

Examining Service Excellence in Higher Education for Adult Learners: A Text-mining Analysis

Lee Yew Haur, Guan Chong and Chia
Allan



Introduction – Background and Motivation

- Higher education is increasingly embraced by adult learners
 - In the US, 38% of college student enrolment - 25 yrs of age or older (NCES, 2007)
 - In Australia, Canada, UK, Norway, Sweden, and Israel
 - adult learners - 30% or more of the total tertiary enrolments (Kasworm, 2011).
 - In the current research, we define the adult learners in higher education by chronological age and additional factors such as delayed university enrollment, part-time attendance, working experience or full-time employment while enrolled, and financial independence (Choy, 2002).

Introduction – Background and Motivation

- Higher education for adult learners has attracted the attention of researchers
 - Previous studies on adult education can be classified into two broad categories:
 - how adults learn and
 - the characteristics of adult learners
 - However, many studies do not differentiate adult higher education from workforce development/ training programmes
 - Most studies were conducted in Western countries (Kasworm, 2011; Kasworm, 2012).
 - In Asia, initial attempts in adult education research primarily focus on imparting basic literacy skills (Singh, 2002).
- Adult learners' perceptions of higher education learning services have not been well investigated, particularly in Asian developed countries like Singapore.

Introduction – Background and Motivation

- Competition in adult learning degree programmes among institutions has increased dramatically
 - Increased number of local adult learning degree programmes
 - The proliferation of online distance learning
- Institutions strive toward a market-orientation to enhance their competitive edge (Grigg, 1994).
- In order to attract more qualified applicants, institutions must understand the perceptions and service needs of adult students in order to better attract and serve them.

Introduction – Background and Motivation

- A better understanding of the service needs enable higher education institutions to improve on the different aspects of student experience.
- This is important because
 - Student experience can play an essential role in shaping their choice in the institutions, their intention to complete the programme, as well as the decision to recommend it to others.

Introduction – Background and Motivation

- This study is one of the first empirical investigations on adult learners' perceptions of service encounter and service needs within the higher education sector in Singapore.
- The practical implications include
 - strategic planning and
 - raising service standards at the various touchpoints

Literature Review

Adult Learning Theories

- Provide insight into ways in which institutions can cater student services and course delivery formats to accommodate the needs of adult learners
- According to Knowles(1980), adults are assumed to
 - (a) prefer self-directed learning,
 - (b) bring experience to learning activities,
 - (c) are responsible for their decisions on education,
 - (d) exhibit an orientation to learning that is task- or problem-centered, and
 - (e) exhibit a relatively high degree of internal motivation

Literature Review

Research on Adult Learners in Traditional Face-to-Face Setting

- Ross-Gordon's work (2003) focuses on the needs of adult students, including their preferences for active learning strategies that support cognitive growth and transformational learning, and their desires for immediate application of knowledge and opportunities for self-directed learning.

Adult Learners in Distance Education

- Institutions can play an important role in creating supportive learning environments for adult learners both by incorporating theory and research on adult learners into their own classrooms and by advocating for adult-oriented services on their campuses (Blair, 2010).

Literature Review

Research Framework

- Cadotte, Woodruff & Jenkins (1987) suggests that the students compare their experiences with a set of expectations.
- Adult students have different expectations abilities and motivations.
- On the other hand, the university staff also forms some idea of the expectations that the students bring and how these are being fulfilled.
- Potential gaps that relate to expected and experienced service should have a significant impact on the service evaluation.
- Satisfaction occurs when outcome meets or exceeds the student's expectations.
- Dissatisfaction occurs when a negative discrepancy is present between the student's anticipated outcome and the actual outcome.

Literature Review

- In sum, higher education institutions have been actively involved in creating programmes and services that are responsive to adult learners' learning preferences.
- For institutions in Asia, this effort is more recent. Yet much can be learned from existing programme's experiences with various methods of adult learning.
- Prior research on students' choice of universities by Woodruff, Cadotte & Jenkins (1983) and Cadotte, Woodruff and Jenkins (1987) suggests that the students compare their experiences with a set of expectations.
 - Potential discrepancy between the service needs and experienced service may have a significant impact on the service evaluation.

