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## How can student's attitude impact education supply chain?

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**Abstract:** Since students regard education as a passport to the working force, where and what students study can shape their attitude and ultimately determine their future. This research aimed to fill the gap found in the literature related to educational supply chain management by interviewing four students and utilising the attitude towards objects model in order to answer the research question 'How can student's attitude impact educational supply chain?'. Additionally, the study adopted an interpretive phenomenology analysis to examine their answers and draw the necessary conclusions. Several factors such as recommendations, value for money, what the university offered, entry requirements and the city itself among other factors impacted students' attitude as well as their choice of the host country, university, and degree – thus creating a pull in demand on the university's education supply chain that universities aimed to fulfil in order to gain competitive advantage. Moreover, seasonality in terms of the university's ability to offer several cohorts in addition to the traditional September cohort was found to have a significant impact on the student's attitude and choice, thus also creating a demand-pull on the university's supply chain.

**Keywords:** education supply chain; attitude towards object model; university; interpretive phenomenology analysis.

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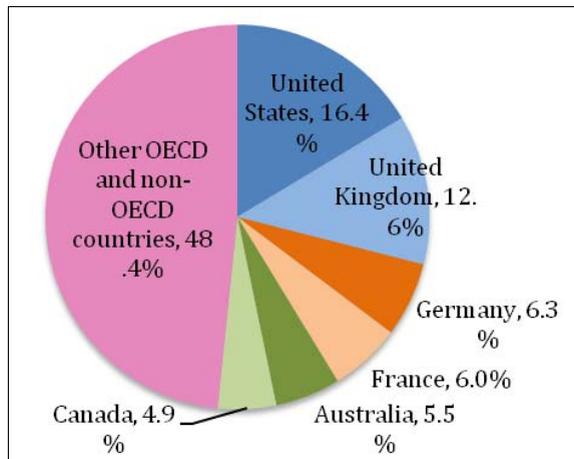
## 1 Introduction

Globalisation not only encourages product and service trade along with workers' migration within and between countries but also motivates students to pursue a university degree from host countries, which positively influenced the country's economy. King et al. (2010) argued that international student movement increased significantly over the last three decades in comparison to the total international migration. In order to maintain

their competitive edge, universities are transforming into market-oriented and relationship-based entities emphasising a consumer-centric approach. In other words, universities as service providers of knowledge, treat students as consumers, who pay a specific amount of money in the form of tuition fees for the provided educational services (Bagheri and Beheshti, 2010; Szulce and Świekatowski, 2014). Such a perspective has led universities' supply chains to become more strained in meeting the demand-pull placed on them due to the increased number of students pursuing their education.

However, Schwartzman (2013) and Ritzer (1996) reported their concern regarding the commodification of higher education (HE) and stated that students were at risk of impaired judgment when choosing a university to attend based on their attitude and aspiration towards their future, rather than the knowledge and skills the degree provides. Furthermore, Coughlan (2017) and Kentish (2017) explained the negative impact of increasing tuition fees on students' attitudes and subsequently, education supply chains. On the other hand, Mazzarol and Soutar (2002) and Bodycott (2009) argued that the increased demand for international HE providers had created a strain on its education supply chain.

**Figure 1** UK's ranking as a HE destination (see online version for colours)



Source: Universitiesuk.ac.uk (2018)

Nevertheless, multiple British newsagents and institutes such as the independent (Hodges, 2008), the British Council (Sowula, 2013) and UKCISA (2019) stated that the UK continued to be a favoured destination for international students pursuing their HE as shown in Figure 1. Moreover, in its latest statistics, UKCISA (2019) reported that in academic year 2015/2016, 81% of students studying in HE in the UK were from the UK, 6% from the rest of the EU and 14% were international students. They also mentioned that Chinese students formed the highest population of international students at 91,215, while the percentage of Indian students continues to decrease.

