BUSINESS DECISION MAKING

Table of Contents

Introduction:

UK College of Business and Computing (UKCBC) would be reviewed by the Quality Assurance Agency (QAA) in few months. The researcher has been appointed as a Lead Student Representative to write a report on student's experience and satisfaction regarding higher education experience of UKCBC. Moreover, the researcher has collected primary data from the students regarding their overall experience in UKCBC. This will help the management of the college to resolve any issues prior to QAA visit. This quantitative research will help the researcher to assess students' experience in UKCBC.

Task 1

a) Create a plan for collecting data from students across all campuses.

Quality Education would provide provision for effective learning environment and render efficient learning experience (Bélanger and Crossler, 2011, p.1020). Similarly poor educational experience and students' dissatisfaction would cause missing learning opportunities and disappointing student experience. In this regard, students experience will be helpful to measure quality or standard of higher education in respective educational institution. Six indicators such as overall student experience, quality of teaching, engagement of students, learning resources, student support system and skill development will be helpful to measure student satisfaction level regarding higher education experience (Štimac and Katić, 2015). There are mainly two types of data collection methods followed by the researcher, one is primary and another is secondary research. Both methods are important as they gather a huge amount of information which is relevant for the study (Shah *et al*. 2011, p.500). In this regard, researcher has chalked out a plan that would help the researcher to measure students' satisfaction level and learning experience in UKCBC. In this case the researcher would gather primary data from the students which would give the researcher a more detailed insight to the student needs and expectation (Hou, 2011, p.180). Although there are some disadvantages of primary data collection like they are time consuming and at the same time costly to conduct compared to secondary data (Tavakol and Sandars, 2014, p.845), but in this case, secondary data would be irrelevant and misleading as very often researcher evaluates the secondary data as per their own biased view. Moreover, qualitative research is more effective in primary stages of study and through this research; a person gets subjective view of the study. Whereas in quantitative research, allows the researcher to measure and analyse data in more detailed account. In case of quantitative research, researcher becomes more objective about finding the research detail. So the researcher has opted for quantitative research method for this study. There are various sources that help the researcher to collect primary and secondary data. For primary data collection, researcher mainly uses sources like survey that needs face to face interview or telephonic interview. The most effective way of doing survey is designing a questionnaire (Yilmaz, 2013, p.320). A set of questions is designed that covers all the issues relevant to the research work. This questionnaire could be

sent through mail or distributed in gatherings (Choy, 2014, p.101). Respondents would fill them up and send back the same that would help the researcher to draw a conclusion. This data could be evaluated to test hypothesis in experiments by using statistics.

In this study, primary data is considered to be effective as the researcher is able to accumulate data from the respondents that is essential for the survey. Student surveys are considered to be the most effective data source for evaluating quality in higher education system (Gikandi *et al*. 2011, p.2336). These data are useful for evidence based university decision making and contributes a large to institutional research process and quantitative research or primary data collection is one of the fastest growing trends in campuses for doing surveys on students regarding higher education quality and satisfaction (Liu, 2011, p.460). Recently the focus is shifted to students who are considered to be the active partner in educational processes and responsible for their own learning and formation, in this regard, their opinions and suggestions are highly important for this research.

b) Present the survey methodology and sampling frame used

To carry out the research researcher has planned a survey that would be conducted on the students of UKCBC. In this case, it could be said that the researcher would be able to collect a huge range of information from the survey. This would be helpful in drawing a conclusion out of the research work. For this survey students are asked to gather in the college campus. The most important part of the survey is to set the questionnaire in such a manner so that it would cover certain things. Like the questions should be framed in such a way so that the issues like overall quality of educational experience, learner involvement and engagement, teaching quality, skill development and availability of learning resources should be covered. These indicators are important to assess students' satisfaction level in UKCBC. Student course evaluation is highly essential to assess the effectiveness of courseware. In Europe the main focus is on the student-centred approach that paved the way for widespread research to look into how students learn (Ferguson, 2011, p.55). The internal institutional quality assurance system should be measured in respect of course and program evaluations, surveys of overall study related experience and satisfaction regarding teaching and learning. Student questionnaires are the most common way of assessing institute's quality assurance system. In

this case, the researcher has conducted the survey by carrying out face to face interview and in this regard, the questionnaire should include questions that are relevant for sample survey.

Sampling: A good statistical study means a well planned study that leads to authentic conclusions. In case of quantitative research, the larger the sample size the more accurate the study will be. In this case the sample size is very important. To select a proper sample size is essential for this study. If the researcher has failed to select the right sample size then the result would be inappropriate and misleading. If the results are inapt then the conclusion drawn from the research won't be helpful for this study. In order to gather widespread information regarding students' experience and satisfaction, it is highly important to select proper sample size. For this research, researcher has selected the college students as sample population as they are considered to be the best judge of the quality assurance system of UKCBC. Moreover the research is based on the students' satisfaction and experience for which their expectations and needs should be taken into account. The researcher has taken 100 students as sample population for the study so that the responses are valuable and reflect entire student populations' view regarding UKCBC's quality assurance system. On the other hand, researcher has selected simple random sampling process that would be helpful for the researcher to carry out the study in a more efficient manner.

c) Design a questionnaire for collecting data

According to theorists, educational service has several characteristics which are mostly intangible, heterogeneous and perishable in nature. The teaching of professors must be taken into account as their produced efforts are consumed by the students and both are the indispensable part of teaching experience, so the service quality won't be measured objectively. Quality in higher education is a complex and multidimensional concept. Every stakeholder in higher education has their own view regarding quality (Evans, 2013, p.80). Since this research work is based on only one stakeholder the student, so here the questionnaire would be set to consider students' perspective in mind. They are the priority customer of educational activities. So it is highly essential to consider their view while evaluating higher education quality assessment system. In this case, questions are designed in precise and crisp manner so that they are easy to understand and don't get any misleading responses. Questions are formed in simple and concise manner so that the sample population that is the students of UKCBC don't face any difficulty to answer them (Liu, 2011, p.7). Only

10 questions are included in the questionnaire so that it should not be lengthy and respondents don't lose interest in the whole process.

