NAVIGATING THE INFLUENCE OF MARKETING ORIENTATION ON UNIVERSITY PERFORMANCE

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Abstract. This study is part of a broad stream of continuing research examining market orientation within higher education and its potential impact on university performance. The study examined the influence of marketing orientation on the performance of South African universities. The sample consisted of 507 academics who were conveniently selected from six universities of technology, located in various provinces of South Africa. Seven marketing orientation elements, namely, market intelligence generation, inter-functional coordination, customer orientation, market intelligence dissemination, intelligence response design, intelligence response implementation and interdepartmental dynamics that exert an impact on university performance were identified using the exploratory factor analysis technique. A Pearson Correlation analysis revealed positive and significant associations between all seven market orientation elements and university performance. Mean score ranking of the seven elements showed that intelligence response design was the most important market orientation element. Subsequent multiple regression analysis revealed that inter-functional coordination, customer orientation, market intelligence dissemination, and intelligence response design predicted university performance. Using the results of this study, marketing practitioners in universities may be able to address university performance challenges by applying a right mix of the seven marketing orientation dimensions examined in this study. The results of this study can be used to develop appropriate marketing strategies that are useful in the diagnosis and rectification of performance challenges in universities.

JEL classification: M31, I23

Keywords: Marketing orientation, university performance, higher education institution

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1. Introduction and Background

Higher education institutions are under growing pressure as they are exposed to various demands from different stakeholders. During the past decades, such institutions have been directing mounting attention to the understanding, adoption and implementation of market orientation (Notshulwana, 2011). In addition, there has been an increased emphasis on efficiency and effectiveness in the evaluation of outputs in higher education institutions, which places them in the spotlight with respect to their performance (Badat, 2015). Furthermore, expansion, diversification, increased competition and greater choice has been described in the literature as the overarching forces that have driven educational institutions to embrace the marketing idea (Odhav, 2009). However, marketing in higher education has only recently begun to have an overt presence, at least in the developed world, after a protracted concealment under more traditional communications structures and functions (Hay and Monnapula-Mapesela, 2009). This has culminated in the enhancement of emphases placed on elements such as the public relations office, the external relations office, the international students' office, students' affairs department, publicity and publications office that have traditionally been claimed to be the basis for university marketing (Veldsman, 2014). This shows that marketing orientation has become central to the success of universities in their daily operations.

The purpose of this study was to examine the influence of market orientation on the performance of South African universities. According to Arnolds, Stofile and Lillah (2013), the marketing of higher education is still in its infancy in many parts of the world. Three reasons can be cited for this trajectory. The first is the formidable obstacle of internal resistance to marketisation in higher education. The second is the failure of higher education to identify itself with a specific product, and this is epitomised in the ongoing battles between competing positions on whether higher education should primarily be about research or teaching, and whether students are consumers or products. The third is the failure of higher education to domesticate the marketing idea and turn it into a home-grown philosophy by utilising marketing ideas based on borrowed wisdom from the business sector. Within a Southern African context, universities in the region are at different stages of marketisation and their levels of marketing sophistication and understanding, which closely resembles those in the business sector, vary from institution to institution (Hammond, Webster and Hammon, 2006). Research evidence also suggests that current higher education marketing lacks an appropriate contextualisation, is poorly organised and coordinated, largely responsive and not strategic and its application lacks formal operational guidelines (Mafini, 2014). Empirical research thus remains an important channel through which answers to these conundrums can be provided. This study is significant in that its results can be used in developing a suitable marketing orientation mix to solve performance related challenges in institutions of higher learning.

Within the South African higher education sector, no conspicuous marketing approaches seem to exist. Such apparent lack in market orientation may be due to the diversity in the vast higher education sector with previously historically black institutions limited in financial resources and inferior facilities compared to the prestigious historically white universities, which were better funded under the previous government dispensation (Samuel and Chipunza, 2013). Furthermore, as

stated by some scholars (Sedgwick, 2004; Divala, 2014), it appears that higher education institutions in South Africa do not use common market orientation activities as exhibited through the decline in student numbers at some higher education institutions. Students in South Africa are now faced with a broader selection of higher education institutions all competing with one another, since new types of higher education institutions having been created, such as comprehensive universities and stand-alone universities of technology (Mbali, 2010). Universities in the country are therefore left with the modest option to embrace the marketing idea. In view of these developments, this study examined the influence of market orientation on the performance of South African higher education institutions. The study is significant in that its results may provide information that may be used by universities in the country to initiate approaches to enhancing their overall performance/s in the highly competitive higher education sector in the country.