Finally, a gap was found in literature in terms of managing service supply chain in general (Dibb and Simkin, 1993; Sampson, 2000; Nixon, 2001; Sengupta and Turnbull, 1996; Fernie and Clive, 1995; Kathawala and Khaled, 2003) and educational supply chain management in specific (Lau, 2007; O'Brien and Kenneth, 1996; Pathik et al., 2012a, 2012b; Owusu-Bio et al., 2015). Therefore, this research's objective is to fill the

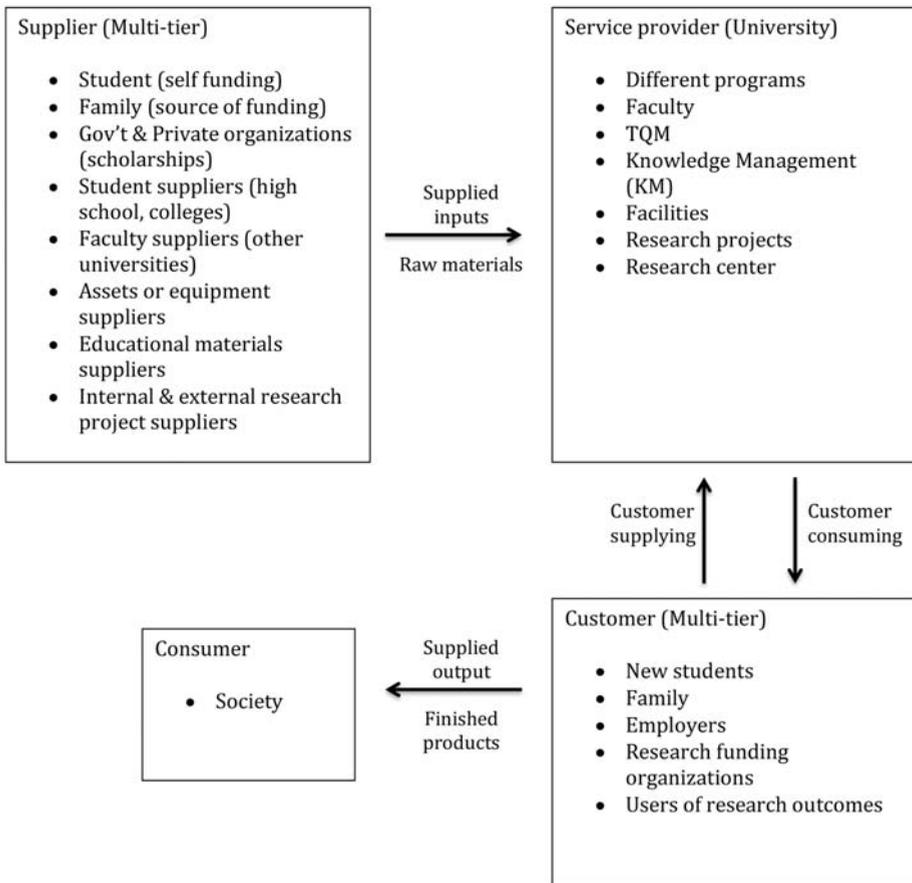
gap in the literature by investigating the impact of students’ attitude on education supply chain by utilising the attitude towards an object model to answer the research question ‘How can student’s attitude impact educational supply chain?’. Then please present the structure of this manuscript.

## 2 Literature review

### 2.1 Education supply chain

With its aim to help organisations achieve a competitive advantage through resource coordination and activity optimisation; supply chain was defined as specific processes or activities used to transform raw materials into products (outputs) that can be delivered to customers (Waskita, 2007; Chopra and Meindl, 2001; Anantadjaya et al., 2007; Chow et al., 2008).

**Figure 2** Single-level, multi-tier, bi-directional supply chain management for the universities, source



Source: Habib and Jungthirapanich (2008)

Characterised as a service supply chain, education supply chain considers its students as its raw materials, graduates and research as an outcome, education as the service provided by the university and the process students go through in order to graduate (Habib and Jungthirapanich, 2009; Owusu-Bio et al., 2015).