Literature Review

The Gaps Model of Service Quality

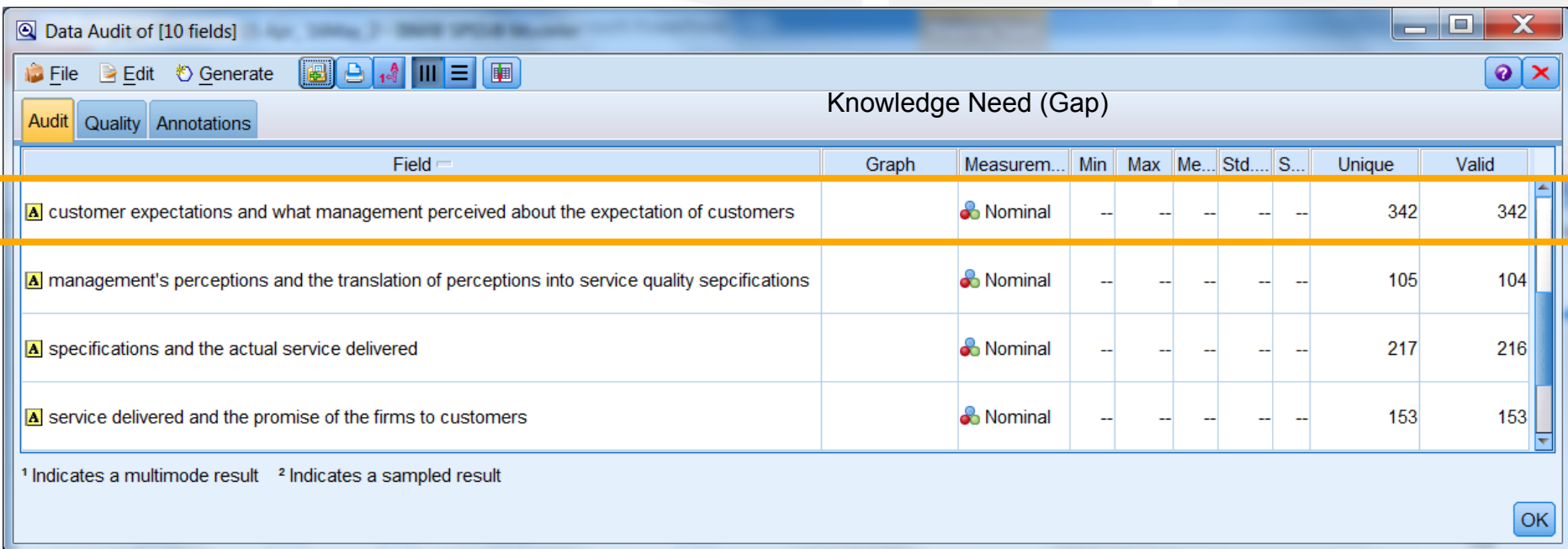
- The GAPS Model of Service Quality (Zeithaml, Parasuraman, & Berry, 1990) provides a framework for an organization to assess and audit all the factors that influence service quality in an organization.
- The GAPS Model examines four gaps which occur within the organization that reveal a discrepancy between the service provider's performance and the customer's expectations.

Literature Review









- (1) **Knowledge Gap** - this gap usually arises because of the organisation's lack of a good understanding about how customers formulate their expectations.
- (2) **Standards Gap** - refers to the failure to translate managers' perceptions of the customers' expectations into quality standards established for service delivery.
- (3) **Delivery Gap** is the difference between the specified delivery standards and the organisation's actual performance.
- (4) **Communications Gap** which refers to the difference between what the organisation communicates and what is actually delivered to the customer.

Text Collection Used

The text collection comes from 472 students from a part-time undergraduate-level course from a major university in Singapore. They were asked to elaborate in writing on two service needs (gaps) they've encountered in their adult learning experience within the university.



The screenshot shows the 'Data Audit of [10 fields]' window. The title bar includes standard window controls. The menu bar contains 'File', 'Edit', and 'Generate'. Below the menu bar is a toolbar with various icons. The main area is titled 'Knowledge Need (Gap)' and contains a table with the following columns: 'Field', 'Graph', 'Measurem...', 'Min', 'Max', 'Me...', 'Std...', 'S...', 'Unique', and 'Valid'. The table lists four service needs (gaps) with their corresponding counts and measurement types. The first row is highlighted with an orange border.

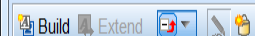
Field	Graph	Measurem...	Min	Max	Me...	Std...	S...	Unique	Valid
 customer expectations and what management perceived about the expectation of customers		 Nominal	--	--	--	--	--	342	342
 management's perceptions and the translation of perceptions into service quality sepcifications		 Nominal	--	--	--	--	--	105	104
 specifications and the actual service delivered		 Nominal	--	--	--	--	--	217	216
 service delivered and the promise of the firms to customers		 Nominal	--	--	--	--	--	153	153

¹ Indicates a multimode result ² Indicates a sampled result

OK

What is the objective of text mining?