2. Theoretical Background

Market orientation

Market orientation may be perceived as the organisation-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments and organisation-wide responsiveness to this intelligence (Kohli and Jaworski, 1990). It is a set of beliefs that puts customer's interest first and raises the awareness of the need to obtain information about competitors in order to gain a competitive edge in the turbulent, competitive environment (Hemsley-Brown and Oplatka, 2010). Market oriented organisations typically have a good understanding of their competitors, both current and potential, to serve the same markets (Kaynak and Kara, 2004). According to Perrault and McCarthy (2002), one of the major issues that have consensus amongst researchers is the lack of systematic efforts to develop valid measures of market orientation. However, this study integrated and operationalised the well-established models of Jaworski and Kohli(1993) behavioural model and the Narver and Slater (1990) cultural model in examining the extent to which universities in South Africa reflect these elements in their marketing strategies and the impact of these elements towards university performance.

In higher education, the starting point for a market-oriented university is a market intelligence philosophy that encompasses all the informal as well as formal means of generating market intelligence about students, competitors, industry and business needs and preferences (Penceliah, 2004). This includes monitoring current and prospective students, marketing activities implemented by other institutions, employing organisations and detecting fundamental shifts in higher education environments (Assad *et al.,* 2008). In addition, it is crucial for universities to have the forward looking and futuristic orientation of serving the target market because this facilitates the satisfaction of the inherent social obligation to produce dynamic and competent graduates (Cabrera, Colbeck and Terenzeni, 2001). This adds credence to the assumption that market orientation is appropriate in higher education establishments.

The higher education environment in South Africa

In South Africa, a new public higher education landscape was established in South Africa after the emergence of democracy in 1994 (Gultig, 2000). By 2015, there were 26 higher education public institutions that are classified into 11 traditional universities, six universities of technologies, and nine comprehensive institutions (Hall, 2015). Amongst other things, the new landscape incorporates an institutional nomenclature, notably the terms universities of technology and comprehensive institutions, which are essentially career-focused. Similar to other countries, higher education institutions in South Africa are faced with challenges regarding significant enormity of the sector and the fierce competition for market share that characterises it (Dube and Ngulube, 2013). This is further exacerbated by the South African government's well-promulgated intention to increase the participation rate in higher education from 15 percent to 20 percent within twenty years (South African National Plan for Higher Education, 2001). The government has also linked enrolment statistics to funding and consequently increased competition for students among higher education institutions (Gillard, Saunders, Terblanche and Sukel, 2012). This compels South African higher education institutions to find innovative ways to increase their competitive advantage as the higher education sector undergoes these essential transformations (Akojee and McGrath, 2008).

University performance

This study acknowledges the complexities, controversies and the general lack of unanimity as regards the metrics that can be used to measure organisational performance the world over. However, for the purpose of this study, performance indicators that are prescribed through the South African National Plan for Higher Education (2001) were adopted as the parameters for defining and measuring university performance. As put forward by Van Staden (2010), these performance indicators entail that a well performing university has the following five characteristics;

- technology-based programmes with attributes such as technological competence and undergraduate career-oriented education,
- research and innovation through technology and technique in strategic areas,
- entrepreneurial and innovative ethos,
- national and international impact and recognition,
- sustainability in engagement and practice.

In addition to the above, it is also acknowledged that in South Africa, a performance oriented based higher education sector is critical in meeting national current and future development needs (Van Straaten-Theron and Dodd, 2011). To ensure that performance objectives are met, the performance of all higher education institutions in the country is monitored on annual basis by the Department of Higher Education and Training in accordance with the Minister's published input and output targets based on predetermined objectives (PricewaterhouseCoopers, 2014). This, to some extent, has ensured that universities are kept in check in terms of how their performance.

Market orientation and university performance

Market orientation is a basis for organisations to understand their market that ultimately leads to enhanced customer satisfaction (Day, 1994). Some studies (Slater and Narver, 1994; Kaynak and Kara, 2004) support the proposition that market-oriented organisations tend to outperform their competitors. Ellis' (2006) review of market orientation studies demonstrated a strong and persistent correlation between market orientation and organisational performance. Other studies (Rodriguez, Cana, Carrilat and Jaramillo, 2004; Sin, Tse, Yau,Chow and Lee, 2005) further advance that the relationship between market orientation and university performance is both a positive and dynamic one which is moderated by external as well internal environmental factors alike. It is logical then for this study to explore the role of market orientation in helping universities in South Africa to align their internal resources, which provides superior performance by becoming more relevant to their stakeholders. Thus, the following proposition is put forward:
Research Hypothesis: Market orientation exerts a positive influence on university performance in South Africa

3. Research Methodology

Research design

This study made use of a quantitative approach because it is flexible and permits replication of the research procedure, thus enhancing the validity and reliability of the research results (Burns and Bush, 2010). The cross-sectional survey design was adopted, which measures units from a sample of the population at one point in time and applies to both small and large samples (Kumar, 2014).