Questionnaire

1. Name of the student

2. In which year do you study?

- 1st year
- 2nd year
- 3rd year

3. How would you rate the quality of your total educational experience this year?

- Highly satisfied
- Satisfied
- Neutral
- Dissatisfied
- Strongly Dissatisfied

4. How would you rate the quality of teaching you have experienced?

- Highly satisfied
- Satisfied
- Neutral
- Dissatisfied
- Strongly Dissatisfied

5. Did the lecturers clearly demonstrate the coursework and engage you in active learning?

- Yes
- No

6. Is your course structure focussed or relevant to your study?

- Yes

- No

7. How frequently have you engaged with other students for projects or teamwork?

- Often
- Very often
- Rare
- Never

8. Do you find career adviser helpful and available at the time of need?

- Yes
- No

9. Are you satisfied with your courseware as far as skill development is concerned?

- Highly satisfied
- Satisfied
- Neutral
- Dissatisfied
- Strongly Dissatisfied

10. How would you rate teaching spaces, learning materials, laboratory or library resources and other learning resources provided by your course?

- Highly satisfied
- Satisfied
- Neutral
- Dissatisfied
- Strongly Dissatisfied

Task 2

a) Summarise the data collected from the survey by using representative values (arithmetic mean, median and mode)

b) Analyse the results of the survey and draw conclusions

Central tendency is a typical value for a probability distribution. The most general measures of central tendency are arithmetic mean, median and mode (Pernollet *et al*. 2017, p.415). Central tendency could be measured for a theoretical distribution or for a finite set of values. It is often use to measure quantitative data. It is in contrast with its dispersion or variability.

*Mean: This arithmetic measures mean the sum of all provided numbers divided by the number of observations in a data set. The main advantage of this measurement is that it is based on overall observations (*Manikandan, 2011*).*

*Median: Median is the value that segregates higher half with the lower half. It is more applicable than mean value when data set comprises of large number of extreme values, since this arithmetic measuring tool is less affected by the extreme values (*Jacobbe, 2012, p.1150*).*

Mode: Mode is the only central tendency measure that uses nominal data. This set of observations occurs with frequent value.

1) How would you rate the quality of your total educational experience this year?

Sl no.	Options	Response%	No. of Respondents	Total Respondents
1.	Highly satisfied	19	19	100
2.	Satisfied	16	16	100
3.	Neutral	14	14	100
4.	Dissatisfied	29	29	100
5.	Strongly	22	22	100

	dissatisfied			

Table-1.1

Statistical Analysis:

Mean	Median	Mode	SD
3.19	4	4	1.440363

Table-1.2

Data Analysis: The above table (Table-1.1) shows that 19% of the respondents are highly satisfied and 16% are satisfied to some extent with the total educational experience of this year. Though 29% of the students are dissatisfied with the educational experiences and 22% are strongly dissatisfied. From this data it is quite evident that most of the students are dissatisfied with the overall educational experiences in UKCBC. However, 14% of the students have refrained from giving their opinions in this regard.

The analysis (Table-1.2) of the response data discloses that the average or mean value of this response distribution is 3.19 and the median value is 4.There will be equal number of responses above and below the median value of this response distribution. The value of the mode is "4".This indicates that maximum students agree with the fact that they are not satisfied with the educational experiences of UKCBC. If we consider the mean and median value with respect to the variable "*satisfaction of educational experience*" then it can be observed that these values are also expressing the fact that on an average the students are dissatisfied with the educational experiences of UKCBC. In this way different central tendencies are supporting each other.

2) **How would you rate the quality of teaching you have experienced?**

Sl no.	Options	Response%	No. of Respondents	Total Respondents
1.	Highly satisfied	19	19	100

2.	Satisfied	20	20	100
3.	Neutral	14	14	100
4.	Dissatisfied	25	25	100
5.	Strongly dissatisfied	22	22	100

Table-2.1

Statistical Analysis:

Mean	Median	Mode	SD
3.11	3	4	1.448754

Table-2.2

Data Analysis: The above table (Table-2.1) reveals that only 19% of the total respondents are satisfied with the quality of teaching in UKCBC. But majority of the students that is 25% are dissatisfied and 22% are strongly dissatisfied. Therefore most of the students are dissatisfied with the teaching quality in UKCBC. However, 14% of the respondents have refrained from giving any opinion regarding this.

The statistical analysis (Table-2.2) of the response data discloses that the average or mean value of this response distribution is 3.11 and the median value is 3. The mode value is "4".This points to that maximum student are dissatisfied with the quality of teaching in UKCBC. If we consider the mean and median value of these different response values then it can be seen that these values are also focusing on the fact that on an average the students are unhappy with the teaching quality of UKCBC. So it could be said that the different central tendency measures are supporting each other.

3) Are you satisfied with your courseware as far as skill development is concerned?

Sl no.	Options	Response%	No. of Respondents	Total Respondents

1.	Highly satisfied	15	15	100
2.	Satisfied	20	20	100
3.	Neutral	16	16	100
4.	Dissatisfied	27	27	100
5.	Strongly dissatisfied	22	22	100

Table-3.1

Statistical Analysis:

Mean	Median	Mode	SD
3.21	3	4	1.387498

Table-3.2

Data Analysis: The above table (Table-1.1) illustrates that 15% of the total respondents are highly satisfied and 20% are satisfied with the courseware of UKCBC. But 27% of the students are unhappy and 22% are strongly dissatisfied with the courseware as far as skill development is concerned. Therefore most of the respondents are dissatisfied with the courseware of UKCBC. However, 16% of the students have restrained themselves from giving any kind of responses.

The statistical analysis (Table-1.2) of the response data shows that the average or mean value of this response distribution is 3.21 and the median value is 3. The value of the mode is "4". This indicates that maximum students agree with the fact that they are not happy with the courseware as far as their skill development is concerned. If we consider the mean and median value of these different response values then it can be seen that these values are also highlighting the fact that on an average the students are unhappy with the courseware of UK colleges for business & computing. In this way the different central tendency values are supporting each other.

4)How would you rate teaching spaces, learning materials, laboratory or library resources and other learning resources provided by your course?

Sl no.	Options	Response%	No. of Respondents	Total Respondents
1.	Highly satisfied	16	16	100
2.	Satisfied	19	19	100
3.	Neutral	15	15	100
4.	Dissatisfied	27	27	100
5.	Strongly dissatisfied	23	23	100

Table-4.1

Statistical Analysis:

Mean	Median	Mode	SD
3.22	3.5	4	1.411211

Table-4.2

Data Analysis: The above table (Table-1.1) demonstrates that 16% of the total students are highly satisfied with the learning resources and 14% are satisfied with the learning resources provided by the UK colleges for business & computing. But 27% of the students are dissatisfied and 23% are strongly dissatisfied with the learning resources provided by the UKCBC. Therefore half of the respondents are dissatisfied with the learning resources of the different UK colleges for business & computing. However, 15% of the students have refrained themselves from giving any kind of opinions.