Education supply chain enhanced the well-being of students by providing them with relevant research, training and conducive learning environment that was crucial to their intellectual growth as well as the economic development of nations (Owusu-Bio et al., 2015; Krishna and Subbiah, 2012).

Unlike physical supply chain's easy to investigate performance, an Education supply chain's performance is hard to measure because it offers intangible services, is dominated by human capital and is impacted by students' attitudes and preferences, as well as the decision-making process students, go through when selecting the host country, the university and the degree (Owusu-Bio et al., 2015; Beamon, 1999; Gunasekaran et al., 2001).

Similar to a physical supply chain, education supply chain can have multi-tier suppliers and customers and can provide different types of services portrayed in the form of different taught and research degrees with different specialisations. Figure 2 demonstrated the multi-tier relationship and highlighted the importance of information sharing between its stages to ensure appropriate collaboration and coordination between its tiers as well as delivering a satisfactory outcome to society.

## 2.2 Decision making process in education supply chain

Students' needs and decision to pursue HE degrees can either be influenced by family, friends, and society or can stem from their aspirations. Whereas their choice of university is swayed by its ranking and reputation as well as costs, scholarships, learning advantages, internship opportunities available (Bhardwa, 2017; Khan, 2006; Kotler and Armstrong, 2010; Gatfield and Chen, 2006).

Binsardi and Ekwulugo (2003) corroborated these factors and specified quality of education; ease of admission; employment during and after study; the cost of study; accommodation; safety and culture as factors that would influence the student's choice of universities. Additionally, Maringe and Carter (2007) added the quality teaching and learning environment to the previously mentioned factors and Wilkins and Huisman (2011) mentioned the students' intentions to improve their English language as an influencing factor.

Such factors have a detrimental impact on students' perspectives, thus requiring them to go through the decision-making process shown in Figure 3 when selecting their degree, university, and host country.

**Figure 3** A buyer's decision-making process (see online version for colours)



Source: (Riley (2012))

However, Students' positive or negative attitude towards the university and the degree could only be shaped and determined during the post-purchase evaluation phase, i.e., after attending the university and undergoing the education process (Kardes et al., 2011; Hoyer and MacInnis, 2007).

Zeithaml et al. (2009) argued the importance of this phase in the service industry due to its impact of the students' purchasing behaviour and repurchasing intention in terms of enrolling for a second HE degree or recommending it to prospective students.

Finally, the attitude-toward-object model was used in literature to measure attitudes toward service, products, or organisations (brands). The model analyses attitudes by ranking the attributes from highest to lowest using a numerical value as a weight value. Therefore, those that possess the desired attributes were seen as positive while those who were lacking were seen as unfavourable and were usually rejected (Schiffman and Kanuk 2004; Ajzen and Fishbein, 1980; Bettman et al., 1975; Fishbein, 1963).

### **3 Methodology**

According to The Guardian (2018) and Thecompleteuniversityguide.co.uk. (2018) University X is a public research university in England, UK, ranked in the top 40 UK universities. It established an international reputation due to the quality of its teaching and research, as well as high satisfaction ratios with its courses, student to staff ratio, career perspective six months after graduation, among many other factors that were studied (The Guardian, 2018).

Quantitative method was adopted in this research not only because it studies phenomenon but also utilises problem specific surveys to collect, analyze and compare data (Saunders et al., 2009), thus paving the way to understanding the factors impacting students' behaviours, opinions, attitudes, and perceptions.

Since Marshall et al. (2013) couldn't find a valid reason in literature for choosing a specific sample number to use for interviews, four international students who attended university X in the UK and were enrolled in its MSC International Business degree participated in this research to study their attitudes and answer the research question. Furthermore, Marshall et al. (2013) stated that researchers such as (Chan and Ngai, 2007; Garud and Kumaraswamy, 2005; Nissen, 2005; Watson-Manheim and Bélanger, 2007) used different methods such as single or multiple case studies without providing an explanation for selecting the number of interviews for each case.

