CRM Framework for Higher Education in Mauritius

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ABSTRACT
This research paper provides a conceptual CRM framework that may be used by public universities in Mauritius for managing student relationships. Several important components have been identified for improving relationships with students based on a survey carried out with students and staff in the different public universities in Mauritius. The research findings show that people integrity and trust, communication and adaptation, facilitation and support, technological support and student engagement activities are the most important factors for improving relationship building. The rationale of the study is built upon the increasing number of student complaints and problems in the public universities. The research outcome will be highly beneficial for the different stakeholders in higher education.

Keywords: Communication, CRM Framework, Higher education, Integrity, Public universities, Relationship building

INTRODUCTION
There are four public universities in Mauritius, namely, University of Mauritius, University of Technology Mauritius, Open University and Université des Mascareignes. The oldest university is University of Mauritius, which has been in existence for more than 50 years. There have been many recent press articles making reference to student outcry regarding the quality of student services and support offered (David, 2016). According to ACCRAO (2016), more than 43% of American universities are adopting some form of Customer Relationship Management (CRM) and the remaining are considering the implementation of one. The Hanover Research also stresses on the need for improving student satisfaction and the need to use technology for enhancing student
learning in higher education (“Trends in higher”, 2014). In the Mauritian context, the Tertiary Education Commission of Mauritius has also pointed out some weaknesses in the different public universities (“Participation in tertiary”, 2016). Virgiyanti, Hassan, Bakar, and Tufail (2010) support the fact that CRM is well established in the domain of universities. The main proposition of using CRM in higher education is that it is easier to retain existing students than to attract new ones. The present research will seek to develop a CRM framework that may prove to be highly useful to the academic community at large.

Amoako, Arthur, Christiana, and Katah (2012) postulate that in order to achieve customer satisfaction, CRM needs to comprehend and induce the behavior of a customer and to determine customer needs. CRM is also defined as a comprehensive approach for creating, maintaining and expanding customer relationships. Kuper (2014) claims that non-traditional students, when selecting an institution of higher education show the same service expectations as they do when making any other major purchase. Students have high expectations before, during and after enrolment for the service they receive as shown in studies that look at what they want from higher education providers. This particular view bolsters the need for universities to have CRM system in place.

Kotler and Fox (1995) point out the growing importance of marketing research and segmentation in the field of higher education. As such, universities are refocusing their strategies to be more market and customer-oriented and are continuously responding to student needs and requirements, so as to enhance their competitive positions. Universities have set up dedicated student affairs office and international office to be closer to the students and increase student engagement and loyalty.

The debate on the application of marketing principle in higher education took momentum in the early 1990s (Hemsley-Brown & Oplatka, 2006; Sharrock, 2000). However, some academics are not convinced about the application of marketing in the field of higher education. Many stakeholders are also against the philosophy of treating students as customers, similar to the business context as they believe that it contradicts with educational values.

Scott (2000) believes that universities have been traditionally segregated with a narrowed vocation. He views globalisation as the most important challenge which has brought a paradigm shift in the overall functioning and philosophy of universities. It may also be deduced that it has even shaped the whole character of modern universities. This shift has been addressed by Carlson (1964) as a transition from “domesticated environment” before 1990s to a “wild environment” after this time (Preedy, Glatter, & Wise, 2003, p. 125-128). This paradigm shift is the key trigger for the development of CRM. Though Mauritian universities are younger in comparison to many traditional and long standing universities, the impact of globalisation and
marketisation is nonetheless, being felt, as more universities are fighting from the same pool of students. All universities nowadays are aggressively marketing their courses to attract the highest number of students. Hence, the research question that emanates logically is the assessment of the impact of globalisation and internationalisation for public universities.

It is important to further the discussion on the impact of globalisation on public universities, just as in other business sectors. Marginson and Van der Wende (2009) claim that higher education has always been more internationally open to globalisation than other sectors. The fundamentals of globalisation in higher education are prevalent and multifaceted. It is estimated that more than 1.6 million students study abroad, with more than 547,000 studying in the United States (Pimpa, 2003). Consequently, global competition in the choice of universities has emerged. The issues and consequences of global marketisation of higher education and privatisation (Arimoto, 1997; Kwong, 2000) have been discussed in the context of a number of important concerns, problems of increasing competition between institutions, nationally and internationally (Allen & Shen, 1999; Conway, Anderson, Larsen, Donnelly, McDaniel, McClelland, & Logie, 1994; Kemp, Madden, & Simpson, 1998), funding issues (Brookes, 2003), and widening participation or social segmentation (Ball, Davies, David, & Reay, 2002; Brookes, 2003; Farr, 2003; Reay, Ball, & David, 2002). It is true that public universities may not compare with international brands such as Oxford and Cambridge. However, to realise the dream of becoming an education hub, Mauritius should benchmark the best practices in terms of student engagement and student life. Public universities should also learn from the mistakes and problems of old universities, and provide state-of-the-art services and facilities to students.