The statistical analysis (Table-1.2) of the response data shows that the average or mean value of this response distribution is 3.22 and the median value is 3.5. The value of the mode is "4" (Deb *et al*. 2010, p.20).This indicates that maximum students are not happy with the teaching process of business & computing colleges of UK. If we consider the mean and median value of these different response values then it can be seen that these values are also drawing attention to the fact that on an average the students are dissatisfied with the learning resources of the UKCBC. In this way the central tendencies are supporting each other.

c) Analyse the data using measures of dispersion

The measures of dispersion mean the variability or spread of values around the average values of a given set of observations in respect of a particular variable. The central tendencies of data are calculated for the concise representation of data set in terms of particular average value.

In this case, standard deviation is used for measure of dispersion in the response values of the variable, since the standard deviation is least affected by the extreme values so it is the most accurate measures of dispersion.

Standard deviation of a set of observations is the sum of the deviations of the observations from their mean values that is divided by the number of observations. Higher will be the value of the standard deviation, higher will be the deviation or dispersion and greater will be the risk.

How would you rate the quality of your total educational experience this year?

SD	1.440363

How would you rate the quality of teaching you have experienced?

SD	1.448754

Are you satisfied with your courseware as far as skill development is concerned?

SD	1.387498

How would you rate teaching spaces, learning materials, laboratory or library resources and other learning resources provided by your course?

SD	1.411211

The standard deviations for the set of responses to all of the quantitative questions are greater than one. This means dissatisfaction level is quite high regarding total educational experience, quality of teaching, courseware and learning resources among the students. It means that the UKCBC should take care of all these variables to improve the quality assurance system of this educational institution.

d) Explain how you can use quartiles, percentiles and the correlation coefficient to draw useful conclusions:

Quartile:

Quartile is a descriptive statistics measure. This measure of descriptive statistics is used to identify the three points that are dividing a series that has been arranged in order of magnitude in 4 equal parts. The three quartiles are the three points that have divided the whole dataset in to four equal parts. The first quartile or the lower quartile refers to the number of observations that falls between the smallest number and the median. The second quartile(Q2) refers to the central most 50% observations and the last quartile or Q3 refers to the observations that lies between the median value and the highest data value (Maroko, 2012, p.535).

If we apply the quartile calculation to the given dataset then it will easily indicate the nature of response concentration in the different quartiles. That is, this calculation will help us to identify in which quartile the concentration of the satisfied students will be the most

Percentile:

Percentile is a statistical measure that identifies the value below which a certain percentage of observations lies. For instance, 20th percentile indicates that below these percentile 20% observations of a given dataset can be observed where the dataset has been organized in order of magnitude. For instance if a student's satisfaction score is at 76th percentile then it can be said that 76th is the percentile rank and below this rank there will be 76% observation of the given data set(Sironi,*et al.* 2010,P.356).

Correlation:

The correlation measures the degree of variability in the values of one variable with respect to the changes in the values of another variable. The value of correlation coefficient(r) varies between +1 and -1.If r = +1, then it indicates perfect positive correlation between the values of two variables. If r = -1, then it indicates that the values of the variables moves in opposite directions and the change in the variation will be of equal amount.

| Variable-1	Variable-2	r
Quality of education	*Quality of the learning resources*	0.988009265

The above calculation of correlation coefficient reveals that there is a strong positive correlation between the variables "Quality of education" and "Quality of the learning resources". This indicates that improvement in the "Quality of the learning resources" will bring lot of improvements in the quality opf education. Hence as first step towards bringing some improvement in the quality of education the college management can bring improvements in the quality of learning resources.

Task-3

a) With the aid of spreadsheets produce graphs to help draw valid conclusions on the survey

1. Name of the student

2. In which year do you study?

Particulars	Responses
1st year	20
2nd year	45
3rd year	35

Responses
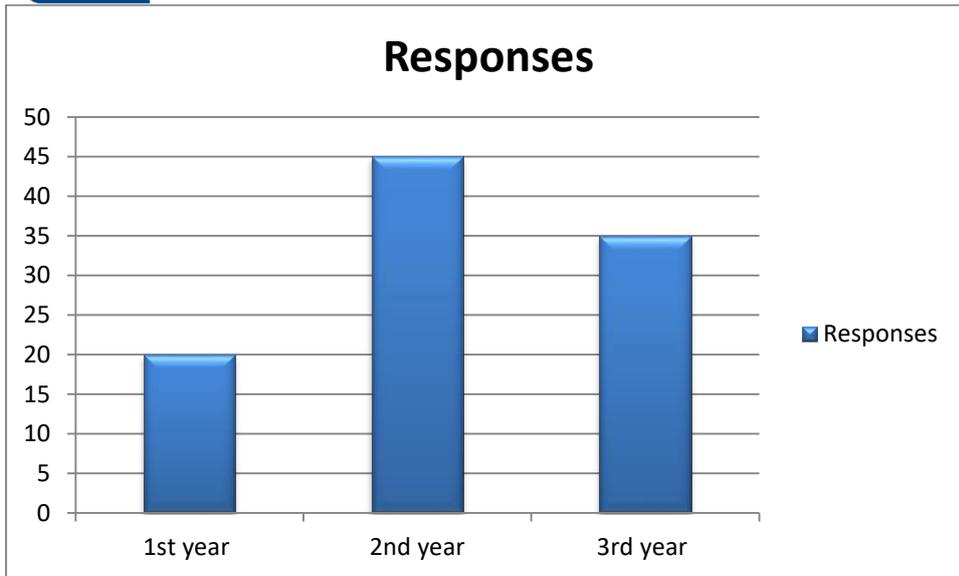
The above graph demonstrates that the maximum number of the sample population concentrates in the 2nd year. It is expected that the students who have spent their first year in the college is well capable in sharing their experience regarding the teaching methods

3. How would you rate the quality of your total educational experience this year?

Particulars	Responses
Highly satisfied	19
Satisfied	16
Neutral	14
Dissatisfied	29
Strongly dissatisfied	22