To categorise the free-format text into distinct and actionable categories using IBM SPSS Modeller through the use of concepts(key words)



Category	Descriptors	Docs
All Documents		342
Uncategorized		
No concepts extracted		

Concept	In	Global	Docs	Type
students		1,303 (9%)	313 (92%)	<Unknown>
unisim		741 (5%)	290 (85%)	<Unknown>
gap		255 (2%)	170 (50%)	<Unknown>
management		274 (2%)	188 (49%)	<Unknown>
better		229 (2%)	147 (43%)	<Contextual>
modules		354 (2%)	141 (41%)	<Features>
management perception		143 (1%)	115 (34%)	<Unknown>
courses		195 (1%)	98 (29%)	<Unknown>
consumer expectation		114 (1%)	95 (28%)	<Unknown>
problem		133 (1%)	93 (27%)	<Negative>
accurate		105 (1%)	92 (27%)	<Positive>
less		126 (1%)	90 (26%)	<Contextual>
customer		163 (1%)	89 (26%)	<Customer>
lecturers		161 (1%)	86 (25%)	<Unknown>
classes		141 (1%)	82 (24%)	<Unknown>
flexible		123 (1%)	80 (23%)	<Positive>
time		106 (1%)	79 (23%)	<Unknown>
school		125 (1%)	78 (23%)	<Unknown>
consumers		144 (1%)	76 (22%)	<Unknown>
lessons		151 (1%)	74 (22%)	<Unknown>



Text (313)

The management of UniSIM may not be able to see what its existing members and students want. For example for the current Electronic Course Registration (eCR), students were given a specific time frame to complete this exercise from 11 October 2011 1400 hours to 24 October 2011 2359 hours. Once the deadline is over, students were not able to register for their course for the upcoming semester. They would need to pay for an amount of SGD\$53.70 for a course deferment fee. This would mean they are unable to study for the next semester. In addition, it could be time consuming and creates much hassle for students to do the exercise. This is due to the fact that most students are occupied with work on weekdays (mostly working hours are from 8.30am to 6pm) and they might need to work over time during peak periods. By implementing an eCR, it does not permit students to have sufficient time to complete this exercise. Furthermore, to do a course registration, students have to analyze the course time table and exam schedule in detail in order to avoid clashes of any modules selected. It certainly would take up extra time from students. It is known to students that having an eCR, UniSIM's management wanted students to have the flexibility to choose their own class schedules. However, students may not prefer the idea of having a course registration exercise. The management could consider scrapping off this course registration exercise as it took up much time in analyzing the class schedules and exam time tables. The management could consider of having a fixed time table for students. For example, for all year one students they could take a specific number of courses for level one course and likewise for year two students and so on. However, students could also choose whether they want to take how many courses per semester.

1

2

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14

15

Text Preview

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Synonyms – to tackle spelling errors and similar concepts

UniSIM template ver1 2 Feb 2015 Faezah Abdullah

- Local Library
 - NewType(0)
 - Gap Terminology(6)
 - ucore(13)
 - Transportation(64)
- Opinions Library (English)
- Budget Library (English)
- Core Library (English)
- Variations Library (English)
- Slang Library (English)
- Emoticon Library (English)
- UniSIMInstructorImprovement
 - Technology competence(10)
 - pre-requisite knowledge(22)
 - study related(102)
 - teaching aids(24)
 - Assessment(51)
 - voice related(55)
 - time related(80)
 - teaching material(45)
 - system related(18)
 - example related(51)
 - attire(1)
 - pace related(21)
 - teaching related(190)
 - just reading off(33)
 - e-related(38)
 - content(143)
 - Action(213)
 - Personalization(17)
 - Empathy(24)
 - Measurement(12)

Resources

Term	Match	Inflect	Type	Library
road	Entire Term		Transportation	Local Library
road traffic	Entire Term		Transportation	Local Library
students driving to class	Entire Term		Transportation	Local Library
students find travelling	Entire Term		Transportation	Local Library
students to take public transport	Entire Term		Transportation	Local Library
students to travel	Entire Term		Transportation	Local Library
term of transportation	Entire Term		Transportation	Local Library
vehicles to enter	Entire Term		Transportation	Local Library
vehicle	Entire Term		Transportation	Local Library
walking distance to the mrt stations	Entire Term		Transportation	Local Library
driving to campus	Entire Term		Transportation	Local Library
driving	Entire Term		Transportation	Local Library
drivers	Entire Term		Transportation	Local Library
drive to campus	Entire Term		Transportation	Local Library
dover station	Entire Term		Transportation	Local Library
dover mrt station	Entire Term		Transportation	Local Library
travelling from office to the classroom	Entire Term		Transportation	Local Library
transport facility	Entire Term		Transportation	Local Library
transport	Entire Term		Transportation	Local Library
travelling to the campus	Entire Term		Transportation	Local Library
travelling from office	Entire Term		Transportation	Local Library
travelling distance	Entire Term		Transportation	Local Library
travelling	Entire Term		Transportation	Local Library
travellers	Entire Term		Transportation	Local Library
traveling time	Entire Term		Transportation	Local Library
traveling distance from their company	Entire Term		Transportation	Local Library
travel to schools	Entire Term		Transportation	Local Library
travel time	Entire Term		Transportation	Local Library
travel from clementi mrt	Entire Term		Transportation	Local Library
travel	Entire Term		Transportation	Local Library
transportation	Entire Term		Transportation	Local Library
train station	Entire Term		Transportation	Local Library

