>(1) Significantly Dislike</p> <p>(2) Dislike</p> <p>(3) Equate</p> <p>(4) Like</p> <p>(5) Significantly Like</p>
I find the discipline required in taking online courses to be ____ than in face-to-face courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
I find its' ____to cheat in the online environment than in face-to-face courses.	<p>(1) Significantly Easier</p> <p>(2) Easier</p> <p>(3) The Same</p> <p>(4) Harder</p> <p>(5) Significantly Harder</p>
I enjoy the self-directed online learning environment__than the interaction in face-to-face courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
I enjoy the independence associated with the online learning environment____than the interaction in face-to-face courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p>

Business Student Perceptions Online vs. FTF: Individual Factors

	<p>(4) More</p> <p>(5) Significantly More</p>
I enjoy the schedule flexibility associated with the online learning environment_____than the interaction in face-to-face courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
I find online courses require_____time investment in the course than face-to-face courses	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
I find online courses total costs are _____than face-to-face courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
In the online environment, I feel these activities <u>increase</u> my understanding of the course material. (Circle all that apply)	<p>(1) Additional Readings (Not including textbook)</p> <p>(2) Assignments/Homework</p> <p>(3) Course Surveys</p> <p>(4) Discussion boards</p> <p>(5) In-class sessions (live sessions)</p> <p>(6) Instructor chat</p> <p>(7) Instructor (live or taped) lectures</p>

	<p>(8) Instructor Office Hours</p> <p>(9) Instructor Posted Notes</p> <p>(10) Laboratory/ experiential activities</p> <p>(11) Other students</p> <p>(12) Problem Hints & Scaffolding Examples</p> <p>(13) Textbook</p> <p>(14) Video of Relevant Course Material (not instructor-lead)</p> <p>(15) Other_____</p>
<p>In the online environment, I feel these activities <u>decrease</u> my understanding of the course material. (Circle all that apply)</p>	<p>(1) Additional Readings (Not including textbook)</p> <p>(2) Assignments/Homework</p> <p>(3) Course Surveys</p> <p>(4) Discussion boards</p> <p>(5) In-class sessions (live sessions)</p> <p>(6) Instructor chat</p> <p>(7) Instructor (live or taped) lectures</p> <p>(8) Instructor Office Hours</p> <p>(9) Instructor Posted Notes</p> <p>(10) Laboratory/ experiential activities</p> <p>(11) Other students</p>

Business Student Perceptions Online vs. FTF: Individual Factors

	<p>(12) Problem Hints & Scaffolding</p> <p>Examples</p> <p>(13) Textbook</p> <p>(14) Video of Relevant Course</p> <p>Material (not instructor-lead)</p> <p>(15) Other_____</p>
Would you prefer to take the class in a traditional face-to-face environment?	Yes (1) Undecided(2) No (3)
I am ____with the online course environment for learning.	<p>(1) Not very happy</p> <p>(2) Not happy</p> <p>(3) Okay</p> <p>(4) Happy</p> <p>(5) Very happy</p>
Given this institution, do you think online courses are appropriate?	Yes (1) Undecided(2) No (3)
Why did you choose to take the course online?	

Thank you for your time! It is greatly appreciated.

SECTION B - NEVER TAKEN AN ONLINE COURSE AT THIS UNIVERSITY.

<p>With respect to the face-to-face (traditional) courses that you have taken at This University compared to your perception of online courses, please rate the following responses:</p>	
<p>I perceive face-to-face courses to be _____ in difficulty than online courses.</p>	<p>(1) Significantly Easier (2) Easier (3) The Same Difficulty (4) Harder (5) Significantly Harder</p>
<p>I perceive that I would be _____ motivated in face-to-face courses than online courses.</p>	<p>(1) Significantly Less (2) Less (3) Equally (4) More (5) Significantly More</p>
<p>I perceive the interaction with other students in the face-to-face environment to be _____ compared to the online course environment.</p>	<p>(1) Significantly Worse (2) Worse (3) Equal (4) Better (5) Significantly Better</p>
<p>I perceive the interaction with the instructor and students in the face-to-face environment to be _____ compared to the online course environment.</p>	<p>(1) Significantly Worse (2) Worse (3) Equal (4) Better (5) Significantly Better</p>

Business Student Perceptions Online vs. FTF: Individual Factors

I perceive the discipline required in taking face-to-face courses to be ____ than in online courses.	(1) Significantly Less (2) Less (3) The Same (4) More (5) Significantly More
I perceive that it would be ____ to cheat in the face-to-face environment than in online courses.	(1) Significantly Easier (2) Easier (3) The Same (4) Harder (5) Significantly Harder
I believe that I would enjoy the self-directed face-to-face learning environment ____ than the interaction in online courses.	(1) Significantly Less (2) Less (3) The Same (4) More (5) Significantly More
I believe that I would enjoy the independence associated with the face-to-face learning environment ____ than the interaction in online courses.	(1) Significantly Less (2) Less (3) The Same (4) More (5) Significantly More
I believe that I would enjoy the schedule flexibility associated with the face-to-face learning environment ____ than in online courses.	(1) Significantly Less (2) Less (3) The Same (4) More (5) Significantly More

Business Student Perceptions Online vs. FTF: Individual Factors

I believe that face-to-face courses require ____ time investment in the course than online courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
I believe face-to-face courses total costs are ____ than online courses.	<p>(1) Significantly Less</p> <p>(2) Less</p> <p>(3) The Same</p> <p>(4) More</p> <p>(5) Significantly More</p>
In the face-to-face environment, I feel these activities increase my understanding of the course material. (Circle all that apply)	<p>(1) Additional Readings (Not including textbook)</p> <p>(2) Assignments/Homework</p> <p>(3) Course Surveys</p> <p>(4) Discussion boards</p> <p>(5) In-class sessions (live sessions)</p> <p>(6) Instructor chat</p> <p>(7) Instructor (live or taped) lectures</p> <p>(8) Instructor Office Hours</p> <p>(9) Instructor Posted Notes</p> <p>(10) Laboratory/ experiential activities</p> <p>(11) Other students</p> <p>(12) Problem Hints & Scaffolding Examples</p>

Business Student Perceptions Online vs. FTF: Individual Factors

	<p>(13) Textbook</p> <p>(14) Video of Relevant Course Material (not instructor-lead)</p> <p>(15) Other_____</p>
<p>In the online environment, I feel these activities decrease my understanding of the course material. (Circle all that apply)</p>	<p>(1) Additional Readings (Not including textbook)</p> <p>(2) Assignments/Homework</p> <p>(3) Course Surveys</p> <p>(4) Discussion boards</p> <p>(5) In-class sessions (live sessions)</p> <p>(6) Instructor chat</p> <p>(7) Instructor (live or taped) lectures</p> <p>(8) Instructor Office Hours</p> <p>(9) Instructor Posted Notes</p> <p>(10) Laboratory/ experiential activities</p> <p>(11) Other students</p> <p>(12) Problem Hints & Scaffolding Examples</p> <p>(13) Textbook</p> <p>(14) Video of Relevant Course Material (not instructor-lead)</p> <p>(15) Other_____</p>

Business Student Perceptions Online vs. FTF: Individual Factors

Would you prefer to take the class in an online environment?	Yes (1) Undecided(2) No (3)
If 'no', why not?	
I am ____with the face-to-face environment for learning.	(1) Not very happy (2) Not happy (3) Okay (4) Happy (5) Very happy
Given this institution, do you think online courses are appropriate?	Yes (1) Undecided(2) No (3)
Have you taken an online course at a school other than This University?	Yes (1) No (2)

Thank you for your time! It is greatly appreciated.