Responses
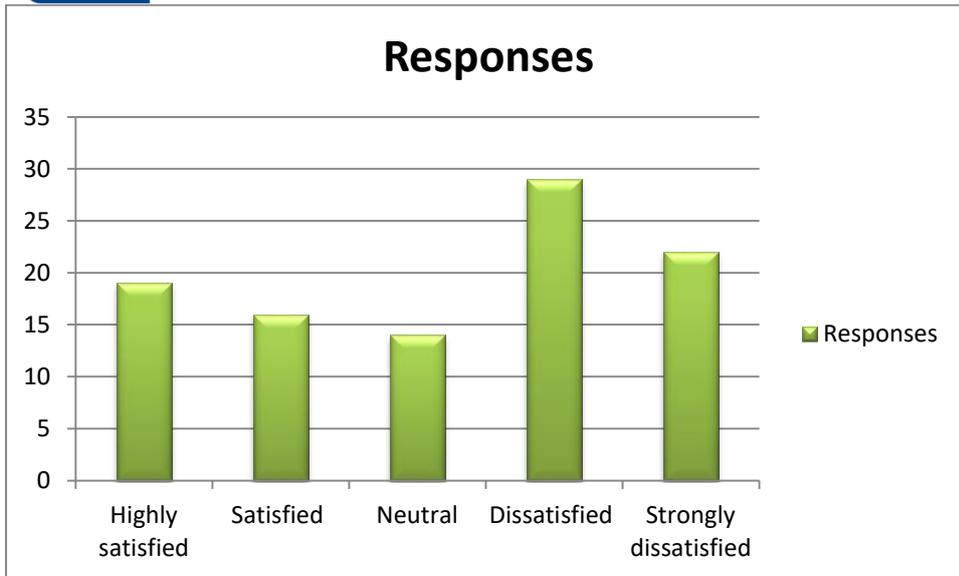
The graph as well as the table clearly describes that the percentage of students who are not satisfied with the teaching methodologies of the college are quiet high in comparison to the students who are satisfied with the teaching process as well as the teaching staffs of the college. Therefore it is necessary that the college authorities should take appropriate measures for reducing students' dissatisfaction level

4. How would you rate the quality of teaching you have experienced?

Particulars	Responses
Highly satisfied	19
Satisfied	20
Neutral	14
Dissatisfied	25
Strongly dissatisfied	22

Responses
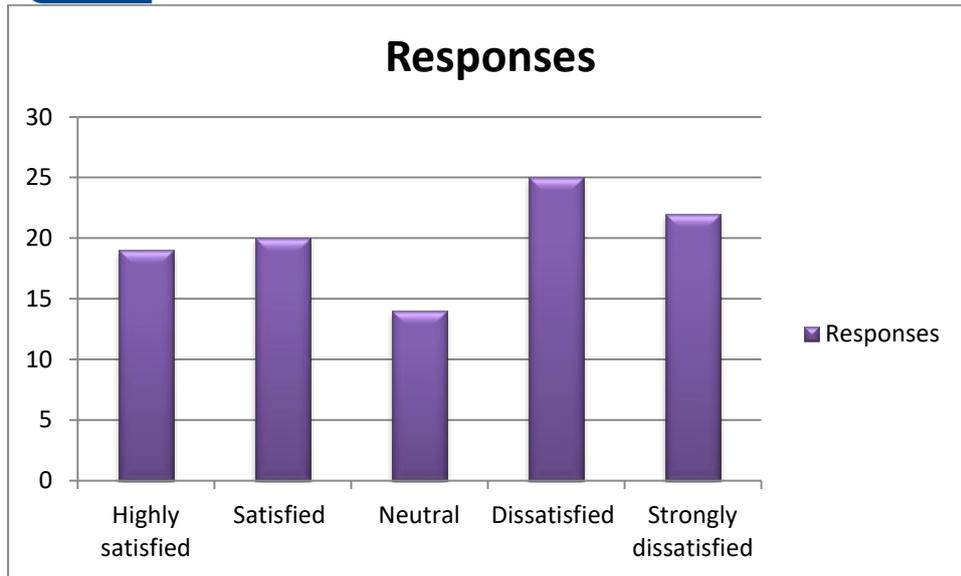
The above graph demonstrates that only 19% of the respondent students are highly satisfied with the quality of the teaching experience and 20% are just satisfied. But as 25% of the respondent students are highly dissatisfied and 22% are Strongly dissatisfied, therefore it can be said that majority of the students are not satisfied with the quality of teaching they have experienced.

5. Did the lecturers clearly demonstrate the coursework and engage you in active learning?

Particulars	Responses
Yes	80
No	20

Responses
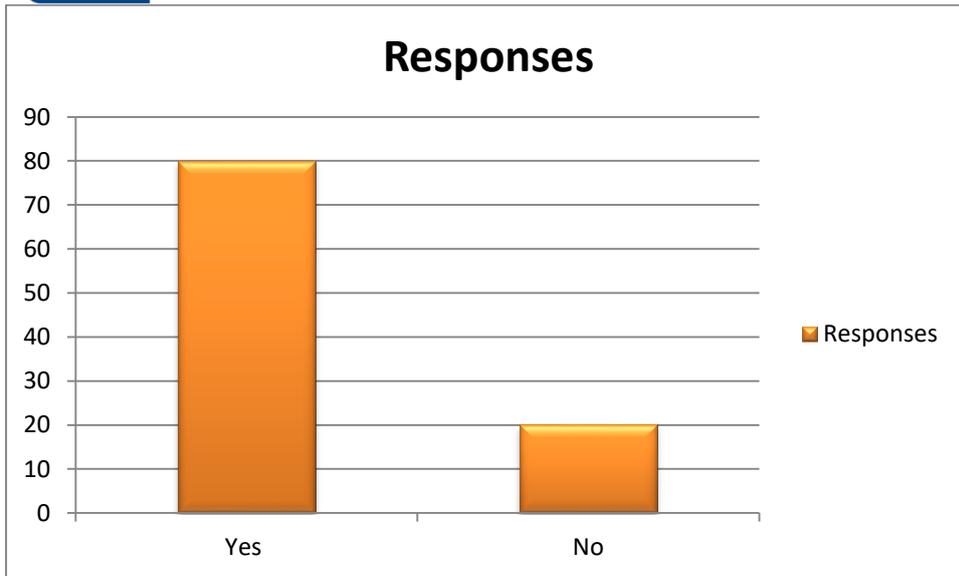

The above graph depicts that 80% of the respondent students are of opinion that class lecture are not involving them in to active learning and 20% think in the opposite way and are happy with the experience of the class lectures.