	Exclude List	Library
0		
1	students	Local Library
2	unism	Local Library
3	feel	Local Library
4	do	Local Library
5	sleepy subjects	Local Library
6	travel	Local Library
7	reach home	Local Library
8	family	Local Library
9	time to travel to	Local Library
10	aristotle	Local Library
11	pap	Local Library
12	wake up	Local Library
13	walk to the bus	Local Library
14	eco	Local Library
15	eco21e	Local Library
16	nora mostly read	Local Library
17	decision to join s	Local Library
18	eco21	Local Library
19	elections	Local Library
20	sdp	Local Library
21	soc	Local Library
22	com253e	Local Library
23	dr unism	Local Library
24	jee	Local Library
25	jennifer ang	Local Library
26	dr teng	Local Library
27	dr sim	Local Library
28	singapore	Local Library
29	mwahahah	Local Library
30	nicolas chan	Local Library
31	ngee	Local Library
32	sean zhuang	Local Library
33	yanking instructo	Local Library
34	acc23	Local Library
35	acc21	Local Library
36	01:00:00 p.m.	Local Library
37	75%	Local Library
38	5%	Local Library
39	45minutes	Local Library
40	3hours	Local Library
41	3hour	Local Library
42	3 weeks	Local Library
43	3 hrs	Local Library
44	2%	Local Library
45	2 years	Local Library
46	2 hours	Local Library
47	1hour	Local Library
48	18 hours	Local Library
49	1.5hour	Local Library
50	1% component	Local Library
51	1 week	Local Library

	Target	Synonyms	Library
0			
1	public bus services	public busses	Local Library
2	shuttle services	shuttle vehicle, shuttle bus service, shutter bus, charter service, render shuttle services, operating shuttle services	Local Library
3	university core curriculum	university core lessons	Local Library
4	university core	ucore	Local Library
5	university core courses	ucore course	Local Library
6	location of the classes	location of the classrooms	Local Library
7	ucore lessons	ucore sessions	Local Library
8	student	consumer, customers	Local Library
9	incompetent	imcompetent, incompetet, incompetant, incompetent, incompetance, incompetant,	Opinions Library (English)

Exclude List – to remove redundant concepts

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Target	Synonyms	Library
public bus services	public busses	Local Library
shuttle services	shuttle vehicle, shuttle bus service, shutter bus, charter service, render shuttle services, operating shuttle services	Local Library
university core curriculum	university core lessons	Local Library
university core	ucore	Local Library
university core courses	ucore course	Local Library
location of the classes	location of the classrooms	Local Library
ucore lessons	ucore sessions	Local Library
student	consumer, customers	Local Library
incompetent	imcompetent, incmpetent, incompentant, incompentent, incompetence, incompetant,	Opinions Library (English)

Synonyms Optional Elements

8 Libraries

59 Types

14475 Terms

32 (103) Excludes

1526 Synonyms

27 Optional

Exclude List	Library
students	Local Library
unisim	Local Library
feel	Local Library
do	Local Library
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18 hours	Local Library
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1 week	Local Library

Defining concepts and their respective types for extraction -

<Transportation> type

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Synonyms Optional Elements

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 - content(143)
 - Action(213)
 - Personalization(17)
 - Empathy(24)
 - Measurement(12)

Term	Match	Inflect	Type	Library
opportunity to complete the university core subjects	Entire Term		ucore	Local Library
attendances of university core course	Entire Term		ucore	Local Library
plan ucore lessons	Entire Term		ucore	Local Library
university core courses	Entire Term		ucore	Local Library
university core	Entire Term		ucore	Local Library
ucore to benefit	Entire Term		ucore	Local Library
ucore sessions	Entire Term		ucore	Local Library
ucore lessons	Entire Term		ucore	Local Library
ucore curriculum	Entire Term		ucore	Local Library
ucore course covers	Entire Term		ucore	Local Library
ucore course	Entire Term		ucore	Local Library
ucore assessment	Entire Term		ucore	Local Library
ucore	Entire Term		ucore	Local Library

Defining concepts and their respective types for extraction -<ucore> type

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incompetent	incompetent, incompetet, incompetant, incompetent, incompetence, incompetant,	Opinions Library (English)