Higher education in Mauritius has a serious quality problem (“Ile maurice: Etudes”, 2015). In the present competitive academic environment students have many options available to them. Therefore, it is important to study factors that enable educational institutions to attract and retain students. Higher education institutions which want to gain competitive edge in future may need to begin searching for effective and creative ways to attract, retain and foster stronger relationship with students, thus, making it necessary to invest in CRM for improvement.

In response to the current information age, a new term has been introduced, that is, *informationisation* – the development and expansion of information technology, besides globalisation. It has created a highly competitive and global environment for universities, resulting in a marked increase in on-the-spot free information about study programs, college amenities and ranking available to potential students who have become choosy about their studies (King, 2008). The use of technology for improving student experience is discussed later in the literature review. This view emanates from the sixth stream of CRM discussed under
the origins of CRM. This is also reflected in the investment of technology in public universities, such as Maclab at Open University.

As a result of increasing globalisation, informationisation and other factors, including novel ways of delivering education, work force requirements and population demographics (King, 2008), it is of little surprise if university management and policy makers have started thinking of strategic planning in order to develop and maintain a smart balance between the institutions’ capabilities and objectives and their changing external environments. An important conveyor is the university’s mission statement to the society, a marketing policy, which is a central part of this strategic planning. Adopting such a philosophy may help Mauritius achieve the objective of a global education hub.

From the wave of globalisation, there is the need for universities to be more customer centric. Achieving students’ satisfaction will take such institutions to the point that a long-standing relationship can be established in which both sides, students and universities, can take advantages of. According to Pausits (2007, p. 13), “relationships take on the character of companions for life”, given that life-long learning approach in the current world has made students to not only study at the university once, but also to have recourse to the institution again and again over time. To stress the importance of relationship in higher education, Pausits (2007, p. 125-126) has also stated that higher education institutions should no longer hold the attitude of being “ivory towers”, thus, need to transform themselves into “relationship-based organizations.”

However, marketing education literature has not developed uniformly and there is an overall lack of development of theoretical models that are clearly adapted to educational services (Hemsley-Brown & Oplatka, 2006). As Oplatka and Hemsley-Brown (2004) point out, when literature originated in the 80s, it was basically theory and norms oriented, based on the application of models initially conceived for business, especially those from marketing communication, to the promotion of educational institutions. Later, the debate shifted to consider whether students fitted into the ‘customer’ label or whether it was about ‘product’s that educational institutions ‘offered’ to the labour market (Conway et al., 1994; Emery, Kramer, & Tian, 2001). This debate has already been clarified in the preceding section.

Similarly, Nicolescu (2009) too supports the adoption of more market-oriented and business-like competitive edge in their market. Marketing plans and market-oriented perspective in a university are positively correlated, a market-oriented mode cannot be achieved by merely adding a marketing position or office in a university. According to Preedy et al. (2003, p. 125-128), the concept of marketing for most educationists is an imported, even an alien concept, with a wide range of interpretation of marketing among education experts.
Wilkins, Stephens Balakrishnan and Huisman (2012) suggest that many institutions of higher education have evaluated their service quality performance through internal feedback systems. However, little has been elaborated from a real CRM perspective. Higher education should make use of social CRM – use of social media tools and techniques to achieve marketing objectives. Another important concept that will be elaborated further is the concept of student relationship management (Trocchia, Finney, & Finney, 2013; Zhou, Lu, & Wang, 2011).

This section of the literature clearly identifies the literature gap as there is a lack of theoretical models adapted to education. It also outlines that globalisation and competition, have resulted in a dire need for relationship building to achieve competitive edge. There is a drive for educational institutions to achieve excellence and effective positioning.

Some research effort in the choice of higher education or consumer behavior has principally been influenced by the individual institution’s need to predict the long term impact of choice and to understand the main factors involved in student choice (Farr, 2003). Educational institutions should also apply CRM to better know and understand their customers (Daradoumis, Rodriguez-Ardura, Faulin, Juan, Xhafa, & Martinez-Lopez, 2010). Additionally, the influence of technology on CRM has been highly significant (Hidayanto & Budiardjo, 2015), and reference is made to the use of Web 2.0 for higher interactivity with students.