6. Is your course structure focussed or relevant to your study?

Particulars	Responses
Yes	90
No	10

Responses
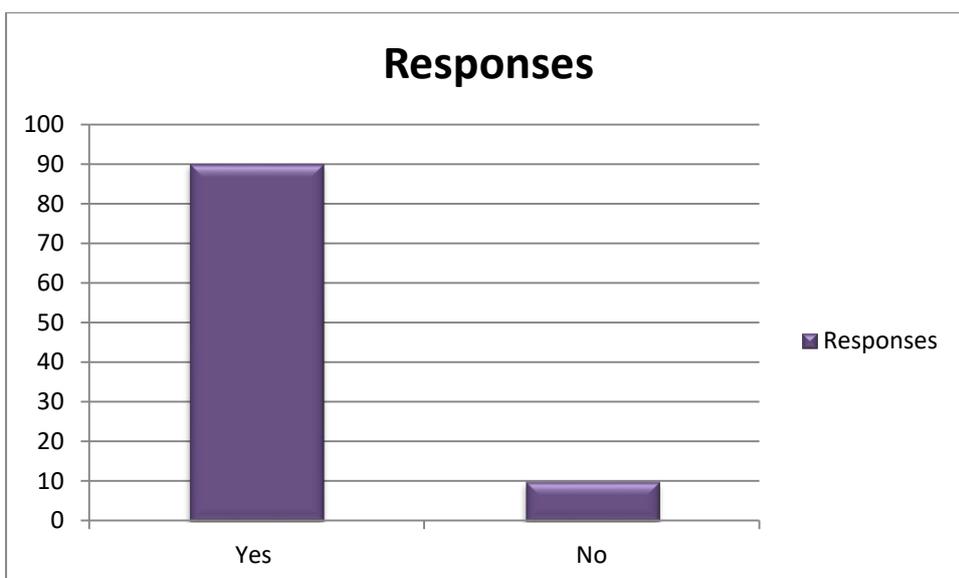
The above graph depicts that 90% of the respondent students are of opinion that course structures are not focused enough towards the relevant course study and 10% think in the opposite way and are happy with the course structure they have gone through while doing their study

7. How frequently have you engaged with other students for projects or teamwork?

Particulars	Responses
often	35
Very often	15
Rare	30
Never	20
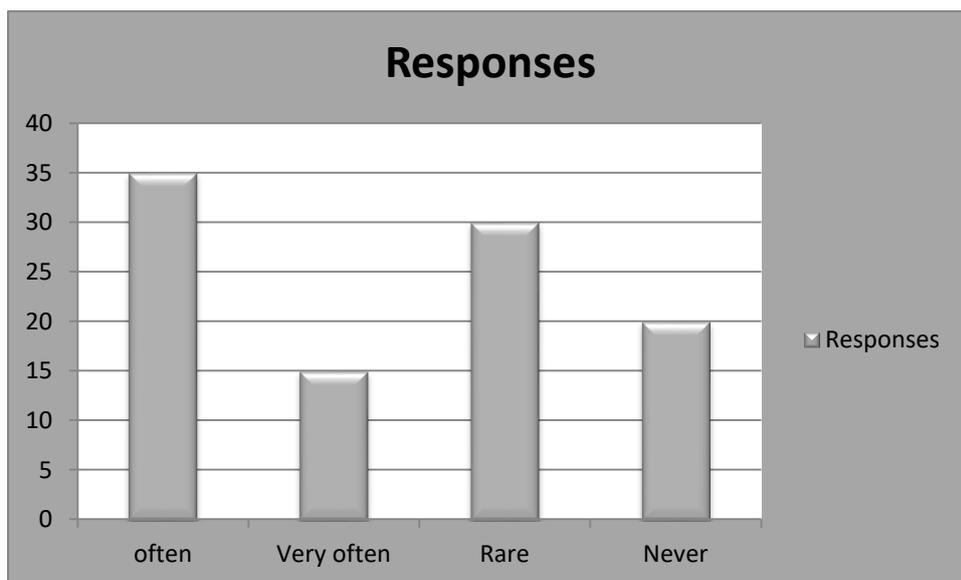
The above graph demonstrates that only 35% of the respondent students often have joined in a team work for doing their project and 15% have done the same very often. But 30% of the respondent students rarely joined in a team and 20% have never joined in a team for doing a project. Thus it can be concluded that the projects that are offered to the students while going through the course is not focused towards the concept of team building.

8. Do you find career adviser helpful and available at the time of need?

Particulars	Responses
Yes	70
No	30
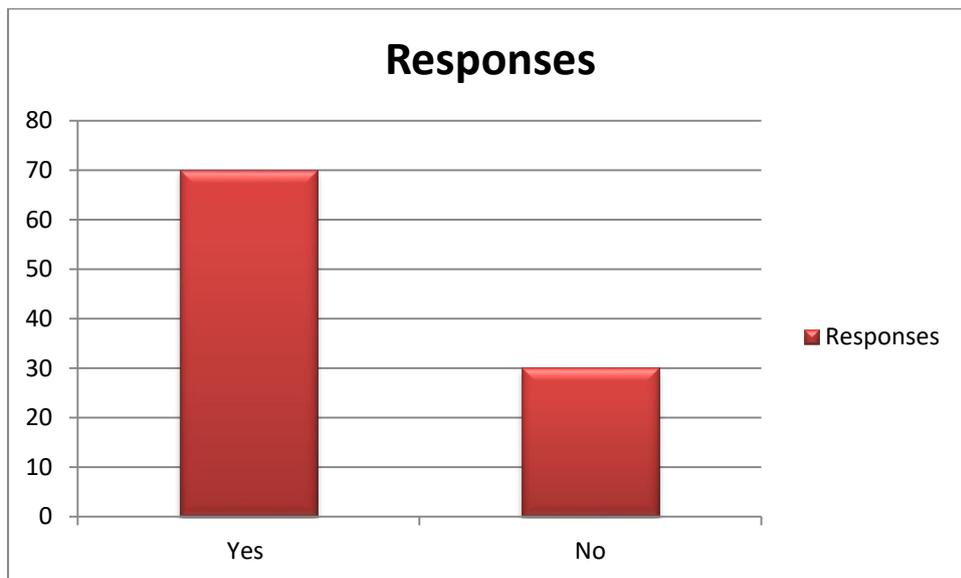
The above graph depicts that 70% of the respondent students are of opinion that their career adviser is not helpful enough when they asked for help. However, 10% of the respondent students thinks in a different way and are happy with their career adviser as they got help from them at the hours of need

9. Are you satisfied with your courseware as far as skill development is concerned?

Particulars	Responses
Highly satisfied	15
Satisfied	20
Neutral	16
Dissatisfied	27
Strongly dissatisfied	22