Both primary and secondary data were used in this research to collect the required data. Primary data such as interviews, observation, and memos were defined as authenticated information collected directly by researchers for the research's purpose (Cooper and Schindler, 2014). Whereas, secondary data related to education supply chain and consumer attitude was collected from previously published books and journals by using the title, abstract and keywords as filters in selecting papers directly related to the research topic (Okoli and Schabram, 2010; Tranfield et al., 2003).

The questions were developed to meet the research aims by using the literature to understand the definitions and influences of attitude and determine the factors that would impact students' decision-making process. The questions then were tailored to discover the impact of students' attitude on education supply chain.

Promotions, marketing efforts, recommendations, value for money in terms of tuition fees and quality of education provided were the selected factors to be investigated in this

research (Mazzarol and Soutar, 2002; Pimpa, 2003; Cheung et al., 2011; Furnham and McManus, 2004). Moreover, the existing literature divided Quality into the size of the class; the lecturers' experience, teaching method, approachability and feedback on assignments; learning resources and services provided by the university's main library and finally the amount of workload and self-study required by the student (Cubillo et al., 2006).

Finally, an Interpretive Phenomenology Analysis was employed to understand the students' attitudes towards their degree and university. This philosophy was used because it is an in-depth approach to analysing interviews while accepting the researcher as the primary analytical tool and employing semi-structured interview as a method of data collection (Smith et al., 1999; Hancock et al., 2007). The research employed open-ended questions in the interview, which usually started with "what do you think about [topic]" or "How do you think did [topic]", in order to eliminate 'yes' and 'no' answers and to stimulate the interviewees to express their opinions freely (Kvale, 1996). Furthermore, probing questions were used when necessary to gain more information on a particular factor (Saunders et al., 2009). Lastly, the attitude towards the object model was used to investigate students' attitudes further.

## **4 Findings and discussion**

Numerous researchers in literature investigated factors influencing students' choice of universities and degrees as well as their attitude towards it. This section aims at answering the research question by analysing the participants' answers.

### *4.1 Recommendations*

Three out of the four participants mentioned that recommendations played an influential role in choosing the UK as their host country and University X as their HE provider. Thus agreeing with the literature and the research assumption that recommendation was an influencing factor (Phang, 2013; Tkaczyk and Krzyżanowska, 2014). The fourth participant, however, mentioned that the English language was the influencing factor in their choice of the host country, thus disagreeing with the research assumption but agreeing with literature related to language as a motivating factor for their choice. These factors nonetheless created a pull on the university's education supply chain thus persuaded the university to react to it.

P1 "Yes my family was an influence to study in the UK [...] my brother influenced me to choose [...] because he studied in this university".

P2 "Nobody influenced it, I wanted to go to an English speaking country and I was always interested in England".

P3 "Yeah before coming to the UK I applied to Dubai so my agencies advised me that it would be the same fees if you go to the UK, so why not try the UK, so he convinced me that it is better to study in the UK than in Dubai".

P4 "[...] my cousin and my mother influenced me to come to the UK [...]".

#### 4.2 *Promotion and marketing efforts*

Living in the age of technology, students heavily rely on the university's website as a marketing and communication method and a channel for collecting information about the university and offered degrees (Gutman and Miaoulis, 2003).

Even though the existing literature stated marketing agencies as an influencing factor on student's decision-making process. Researchers did not consider the importance of the university' marketing and promotion effort, having a user-friendly website and a fleet of officers readily available to answer prospect students' questions immediately as an influencing factor that would help the university's education supply chain gain a competitive advantage.

Finally, all the participants agreed that University X's website was easy to navigate and provided the needed information. They also mentioned that the administration officers not only responded to their emails and phone calls quickly, but were also able to answer specific questioned asked by the participants efficiently. Consequently, this helped students form a positive attitude and enrol in university, thus impacting the university's supply chain.