A recent study by the American Association of Collegiate Registrars and Admissions Officers (AACRAO, n.d.) considered the application of CRM in American universities. The survey was conducted with 603 admissions and enrolment management officers. From the survey, it was observed that 64% practised at least one means of CRM in their institution. This implies that CRM is well established in developed economies. Another interesting finding is that 42% of institutions who do not have one are considering one. It may also be true for the public universities in Mauritius. Further findings establish that few institutions are using CRM to provide lifecycle management support. The majority of users (59%) indicate that their institution has been “moderately successful” in the overall use of the CRM. It is obvious that CRM applications are widespread and are available in many countries. Mauritius is a small island that has the potential of becoming a knowledge hub and therefore, should tap on the potential benefits that the implementation of CRM may bring. However, there is no literature available related to the application of CRM in the local context. There is some reference of its application in commercial sectors such as tourism and banking. The literature reflects that there is a huge potential for the use of CRM in public universities in recruitment, marketing and communication with students. It is interesting to note that in the United States, 64% of universities claim to have at least one form of CRM. Thus, there is need for government support to...
improve the infrastructure, which may help to reduce costs of operations, as explained earlier.

Kordupleski, Rust and Zahorik (1993) have also identified the importance of quality service provision and increased market share, and claim that good service quality leads to satisfied customers spreading positive word of mouth. This may consequently lead to higher market share. This also confirms that students are more likely to continue their enrolment in educational institutions which meet students’ expectations for service quality. Another variable identified by other researchers like Berry (1983), Morgan and Hunt (1994) is CRM, a key driver of customer satisfaction. CRM principles are endowed with a strategic focus for highlighting and finding sources of value for the customer and to fulfil his / her satisfaction. As a norm, the process of CRM uses information from the customers to manufacture and deliver innovative offerings to them (Berry, 1983).

In studies carried out by Berry (1983), and Morgan and Hunt (1994), the researchers identified the long-run value of potential and current customers within service context and observed a boost in earnings of shareholders’ wealth if marketing activities were to be directed towards maintaining and improving long lasting company-customer relationships. Vargo and Lusch (2004) also confirmed in their research that CRM principles help organisations to foster a culture that creates value for the shareholders and utility for customers. Payne (2006) in his handbook of CRM notes the rise of CRM activities, emphasise a focus on profitable customers and explain how rising industry and competitive characteristics have made CRM a holistic strategic approach to manage customer relationships, creating satisfied customers and thus maximising the shareholder value.

In the context of higher education, universities are increasingly being identified as service providers and, as such, they are finding themselves focusing more and more on the needs of their students (Gruber, Lowrie, Brodowsky, Reppel, Voss, & Chowdhury, 2012). Understandably, college students have needs they seek to fulfill as they enrol at higher education institutions. Student needs satisfaction have many categories, but those that take precedence in the retention literature are financial (Wetzel, O’Toole, & Peterson, 1999), social (Bean & Eaton, 2001; Terenzini & Pascarella, 1977) and post-graduation career assistance.

There are several studies that have been carried out related to the subject of CRM in the Mauritian context. A study by Juwaheer (2000) clearly mentioned the lack of understanding of relationship marketing in Mauritius. The study was related to CRM in the service sector. Some of the interesting findings of the study were that more than 60% of the respondents claimed to have a database about their customers. About 52% of the respondents claimed that the aim of CRM is to increase loyalty of customers. About 52% of the respondents claimed that the aim of CRM is to increase loyalty of customers. Another research by Kandampully, Juwaheer and Hu (2011) showed that there is a positive correlation
between service quality and loyalty in the hotel industry. Subsequently, there have been studies related to testing the effect of CRM on loyalty. However, the contextual contribution is the application of CRM in higher education. Studies and research in higher education have focused more on internationalisation and service quality evaluation. Another field which has elicited interest is that of the implementation of TQM. A study by Claude Ah Teck and Starr (2013) analysed the perceptions related to Total Quality Management for school improvement. The Human Resource Development Council has also organised academic conferences on the internationalisation of higher education. Earlier some discussions on the drivers of CRM made reference to globalisation and internationalisation of higher education. Teeroovengadum, Kamalanabhan, and Seebaluck (2016) have made reference to the development of HESQUAL for measuring service quality in higher education through the use of both qualitative and quantitative research.