Responses
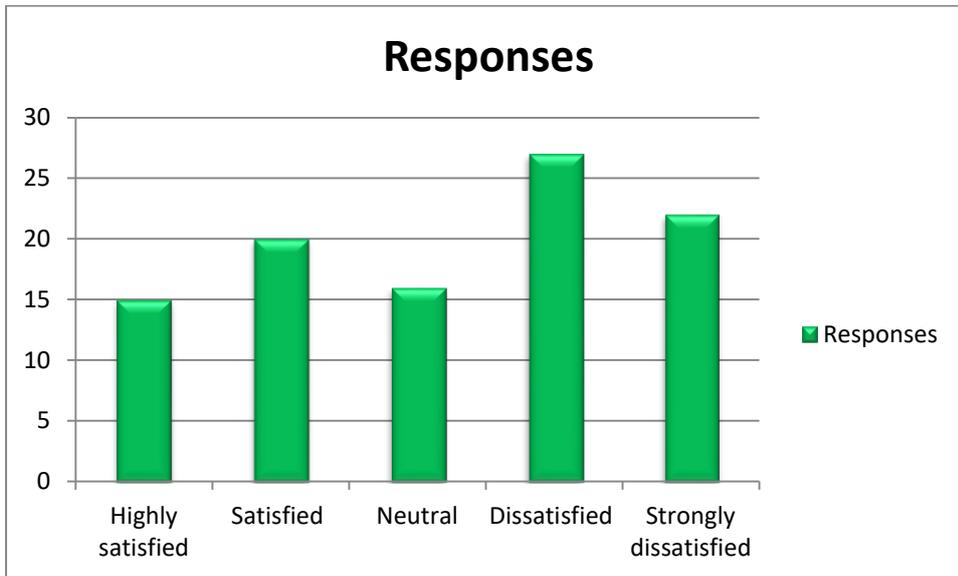
The above graph demonstrates that only 15% of the respondent students are highly satisfied with the courseware in terms of skill development and 20% of the respondent students are just satisfied with the same. But as 27% of the respondent students are highly dissatisfied and 22% are strongly dissatisfied, therefore it can be said that majority of the students are not satisfied with the courseware as far as skill development is concerned.

10. How would you rate teaching spaces, learning materials, laboratory or library resources and other learning resources provided by your course?

Particulars	Responses
Highly satisfied	16
Satisfied	19
Neutral	15
Dissatisfied	27
Strongly dissatisfied	23

Responses
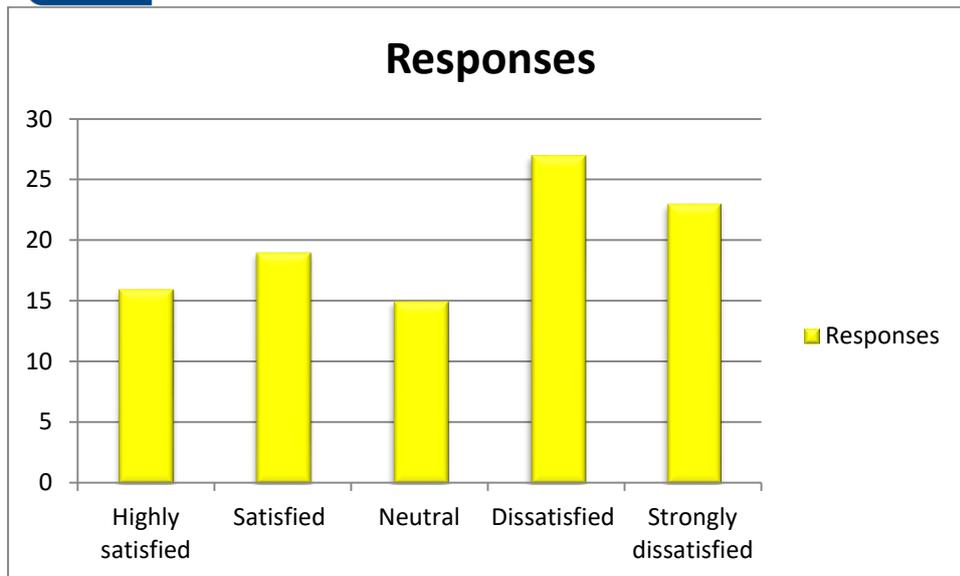
The above graph demonstrates that only 16% of the respondent students are highly satisfied with the learning environment (teaching spaces, learning materials, laboratory or library resources).

and 19% of the respondent students are just satisfied with the same. But as 27% of the respondent students are highly dissatisfied and 23% are strongly dissatisfied, therefore it can be said that majority of the students are not satisfied with the learning environment.

b) Create trend lines in spreadsheet graphs to assist in determining any pattern in students responses.

The trend line is a tool that is often used by the researchers to identify the pattern or trend of reposes in a survey in the past so that in the basis of past survey results the future pattern of responses can be identified. After identifying a particular trend with the help of the trend line it is then possible to investigate the possible reasons that have generated that particular trend(Carslaw and Ropkins., 2012,p.55).

Here a trend line has been used to identify the pattern of responses of the students to the researcher. This trend line investigation will help the researcher to understand that how the students' response pattern is changing over years. Because, if the college managements

improves their process of imparting education to the students then students will be happy and the happy students will be more interested to participate and respond in to any kind of survey that will be held for the assessment of teaching quality in the different UK colleges for business and computing(Şen , 2011, p.1043).

Year	Percentage response of the students %
2013	50
2014	46
2015	80
2016	52
2017	70
2018	80
2019	95