Exclude List	Library
students	Local Library
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reach home	Local Library
family	Local Library
time to travel to c	Local Library
aristotle	Local Library
pap	Local Library
wake up	Local Library
walk to the bus	Local Library
eco	Local Library
eco21e	Local Library
nora mostly read	Local Library
decision to join s	Local Library
eco21	Local Library
elections	Local Library
sdp	Local Library
soc	Local Library
com253e	Local Library
dr unism	Local Library
jee	Local Library
jennifer ang	Local Library
dr teng	Local Library
dr sim	Local Library
singapore	Local Library
mwahahah	Local Library
nicolas chan	Local Library
ngee	Local Library
sean zhuang	Local Library
yanking instructo	Local Library
acc23	Local Library
acc21	Local Library
01:00:00 p.m.	Local Library
75%	Local Library
5%	Local Library
45minutes	Local Library
3hours	Local Library
3hour	Local Library
3 weeks	Local Library
3 hrs	Local Library
2%	Local Library
2 years	Local Library
2 hours	Local Library
1hour	Local Library
18 hours	Local Library
1.5hour	Local Library
1% component	Local Library
1 week	Local Library

Defining concepts and their respective types for extraction -

<Carpark type>

Resource Editor

Library Resources Advanced Resources Text Link Rules

UniSIM template ver1 2 Feb 2015 Faezah Abdullah

- Local Library
 - NewType(0)
 - Gap Terminology(6)
 - ucore(13)
 - Transportation(64)
- Opinions Library (English)
- Budget Library (English)
- Core Library (English)
 - Person(50)
 - Product(1)
 - Location(12)
 - Organization(39)
 - Unknown(4)
 - carpark(28)
- Variations Library (English)
- Slang Library (English)
- Emoticon Library (English)
- UniSIMInstructorImprovement
 - Technology competence(10)
 - pre-requisite knowledge(22)
 - study related(102)
 - teaching aids(24)
 - Assessment(51)
 - voice related(55)
 - time related(80)
 - teaching material(45)
 - system related(18)
 - example related(51)
 - attire(1)
 - pace related(21)
 - teaching related(190)
 - just reading off(33)
 - e-related(38)
 - content(143)

Term	Match	Inflect	Type	Library
basement fees	Entire Term		carpark	Core Library (English)
basement car parks	Entire Term		carpark	Core Library (English)
students to park	Entire Term		carpark	Core Library (English)
entry to basement car park	Entire Term		carpark	Core Library (English)
demands of carpark space	Entire Term		carpark	Core Library (English)
parking space	Entire Term		carpark	Core Library (English)
parking slots	Entire Term		carpark	Core Library (English)
parking rates	Entire Term		carpark	Core Library (English)
parking lots	Entire Term		carpark	Core Library (English)
parking facilities	Entire Term		carpark	Core Library (English)
parking concession	Entire Term		carpark	Core Library (English)
parking charges9	Entire Term		carpark	Core Library (English)
parking charges	Entire Term		carpark	Core Library (English)
parking amenities	Entire Term		carpark	Core Library (English)
parking	Entire Term		carpark	Core Library (English)
park	Entire Term		carpark	Core Library (English)
hourly rate	Entire Term		carpark	Core Library (English)
hourly car park fee	Entire Term		carpark	Core Library (English)
finding car pack space	Entire Term		carpark	Core Library (English)
finding car	Entire Term		carpark	Core Library (English)
entry to basement car	Entire Term		carpark	Core Library (English)
entry parking charge	Entire Term		carpark	Core Library (English)
entry charges	Entire Term		carpark	Core Library (English)
carpark charges	Entire Term		carpark	Core Library (English)
carpark	Entire Term		carpark	Core Library (English)
car park woes	Entire Term		carpark	Core Library (English)
car park space	Entire Term		carpark	Core Library (English)
car park facilities	Entire Term		carpark	Core Library (English)

	Exclude List	Library
0		
1	students	Local Library
2	unisim	Local Library
3	feel	Local Library
4	do	Local Library
5	sleepy subjects	Local Library
6	travel	Local Library
7	reach home	Local Library
8	family	Local Library
9	time to travel to	Local Library
10	aristotle	Local Library
11	pap	Local Library
12	wake up	Local Library
13	walk to the bus	Local Library
14	eco	Local Library
15	eco21e	Local Library
16	nora mostly read	Local Library
17	decision to join s	Local Library
18	eco21	Local Library
19	elections	Local Library
20	sdp	Local Library
21	soc	Local Library
22	com253e	Local Library
23	dr unisim	Local Library
24	jee	Local Library
25	jennifer ang	Local Library
26	dr teng	Local Library
27	dr sim	Local Library
28	singapore	Local Library
29	mwahahah	Local Library
30	nicolas chan	Local Library
31	ngee	Local Library
32	sean zhuang	Local Library
33	yanking instructo	Local Library
34	acc23	Local Library
35	acc21	Local Library
36	01:00:00 p.m.	Local Library
37	75%	Local Library
38	5%	Local Library
39	45minutes	Local Library
40	3hours	Local Library
41	3hour	Local Library
42	3 weeks	Local Library
43	3 hrs	Local Library
44	2%	Local Library
45	2 years	Local Library
46	2 hours	Local Library
47	1hour	Local Library
48	18 hours	Local Library
49	1.5hour	Local Library
50	1% component	Local Library
51	1 week	Local Library