#### 4.3 *Seasonality*

Even though multiple scholars have extensively studied the importance and impact of seasonality in physical supply chain (Costantino et al., 2013; Chopra and Meindl, 2004; Cho and Lee, 2012, 2013), no effort was made to establish its impact on education supply chains.

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The interviewed students highlighted the capability of University X to offer a February cohort for the MSC International Business in terms of lecturers and lecture rooms an essential factor when selecting the university, which was considered as seasonal demand, thus creating a pull in the university's education supply chain.

Unlike participants 2, 3 and 4, Participant 1 did not mention that seasonality impacted their choice of university.

P2 "University X was one of the few universities providing February start [...], so I decided to go to University X".

P3 "[...] I needed some universities that offer February or January intakes, so when I searched online, [...] so it was X".

P4 "It was the only good university starting in February, so I picked it".

#### 4.4 *Value for money and experience*

'Value for money' was considered as a critical issue for students when selecting HE providers in host countries (Petruzzellis and Romanazzi, 2010). Dickinson et al. (2018) did not only describe value for money in terms of tuition fees but also quality and divided into:

- class size
- the lecturers' experience, teaching method, approachability that is the ability to talk to lecturers and receive feedback on assignments
- the amount of workload and self-study required by the student.

Since attitude can be positive, negative or neutral (Sumarwan, 2004), the participants were asked to rate their satisfaction levels towards the value for money factor using the Likert scale, where 5 was being highly satisfied, 4 was satisfied, 3 was neutral, 2 was dissatisfied, and finally 1 was highly dissatisfied.

**Table 1** Participants' satisfaction levels towards the university

<i>Factors</i>	<i>Participant 1</i>	<i>Participant 2</i>	<i>Participant 3</i>	<i>Participant 4</i>
Tuition fees	4	4	5	2
Class size	4	4	4	4
Lecturer's experience and teaching methods	4	4	4	4
Lecturer's approachability	4	4	4	4
Lecturer's feedback on assignments	4	5	4	4
The amount of reading and self-study required for this degree	4	5	4	3
Services provided by the library	3	5	4	4
The availability of books in the library	4	2	4	2
The course's management and organisation	3	2	3	2
Overall satisfaction with the degree	4	4	4	3
Overall satisfaction with the university	4	4	4	3

Table 1 shows that the participants were generally satisfied and had a positive attitude towards the value of money and overall experience towards the degree. It also indicates they had a negative attitude towards the management and organisation of the February cohort. The participants mentioned that this negativity was due to lack of events and guest speakers, overlapping module, and issues with the students' timetables. Despite these fluctuating negative and positive attitudes, student's decision to choose University X still influenced its education supply chain.

#### 4.5 Attitude-towards-object model

In order to further understand the participants' attitude, they were asked to use the attitude-towards-object model to compare University X with the other universities they might have considered applying to or have applied to in conjunction with University X. The participants were asked to evaluate their attitudes towards the recommendations they received, the university's entry requirements, tuition fees, marketing and communication

methods and finally the city the university is located in Phang (2013) and Cubillo et al. (2006).

The participants were asked to evaluate these factors and their beliefs from 1–5, where 5 represented the highest rank and 1 the lowest and then multiplied evaluation (a) by belief (b) (a\*b) by each other for each university. They evaluated their attitude and arrived at their preferred university by adding the value of the (a\*b) column for each university. Their preferred university was usually the one with the highest score.