Percentage response of the students %

$y = 6.8929x + 40$
$R^2 = 0.6384$

Percentage response of the students %

Linear (Percentage response of the students %)
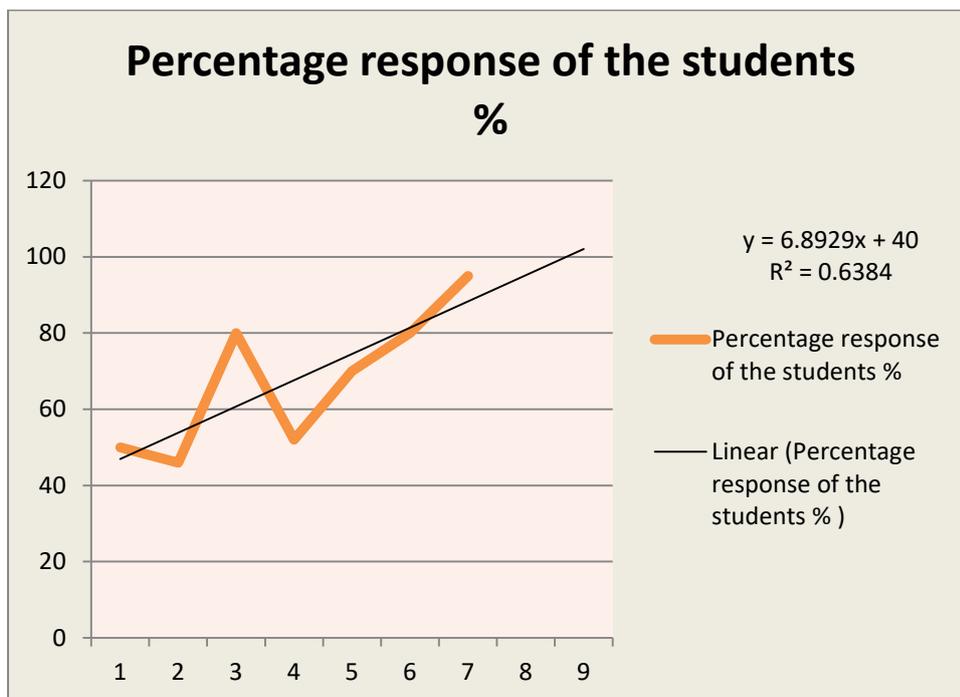
The above table and graph represents that the responses of the students are expected to increase in leap and bounce from 2015 onwards to the projected year of 2019.This indicates that the number of students who will be satisfied with the teaching experience in the different institutions of UKBC will increase provided the college authorities take meaningful steps for fulfilling the students' demands for good teaching process and environment. However a useful and effective measure requires that the R^2 must be 1 or greater than 1.However here R^2 = 0.638, this indicates that the steps or measures that has been taken by the college authority is less than sufficient. However as the value of R^2 is not much less than 1, therefore it can be said that the college authority has done some degree of work which has brought some degree of improvement in the satisfaction level of the students that has been reflected in the response percentage of the students over years.

c) Prepare a power point presentation of your findings to the QAA planning committee.

d) Produce a formal report suitable for presentation to QAA
Business Report

Introduction

This research has been undertaken in order to assess the satisfaction level of the students regarding the teaching methodologies and the learning environment and facilities in the different colleges of UKBC. The objective of the researcher is to hold face to face interview with the students and record their learning experiences in those colleges in terms of a fulfilment of a questionnaire. The answers of that questionnaire will reflect the students' satisfaction level with respect to different aspects of the study process. The study also reflects the percentage of students who are highly satisfied, satisfied, dissatisfied or strongly dissatisfied with respect to a particular aspect of the learning process of the UKBC colleges. This primary research that has been undertaken by the researcher is very helpful to pinpoint the gray areas of the learning process.

Research results analysis:

The quantitative as well as qualitative analysis that has been done in terms of graph, tabular data representations and trend line analysis reveal the fact that most of the students are not satisfied with the learning process and environment of the UKBC colleges. Most of the students are not satisfied with the courseware as this does not lead them towards skill development or team spirit development. Most of the students are of opinion that they do not get the adequate help from their career adviser as and when needed. Some of them complain regarding the poor teaching spaces, learning materials, laboratory or library resources in those colleges. In brief the research reveals that there is enough scope of improving the learning process as well as learning environment in those colleges. It is essential for the college authorities to take direct feedback from the students before implementing any kind of improving measures with respect to a particular aspect of the learning process(Papadakis, 2013, p.1375).

Conclusion

Therefore it is essential that the colleges authorities should develop useful strategies for pinpointing the different problems that are faced by the students and should take appropriate actions to solve those problems on the basis of feedback that has been collected from the students with respect to that particular problem

Task 4:

a) Using information processing tools such as computers or software, explain how it can support decision making at operational, tactical and strategic levels in an organisation.

Information processing is a technique of manipulation and digitization of information. The purpose doing so is storing of that information to in a synchronized and easily and accessible fashion. Computers and digital electronic equipments are used for manipulation of those information.

The different parts of information processing systems are business software, operating systems, networking systems and computers. The path of information processing system includes acquiring of information, then recording, and finally segmentation of information.

The major information processing tools that are used by the different organizations are as follows.

Management Information processing system:

This system acquires and process data in order to provide real-time and accurate data information to the members of an organization .This system helps the organizational managers in quick decision making for operational, tactical, as well as strategic purposes. This decision making process help the organizations in proper implementation of project plans

Knowledge management system:

This system helps the organization to properly gather, analyze, segment and finally storing in the most appropriate device so that the collected knowledge can be quickly retrieved and accessed at the time of decision making(Melville, 2010,p.10).

Expert support system:

This system has been developed to support the experts at the time of decision making. This system has been designed to diagnose a problem, then to analyze the available solutions and then to generate appropriate recommendations for the solution of the problems. The system has been designed to just work like a human brain as much as possible.

Decision support system:

This system helps in analyzing the data for the purpose of generating statistical projections with the help of statistical modelling. The results generated by the statistical modelling are then matched with the managerial actions that have been taken with respect to a particular problem. Thus this system mainly supports the management decision making process rather than replacing the managers (Bulgurcu *et al*. 2010, p.524).

System for processing information from business transactions:

This system has been designed to regulate both the internal as well as external transactions of a business organization and to extract the most useful information from the process of business transactions. The system generally collects information regarding the volume of bills that has been generated out of the transactions, the wages that has been paid, the amount of

sales that has been made, the amount of inventory that has been utilize in production and like many other information. All these information will help the managers in proper decision making.

b) Prepare a project plan for the given project activity and determine the critical path

	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resou Name
1		A	2 days	Tue 18-04-17	Wed 19-04-1		
2		b	4 days	Thu 20-04-17	Tue 25-04-17	1	
3		c	6 days	Wed 26-04-1	Wed 03-05-1	2	
4		d	3 days	Thu 20-04-17	Mon 24-04-1	1	
5		e	6 days	Wed 26-04-1	Wed 03-05-1	2	
6		f	1 day	Thu 04-05-17	Thu 04-05-17	5	
7		g	3 days	Thu 04-05-17	Mon 08-05-1	3,4	
8		h	2 days	Tue 09-05-17	Wed 10-05-1	6,7	
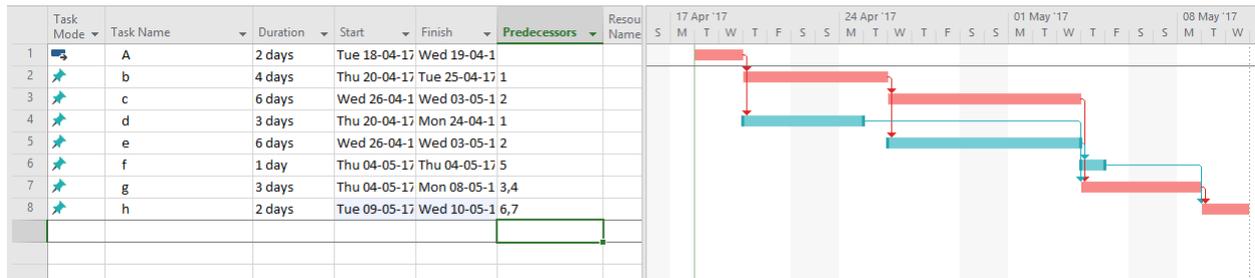
c) Using financial tools for decision making advice a business planning on investing in a project.