Many hotels in Mauritius have adopted the CRM strategy to survive the new dynamics of global competition (Oogarah-Hanuman & Naicker, 2016). Claiming to have a CRM strategy is not enough, more important is to gauge how effective the strategy has been for the hotel. A good strategy without proper execution is bound to fail. So, implementation is a major phase within the adoption process. Conceptually, CRM has been widely embraced by businesses. In practice, however, examples of success contrast with anecdotes where the diffusion of CRM into organisations continue to be a slow process and/or where CRM implementation outcomes have fallen short of expectations.

Successful implementation depends on a number of factors such as fit-between of a firm’s CRM strategy and programmes and its broader marketing strategy, and intra-organisational and inter-organisational cooperation and coordination among entities involved in implementation (Oogarah-Hanuman & Naicker, 2016).

**METHODOLOGY**

The research is based on a survey carried on students and lecturers. The sample chosen for this study is 370, based on the matrix of a well-defined population by Krejcie and Morgan (1970). Stratified sampling technique was used for greater representativeness. Another survey with 30 staff (academic and non-academic) was carried out for purposes of triangulation. Interviews were also carried out but not included in this research report. A positivist research approach was adopted for higher generalisation at a larger scale. The Cronbach alpha for the different scales used was more than 0.7, therefore, highly reliable.

**RESULTS AND DISCUSSION**

The key variables and indices were identified based on literature review and a pilot test with 70 students. Exploratory factor analysis was carried out to identify the key components/indices which may form
part of the proposed CRM framework. Subsequently, the different indices were compared based on a grand mean and reclassification based on the degree of importance.

Table 1
The variables/indices identified

<table>
<thead>
<tr>
<th>Index Name</th>
<th>Description of Variables</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| SRM Communication Index | 1. Provide students academic info  
2. Creation of student university email  
3. Use of website for communication  
4. Meeting with student representatives | The purpose of this index is to measure the different ways in which universities can build relationships through different communication channels with students |
| SRM Academic Support Index | 1. Provide tutorials and help sessions  
2. Discuss academic problems | The index measures the academic support provided by academic staff in higher education |
| SRM Emotional Index | 1. Psychological counselling by staff  
2. Help from personal tutors  
3. Peer group support  
4. Stress management techniques | The index is about dealing with the emotional component of studying in higher education |
| SRM Complaint Handling Index | 1. Formal student complaint procedure  
2. Resolving student complaints  
3. Communicate solutions to students | The index is about dealing with student problems and complaints |
| SRM Relationship Index | 1. Appointment of a relationship officer  
2. Empathise with students  
3. Loyalty schemes for students | The relationship index is about caring and empathising with students in universities |
| SRM Technology Index | 1. Purchase of CRM software  
2. Training for CRM software  
3. Enterprise Resource Planning  
4. Application of e-CRM | The technology index measures the use of technology to enhance student experience |
| SRM Social Integration Index | 1. Extra-curricular activities  
2. Support from students’ union  
3. Community involvement activities | This index measures the extent of social integration of students in terms of adaptation to student life |
| SRM Financial Support Index | 1. Facilities of payment  
2. Simple payment systems | The index measures the extent of financial support provided to students |
| SRM Alumni Index | 1. Creation of alumni  
2. Alumni activities | The index provides the importance of alumni for relationship building |

After the indices were computed by SPSS and created as new variables, a grand mean value and descriptive statistics were computed to analyse the degree of importance of each of the components identified below:

Method of computation of index: Transform > compute variable> name the index > input formulae for computation based on the number of variables > complete
For the selection of components to be included, a recoding was done as follows:

The recoding was done as follows – value between 1.0-1.5, high importance was given; value between 1.6-1.8 was accorded as quite important; value equal to or greater than 1.8 was classified as less important value. Based on the classification above, the different variables of importance in future CRM framework would be as follows:

Table 2
Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRM Academic Support Index</td>
<td>370</td>
<td>1.00</td>
<td>6.00</td>
<td>1.3824</td>
<td>.03288</td>
</tr>
<tr>
<td>SRM Financial Support Index</td>
<td>370</td>
<td>1.00</td>
<td>5.00</td>
<td>1.4108</td>
<td>.03282</td>
</tr>
<tr>
<td>SRM Communication Index</td>
<td>370</td>
<td>1.00</td>
<td>8.00</td>
<td>1.4791</td>
<td>.03972</td>
</tr>
<tr>
<td>SRM Administrative Support Index</td>
<td>370</td>
<td>1.00</td>
<td>10.50</td>
<td>1.5764</td>
<td>.04514</td>
</tr>
<tr>
<td>SRM Complaint Handling Index</td>
<td>370</td>
<td>1.00</td>
<td>5.00</td>
<td>1.5955</td>
<td>.03676</td>
</tr>
<tr>
<td>SRM Social Integration Index</td>
<td>370</td>
<td>1.00</td>
<td>10.00</td>
<td>1.6423</td>
<td>.04259</td>
</tr>
<tr>
<td>SRM Relationship Index</td>
<td>370</td>
<td>1.00</td>
<td>5.00</td>
<td>1.7730</td>
<td>.03857</td>
</tr>
<tr>
<td>SRM Technology Index</td>
<td>370</td>
<td>1.00</td>
<td>5.00</td>
<td>1.8000</td>
<td>.03621</td>
</tr>
<tr>
<td>SRM Emotional Index</td>
<td>370</td>
<td>1.00</td>
<td>7.00</td>
<td>1.8149</td>
<td>.04287</td>
</tr>
<tr>
<td>SRM Alumni Index</td>
<td>370</td>
<td>1.00</td>
<td>12.00</td>
<td>1.8959</td>
<td>.05326</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>370</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3
Classification of mean values