**Table 2** Participant 1’s attitude towards the university

Attitude	Evaluation <i>n</i> (a)	Belief (b)		a*b	
		University		University	
		X	Y	X	Y
Recommendation	4	4	3	16	12
Entry requirements	4	4	2	16	8
Tuition Fees	2	2	2	4	4
Marketing and communication	4	4	2	16	8
City	4	3	4	12	16
Total				64	48

**Table 3** Participant 2’s attitude towards the university

Attitude	Evaluation (a)	Belief (b)			a*b		
		University			University		
		X	F	G	X	F	G
Recommendation	1	1	1	2	1	1	2
Entry requirements	4	4	3	5	16	12	20
Tuition Fees	3	3	3	3	9	9	9
Marketing and communication	1	3	5	1	3	5	1
City	5	5	4	2	25	20	10
Total					54	47	42

**Table 4** Participant 3’s attitude towards the university

Attitude	Evaluation (a)	Belief (b)				a*b			
		University				University			
		X	C	D	E	X	C	D	E
Recommendation	4	4	2	5	3	16	8	20	12
Entry requirements	4	4	4	2	4	16	16	8	16
Tuition fees	2	4	4	1	4	8	8	2	8
Marketing and communication	2	2	3	3	2	4	6	6	4
City	4	4	3	3	4	16	12	12	16
Total						60	50	48	56

**Table 5** Participant 4's attitude towards the university

Attitude	Evaluation (a)	Belief (b)			a*b		
		University			University		
		X	A	B	X	A	B
Recommendation	3	4	4	4	12	12	12
Entry requirements	4	4	2	3	16	8	12
Tuition fees	4	4	2	3	16	8	12
Marketing and communication	5	2	2	5	10	10	25
City	4	4	5	5	16	20	20
Total					70	58	81

Tables 2–5 showed that the participants' attitude towards the University X was higher than that for alternative universities for 3 out of 4 participants. The participants mentioned during the interview that recommendations played an influencing role in their decision and also ranked it high on the model.

Additionally, since every university in the UK has its own set of entry requirements for the offered postgraduate degrees, such as specific grade to be achieved on the English language test (IELTS), work experience, academic qualification, personal statement, and references (Postgrad.com, 2015), the participants agreed with existing literature that entry requirements were an influencing factor and highly ranked them in the model.

On the other hand, the existing literature did not consider the city's attributes such as geographic, demographic and psychographic in terms of relaxation, excitement, nightlife, adventure, safety, and security as an influencing factor (Kolb, 2006). The students listed it as an influencing factor and ranked it highly, thus proving how it shaped their attitude and decision, which in return affected the university's supply chain when they enrolled.

Finally, even though the students mentioned the importance of universities' marketing and communication methods, their evaluation of it fluctuated, thus affecting their belief and attitude towards it.

To conclude, the interview results showed that the defined factors impacted students' behaviour in terms of pursuing their HE (buying the service offered by the university). These results agreed with the existing literature but also showed factors were the literature was lacking. These factors impacted students' decision-making process, their experience while enrolled in the university impacted their attitude, which consequently positively influenced the university's education supply chain by triggering a pull in demand that University X was able to meet through offering degrees and classes in general and for the February cohort in specific.

## 5 Conclusions

This research proved that students' experience could form a positive or negative attitude, which will significantly impact educational supply chain. It agreed with the existing literature that there were certain factors that positively or negatively impacted the student's selection process of universities such as marketing efforts, recommendation, and value for money. It also added to the literature by discovering additional factors such as the university's location, its ability to offer different intakes (Seasonality) and the

university's marketing and communication methods also had an impact on the student's attitude.

Additionally, a positive attitude was shaped if students' experience while on the studying bench matched their expectation, thus recommending the university to friends, family, and society, hence creating a demand-pull towards the university. Alternatively, if the student formed a negative attitude, they would not recommend the university, which negatively impacts the education supply chain, thus losing profits and its competitive advantage.

Unfortunately, the lack of British students in this cohort posed a research limitation due to the researcher's inability to investigate their attitude and perceptions. Nonetheless, the same research methodology can be replicated and applied to the same university, i.e., request more students (domestic and international) from other cohorts and disciplines to participate in order to understand their perceptions. On the other hand, any researcher could broaden the investigation to include other universities across the kingdom and perhaps other countries. Furthermore, by using seasonality in education supply chain researchers can further investigate and explain its impact so that universities can benefit from it and create a stronger competitive advantage by creating additional cohorts to the September one, which offer a variety of degrees and classes.

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