	Target	Synonyms	Library
0			
1	public bus services	public busses	Local Library
2	shuttle services	shuttle vehicle, shuttle bus service, shutter bus, charter service, render shuttle services, operating shuttle services	Local Library
3	university core curriculum	university core lessons	Local Library
4	university core	ucore	Local Library
5	university core courses	ucore course	Local Library
6	location of the classes	location of the classrooms	Local Library
7	ucore lessons	ucore sessions	Local Library
8	student	consumer, customers	Local Library
9	incompetent	imcompetent, incompetet, incompetant, incompetent, incompetence, incompetant,	Opinions Library (English)

Synonyms Optional Elements

8 Libraries

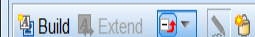
59 Types

14475 Terms

32 (103) Excludes

1526 Synonyms

27 Optional



Score Display

Category	Descriptors	Docs
All Documents		342
Uncategorized		
No concepts extracted		

After customising the Resource Editor

Extract

Map Display

4,293 concepts

Concept

Concept	In	Global	Docs	Type
students		1,303 (9%)	313 (92%)	<Unknown>
unisim		741 (5%)	290 (85%)	<Unknown>
gap		255 (2%)	170 (50%)	<Unknown>
management		274 (2%)	168 (49%)	<Unknown>
better		229 (2%)	147 (43%)	<Contextual>
modules		354 (2%)	141 (41%)	<Features>
management perception		143 (1%)	115 (34%)	<Unknown>
courses		195 (1%)	98 (29%)	<Unknown>
consumer expectation		114 (1%)	95 (28%)	<Unknown>
problem		133 (1%)	93 (27%)	<Negative>
accurate		105 (1%)	92 (27%)	<Positive>
less		126 (1%)	90 (26%)	<Contextual>
customer		163 (1%)	89 (26%)	<Customer>
lecturers		161 (1%)	86 (25%)	<Unknown>
classes		141 (1%)	82 (24%)	<Unknown>
flexible		123 (1%)	80 (23%)	<Positive>
time		106 (1%)	79 (23%)	<Unknown>
school		125 (1%)	78 (23%)	<Unknown>
consumers		144 (1%)	76 (22%)	<Unknown>
lessons		151 (1%)	74 (22%)	<Unknown>



Text (313)	Categories	Text Preview
1	The management of UniSIM may not be able to see what its existing members and students want. For example for the current Electronic Course Registration (eCR), students were given a specific time fram...	The management of UniSIM may not be able to see what its existing members and students want. For example for the current Electronic Course Registration (eCR) , students were given a specific time frame to complete this exercise from 11 October 2011 1400 hours to 24 October 2011 2359 hours. Once the deadline is over, students were not able to register for their course for the upcoming semester. They would need to pay for an amount of SGD\$53.70 for a course deferment fee . This would mean they are unable to study for the next semester. In addition, it could be time consuming and creates much hassle for students to do the exercise. This is due to the fact that most students are occupied with work on weekdays (mostly working hours are from 8.30am to 6pm) and they might need to work over time during peak periods. By implementing an eCR, it does not permit students to have sufficient time to complete this exercise. Furthermore, to do a course registration , students have to analyze the course time table and exam schedule in detail in order to avoid clashes of any modules selected . It certainly would take up extra time from students . It is known to students that having an eCR, UniSIM's management wanted students to have the flexibility to choose their own class schedules. However, students may not prefer the idea of having a course registration exercise . The management could consider scrapping off this course registration exercise as it took up much time in analyzing the class schedules and exam time tables. The management could consider of having a fixed time table for students . For example, for all year one students they could take a specific number of courses for level one course and likewise for year two students and so on. However, students could also choose whether they want to take how many courses per semester.
2	UniSIM has been emphasizing greatly on self-learning for working adults by promoting e-learning blended modules with only 3 face-to-face sessions, and maybe converting them into full e-learning basis...	
3	UniSIM students are all working adults and they opt to study at UniSIM as it is approved by Ministry of Education to award Singapore degrees and the structure of the programmes are promised to provid...	
	Potential students and the public may perceive that the degree programmes offers by UniSIM are part-time degree programmes . The	