<table>
<thead>
<tr>
<th>Mean Value</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0-1.5</td>
<td>high importance</td>
</tr>
<tr>
<td>1.6-1.8</td>
<td>quite important</td>
</tr>
<tr>
<td>Greater than or equal to 1.8</td>
<td>less important</td>
</tr>
</tbody>
</table>

Table 4
Classification results

<table>
<thead>
<tr>
<th>SRM Indexes</th>
<th>Mean</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRM Academic Support Index</td>
<td>1.3824</td>
<td>High Importance</td>
</tr>
<tr>
<td>SRM Financial Support Index</td>
<td>1.4108</td>
<td>High Importance</td>
</tr>
<tr>
<td>SRM Communication Index</td>
<td>1.4791</td>
<td>High Importance</td>
</tr>
<tr>
<td>SRM Administrative Support Index</td>
<td>1.5764</td>
<td>High Importance</td>
</tr>
<tr>
<td>SRM Complaint Handling Index</td>
<td>1.5955</td>
<td>Quite Important</td>
</tr>
<tr>
<td>SRM Social Integration Index</td>
<td>1.6423</td>
<td>Quite Important</td>
</tr>
<tr>
<td>SRM Relationship Index</td>
<td>1.7730</td>
<td>Quite Important</td>
</tr>
<tr>
<td>SRM Technology Index</td>
<td>1.8</td>
<td>Less Important</td>
</tr>
<tr>
<td>SRM Emotional Index</td>
<td>1.8149</td>
<td>Less Important</td>
</tr>
<tr>
<td>SRM Alumni Index</td>
<td>1.8959</td>
<td>Less Important</td>
</tr>
</tbody>
</table>
The most important variables selected based on the degree of importance are Academic Support, Financial Support, Communication and Administrative Support Index.

Table 5
CRM framework

<table>
<thead>
<tr>
<th>Component</th>
<th>Factors Retained</th>
<th>Basis and Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Drivers of CRM in higher education</td>
<td>Student expectations are increasing, Need to develop long term relationships, Need to increase student satisfaction</td>
<td>Based on the analysis of the mean values and results of previous studies</td>
</tr>
<tr>
<td>Factors that affect student attrition and student loyalty</td>
<td>People integrity and trust in university services, Communication and adaptation, Student engagement satisfaction and commitment, Facilitation and support for students</td>
<td>Based on the EFA grouping results</td>
</tr>
<tr>
<td>Student relationship management variables selected</td>
<td>SRM Academic Support, SRM Financial Support, SRM Administrative Support, SRM Technological Support, SRM Student Facilitation</td>
<td>Computation of indices and ranking based on mean values and recoding + exploratory factor analysis</td>
</tr>
</tbody>
</table>

The CRM Framework Proposed for Public Universities

The results are highly significant as it will help relationship building in higher education. The most important variables selected based on the degree of importance are Academic Support, Financial Support, Communication and Administrative Support Index. These variables have been normal, as shown in research conducted by Tinto (1975) and others. The study also confirms the growing importance of CRM in higher education (AACRAO, n.d.). In addition, the study identifies the key components that may affect student attrition in the Mauritian higher education. There is no prior research
in this field, hence, this represents the contribution to knowledge. In view of this, Jutton (2016) has considered student problems that may lead to alienation in distance education. Besides that, another interesting variable is the importance given by students to integrity and trust in higher education.

CONCLUSION
This research paper has proposed a new framework for improving relationships with students. The importance of the research lies in the improvement of the overall student satisfaction. Many students have complained about the current educational system in Mauritius. The CRM framework, if effectively implemented will surely help in improving the overall student experience.

REFERENCES