NPV and IRR are two very important capital budgeting tools that are used for choosing or rejecting a prospective project or investment

NPV:

Net present value (NPV) is a capital budgeting technique that calculates the difference between the present value of cash inflows and the present value of cash outflows or current investments. A particular rate of discount should be used for discounting the present value of the projected future cash flows. In case of project selection, those projects are to be chosen whose NPV is positive. Between two projects with positive NPV, the project with higher NPV should be chosen (Osborne, 2010, p.236).

IRR

The internal rate of return(IRR) is the rate of discount for which NPV is equal to zero.IRR is the percentage rate earned per unit of investment. IRR gives the opportunity to the investors to compare the projects on the basis of their projected yield. Thus between two projects the project with higher IRR has to be chosen (Hauk *et al*. 2014, p.438).

	project-investments & cash flows	External borrowing rate	10%	
Year	cash flow	rate of discount		present value of discounted cash flows
investment	-15000	10%	1	
1	8,000		0.909090909	7272.73
2	10,000		0.826446281	8264.46
3	5000		0.751314801	3756.57
4	5000		0.683013455	3415.07
DCF				22708.83
NPV	22708.83			
IRR		35%		

The above table describes that the NPV of the projected discounted cash flows with respect to given investment is positive (22708.83) and the IRR is 35% which is greater than the external borrowing cost of a loan. Therefore this project must be accepted as both the capital budgeting tools such as NPV and IRR defines that this investment project will be profitable if implemented (Li and Reynolds, 2011,p.5866).

Conclusion

From the above discussion it is clear that in order to attain success a business organization must proceed with a predefined time frame and well calculated investment planning. The business organization should apply the different kind of capital budgeting tools to rank the different prospective investment projects. More scientifically a business organization proceeds more will be the scope of attaining success and less will be the scope of facing the financial risks.

Reference List:

Books

Anderson, D.R., Sweeney, D.J., Williams, T.A., Camm, J.D. and Cochran, J.J., 2012. *Quantitative methods for business*. Cengage Learning.

Štimac, H. and Katić, S., 2015, January. Quality assurance in higher education. In *Interdisciplinary Management Research XI*.

Journals

Bélanger, F. and Crossler, R.E., 2011. Privacy in the digital age: a review of information privacy research in information systems. *MIS quarterly*, *35*(4), pp.1017-1042.

Bulgurcu, B., Cavusoglu, H. and Benbasat, I., 2010. Information security policy compliance: an empirical study of rationality-based beliefs and information security awareness. *MIS quarterly*, *34*(3), pp.523-548.

Carslaw, D.C. and Ropkins, K., 2012. Openair—an R package for air quality data analysis. *Environmental Modelling & Software*, *27*, pp.52-61.

Choy, L.T., 2014. The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR Journal of Humanities and Social Science*, *19*(4), pp.99-104.

Evans, C., 2013. Making sense of assessment feedback in higher education. *Review of educational research*, *83*(1), pp.70-120.

Ferguson, P., 2011. Student perceptions of quality feedback in teacher education. *Assessment & Evaluation in Higher Education*, *36*(1), pp.51-62.

Gikandi, J.W., Morrow, D. and Davis, N.E., 2011. Online formative assessment in higher education: A review of the literature. *Computers & education*, *57*(4), pp.2333-2351.

Hauk, S., Knoke, T. and Wittkopf, S., 2014. Economic evaluation of short rotation coppice systems for energy from biomass—a review. *Renewable and Sustainable Energy Reviews*, *29*, pp.435-448.

Hou, A.Y.C., 2011. Quality assurance at a distance: international accreditation in Taiwan higher education. *Higher Education*, *61*(2), pp.179-191.

Jacobbe, T., 2012. ELEMENTARY SCHOOL TEACHERS'UNDERSTANDING OF THE MEAN AND MEDIAN. *International Journal of Science and Mathematics Education*, *10*(5), pp.1143-1161.

Li, Z., Boyle, F. and Reynolds, A., 2011. Domestic application of solar PV systems in Ireland: The reality of their economic viability. *Energy*, *36*(10), pp.5865-5876.

Liu, O.L., 2011. Outcomes assessment in higher education: Challenges and future research in the context of voluntary system of accountability. *Educational Measurement: Issues and Practice*, *30*(3), pp.2-9.

Liu, O.L., 2011. Value-added assessment in higher education: A comparison of two methods. *Higher Education*, *61*(4), pp.445-461.

Manikandan, S., 2011. Measures of central tendency: Median and mode. *Journal of Pharmacology and Pharmacotherapeutics*, *2*(3), p.214.

Maroko, A.R., 2012. Using air dispersion modeling and proximity analysis to assess chronic exposure to fine particulate matter and environmental justice in New York City. *Applied Geography*, *34*, pp.533-547.

Melville, N.P., 2010. Information systems innovation for environmental sustainability. *MIS quarterly*, *34*(1), pp.1-21.

Osborne, M.J., 2010. A resolution to the NPV–IRR debate?. *The Quarterly Review of Economics and Finance*, *50*(2), pp.234-239.

Papadakis, P., 2013. Terrain traversability analysis methods for unmanned ground vehicles: A survey. *Engineering Applications of Artificial Intelligence*, 26(4), pp.1373-1385.

Pernollet, F., Coelho, C.R. and van der Werf, H.M., 2017. Methods to simplify diet and food life cycle inventories: Accuracy versus data-collection resources. *Journal of Cleaner Production*, 140, pp.410-420.

Şen, Z., 2011. Innovative trend analysis methodology. *Journal of Hydrologic Engineering*, 17(9), pp.1042-1046.

Shah, M., Nair, S. and Wilson, M., 2011. Quality assurance in Australian higher education: historical and future development. *Asia Pacific Education Review*, 12(3), pp.475-483.

Sironi, S., Capelli, L., Céntola, P., Del Rosso, R. and Pierucci, S., 2010. Odour impact assessment by means of dynamic olfactometry, dispersion modelling and social participation. *Atmospheric Environment*, 44(3), pp.354-360.

Tavakol, M. and Sandars, J., 2014. Quantitative and qualitative methods in medical education research: AMEE Guide No 90: Part II. *Medical teacher*, 36(10), pp.838-848.

Yilmaz, K., 2013. Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2), pp.311-325.