Extract

Map Display

3,683 concepts

Concept

Concept	In	Global	Docs	Type
more	fx	463 (3%)	230 (67%)	<Negative>
management		334 (2%)	193 (56%)	<Gap Terminology>
gap		258 (2%)	172 (50%)	<Gap Terminology>
course		412 (3%)	164 (48%)	<study related>
expectation		193 (1%)	130 (38%)	<Contextual>
better		172 (1%)	122 (36%)	<Contextual>
management perception		146 (1%)	117 (34%)	<Gap Terminology>
school		231 (2%)	111 (32%)	<Organization>
instructor		204 (1%)	106 (31%)	<Person>
courses		161 (1%)	100 (29%)	<study related>
problem		134 (1%)	94 (27%)	<Negative>
accurate		105 (1%)	92 (27%)	<Positive>
less	fx	126 (1%)	90 (26%)	<Contextual>
classes		142 (1%)	83 (24%)	<study related>
provide		101 (1%)	82 (24%)	<Action>
work		129 (1%)	80 (23%)	<Contextual>
flexible		123 (1%)	80 (23%)	<Positive>
working adults		106 (1%)	77 (23%)	<Empathy>
time		104 (1%)	77 (23%)	<time related>
face to face sessions		144 (1%)	76 (22%)	<study related>
lessons		143 (1%)	74 (22%)	<teaching related>
learning		107 (1%)	69 (20%)	<Action>
understand		82 (1%)	66 (19%)	<study related>
studies		87 (1%)	62 (18%)	<study related>
semester		93 (1%)	62 (18%)	<study related>
before		81 (1%)	62 (18%)	<time related>

5 (5) Categories

Preliminary Categories

Interactive Workbench - Text

File Edit View Generate Categories Tools Help

Build Extend Score Display

Category	Descriptors	Docs
All Documents	-	342
Uncategorized	-	303
No concepts extracted	-	0
<carpark>	2	9
fx (parking charges) & (remove less free)		3
fx (parking facilities parking carpark) & (not sufficient more)		9
Credit Units	1	13
fx credit units credit exemptions credit units per semester credit u		13
<ucore>	1	9
<ucore>		9
Duration	1	7
fx duration of the degree courses time to finish the degree time to co		7
shuttle services	1	8
shuttle services		8

Target	Synonyms	Library
shuttle services	shuttle vehicle, shuttle bus service, shutter bus, charter service, render shuttle services, operating shuttle services	Local Library

Text Preview

The gap between consumer perception versus the management perception ; When UniSim may think that providing more car park lots would make it more convenient for those students driving to class, but in my opinion, maybe providing a shuttle service with nominal charge from the nearby train stations to UniSim at time slots before the commencement of classes would help in getting students to school on time as public bus services has a long interval waiting time and often crowded just before the night classes commence, since now that most classes has shifted to be held in the new wing of UniSim headquarters.

Text Preview

The school think the lesson start 7pm should enough for student to travel, but for the student why there is no shuttle bus service. There is more and more people attending courses in UniSim, and every evening the bus stop will be crowded travel from Clementi MRT to the school. There is many people waiting for the services, not only the student, also the member of public who is travelling home at the period of time. The school can call for shuttle bus service caters for the student attending the evening class. It should lot of shuttle bus services in between the interval, so the waiting hours is not long, and minimize the crowd waiting for the services.

Text Preview

This knowledge gap is known as the gap between customer expectation and management perception. (Sara, 2009) It arises due to the lack of understanding between customers' expectation and management perception. From what I have observed, waiting for buses to arrive has been a worry for students. With other working adults and passengers on board, the space is limited. As a result, students have to wait for other buses which can take a few minutes to arrive. This could disrupt their lessons as they could not reach school on time. This is evident by the increase in the number of students voicing their discomfort in waiting for a few buses to reach the school and some were even late for lessons. Thus, I propose UNISIM to render charter service for its student. By rendering this service, UNISIM could select charter service at Clementi mrt station to chauffeur the students to school. By doing so, this helps to alleviate the problem of students waiting for bus.

Preliminary Categories

Interactive Workbench - Text

File Edit View Generate Categories Tools Help

Build Extend

Category	Descriptors	Docs	Score	Display
All Documents		-	342	
Uncategorized		-	303	
No concepts extracted		-	0	
<carpark>		2	9	
fx (parking charges) & (remove less free)			3	
fx (parking facilities parking carpark) & (not sufficient more)			9	
Credit Units		1	13	
fx credit units credit exemptions credit units per semester credit u			13	
<ucore>		1	9	
<ucore>			9	
Duration		1	7	
fx duration of the degree courses time to finish the degree time to co			7	
shuttle services		1	8	
shuttle services			8	

Text Preview

This gap occurs because the management of UniSim does not always correctly perceive what the students want. For example, the management may incorrectly perceive that it has met students' expectations when it provided parking lots for those who drive to campus. A gap in service quality then occurs if the number of parking lots available is insufficient to cater to all students who drive to campus. The management thus has failed to meet students' expectations of the university providing sufficient parking lots in campus even though the lots have been created in the first place. To reduce this service gap, the obvious solution is to allocate more space for parking lots within the campus. However, this may not be feasible in the long run as the student population continues to grow and there is a limit to the number of space that can be allocated for parking. Therefore, another possible solution that the management can consider is to publish on the school website the number of lots available in total within the university campus. This will help to manage students' expectations about the parking space available. UniSim can go a step further and implement a service to notify students via SMS when the carpark is nearly full. This level of service will delight the students as it allows them to find alternative parking nearby the campus grounds as oppose to being stuck in a queue waiting to enter the crowded carpark.

Text Preview

One other service gaps identified is between consumer expectations and management perceptions, occurs when managers incorrectly perceive what customers want. For example carpark in UniSim has always been a scarce commodity (Kotler, Keller, Ang, Leong & Tan, 2009, p.404). Students often have to come early to campus just to get a parking space for their vehicles. Managers at UniSim may have the idea that not many of their students will be driving to campus and therefore the current number of carpark in campus is sufficient for this need. Nothing is further from the truth; in fact most of the students who come to campus for night classes do own a vehicle of some sort and are often in dire need to find some kind of parking space somewhere around the UniSim campus area. One possible solution is for UniSim to conduct an online survey to find out how many of its students' population are actually driving to campus for lessons. The result of this simple survey will determine the number of carpark that UniSim may consider building in the future to meet the demands of carpark space within the campus area.

Looking for text with the following pairs of concepts:

- 1) Parking facilities & not sufficient
- 2) Parking facilities & more
- 3) Parking & not sufficient
- 4) Parking & more
- 5) Carpark & not sufficient
- 6) Carpark & more

Preliminary Categories

Interactive Workbench - Text

File Edit View Generate Categories Tools Help

Build Extend

Category	Descriptors	Docs	Score	Display
All Documents		-	342	
Uncategorized		-	303	
No concepts extracted		-	0	
<carpark>		2	9	
fx (parking charges) & (remove less free)			3	
fx (parking facilities parking carpark) & (not sufficient more)			9	
Credit Units		1	13	
fx credit units credit exemptions credit units per semester credit u			13	
<ucore>		1	9	
<ucore>			9	
Duration		1	7	
fx duration of the degree courses time to finish the degree time to co			7	
shuttle services		1	8	
shuttle services			8	

Text Preview

The compulsory requirement of 10 credits for University Core (UCore) modules in order for the students to graduate can be seen as a gap between consumer expectation and management perception. While UniSIM aims to expose its students to a well-rounded curriculum, the intent of the adult learners are to attain their degree in the shortest duration permitted. Although these UCore modules covers a broad spectrum of knowledge, the modules can be rather time-consuming and in most cases, competes with the major modules for an adult learner's time and commitment. Therefore it is not a surprise that many students perceive the UCore modules to be more of a chore than an additional knowledge. It is therefore recommended for the UCore modules to be offered as non-compulsory electives than required components. Additional or special credits can be awarded for the successful completion of such modules as part of the program's final grading or accreditation. With the arrangement, majority of the adult learners populace will be able to achieve the intent faster.

Text Preview

The gap between consumer expectation and management perception whereby it is the distance between what customers expect and what managers think they expect. Unisim management perceives that Ucore curriculum will provide students with generic skills to help them function effectively in the university and beyond. These skills include the ability to communicate effectively both in written and oral forms. Unisim believes that university education should produce graduates who are not only equipped for the market but who are also well-rounded, understand broader social issues and able to deal with a complex and rapidly changing world. However students may be more concerned with the content of the modules that they chose for their degree courses. Moreover there are only 24 Ucore courses which consist of communication, skills and world and I and have to be completed a certain amount of credit units before graduating. If the students have no interest of the courses offered and they are being forced to take which may result in them failing the courses and that would defeat the objectives.

Term	Match	Infect	Type	Library
opportunity to complete the university core subjects	Entire Term	<input type="checkbox"/>	ucore	Local Library
attendances of university core course	Entire Term	<input type="checkbox"/>	ucore	Local Library
plan ucore lessons	Entire Term	<input type="checkbox"/>	ucore	Local Library
university core courses	Entire Term	<input type="checkbox"/>	ucore	Local Library
university core	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore to benefit	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore sessions	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore lessons	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore curriculum	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore course covers	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore course	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore assessment	Entire Term	<input type="checkbox"/>	ucore	Local Library
ucore	Entire Term	<input type="checkbox"/>	ucore	Local Library

Limitations

- Text mining using IBM SPSS Modeller works better with shorter text
- Manual efforts needed to customise the Resource Editor and create categories

Future Work

- Complete the categorisation for the Knowledge Need as well as the remaining Needs
- Compare categories across the different Needs
- This work is still exploratory. Further research will be done to translate these findings into actual recommendations.



Thank You



SIM UNIVERSITY

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