Sampling design

The population for this study was composed of all academics in six universities of technology in South Africa. The target population consisted of academics in the five universities of technology that consented to participate in this study. The sample frame was drawn from a listing of higher education institutions that is available on the South African Council of Higher Education website, which provided links to each of the listed higher education institutions from which relevant information was obtained.

Respondents were recruited using the non-probability convenience sampling technique. This method was necessitated by the busy schedules of most academics, which made it difficult to access them at the same place and time. The convenience approach made it easier to contact only those that were accessible at the time of research. The sample size was initially pegged at N =650, which is consistent with a number of previous market orientation research (Bakewell and Gibson-Sweet, 1998; Mazzarol, 1998; Ivy, 2001; Rindfleish, 2003). However, after distribution of the questionnaire, the final sample consisted of a total of 507 academics, giving a response rate of 78%. The profile of these respondents is reported in Table 1.

Table 1. Demographic profile of respondents

Demographic factor	Categories	n	%
Gender	Males	289	57
	Females	218	43
Age group	<30 years	66	13
	30-39 years	172	34
	40-49 years	160	32
	50-59 years	29	16
	≥60 years	28	5
Number of years employed	<3 years	71	14
	3-6 years	239	47
	7-10 years	126	25
	≥10 years	71	14
Highest academic qualification	Diploma/degree	44	9
	B. Tech/Honours degree	197	39
	Masters	193	38
	Doctorate	71	14
Current position	Junior lecturer/lecturer	246	49
	Senior lecturer/ associate professor	209	41
	HOD/dean/professor	52	10
Faculties of respondents	Management Sciences	188	37
	Engineering	112	22
	Humanities	101	20
	Applied Sciences	71	14
	Other	35	7

Instrumentation and data collection procedures

The survey questionnaire used in this study was partitioned into three sections. Section A elicited respondents' demographic information. Section B consisted of questions eliciting information concerning market orientation. These questions were adapted from a study conducted by Zebal (2003). Section C of the questionnaire elicited information on university performance using questions adapted from Ma and Todorovic (2011). Questions in sections B and C were presented in a Likert Scale configuration in which 1 represented strongly disagree and 5 represented strongly agree.

In order to improve the quality of the measurement instrument, the questionnaire was first reviewed by a panel of experts consisting of three academics in the marketing department at a university of technology based in Gauteng Province. Thereafter, the questionnaire was pretested with a conveniently selected sample of 10 academics who work in the marketing departments of three participating universities of technology. The feedback provided by the panel of experts and the pre-test facilitated some minor changes to the length, wording and appearance of the questionnaire, which refined its overall quality. The actual data collection was conducted in August 2013 after permission had been obtained from the research directorates of each participating

institution. Questionnaires were couriered to a contact lead person at each university of technology, who then assisted with their distribution and collection. A cover letter was attached to the questionnaire to highlight the purpose of the study as well as associated ethical issues.

Statistical analysis procedures

For the purposes of this study, data were analysed with the aid of the Statistical Packages for the Social Sciences (SPSS version 22.0). Descriptive statistics were used to analyse the demographic profile of respondents. Correlations between constructs were tested using Pearson's correlation coefficient. Predictions between dependant and independent constructs were tested using regression analysis.

4. Research Results

The results section is divided into six sub-sections: namely, reliability and validity, correlation analysis, regression analysis, discussion, limitations and suggestions for further research, conclusions and managerial implications.

Reliability and Validity

Reliability may be perceived as the extent to which a measurement yields consistent results when the construct being measured has not changed (Leedy and Ormrod, 2014). In the current study, reliability was measured using the Cronbach alpha coefficient. The reliabilities of the constructs used in this study as shown in Table 2 ranged from 0.803 and 0.926. Since these values are well beyond the 0.7 minimum thresholds recommended by Malhotra (2010), it can be stated that the measurement scales used in this study were internally consistent or reliable.

In this study, validity was defined as the extent to which differences in the observed scale scores reflect true differences between objects on the characteristics being measured (McDaniel and Gates, 2010). Measurement scales were tested for content, convergent, predictive validity. Content validity was ascertained by ensuring that the pre-test was followed by the pilot testing of the survey instrument. The questionnaire was pilot tested with a convenient sample of 41 respondents who were selected from the population from which the sample was drawn. The pilot study facilitated further modification of the questionnaire to ensure that all questions were clear and accurately captured the required information. Convergent validity was ascertained through the computation of Pearson's correlations. The positive correlations existing between the dependant and independent constructs (refer to Table 3) denote the existence of acceptable convergent validity between in the study. Predictive validity was ascertained through regression analysis. The results of the study show that four of the seven independent constructs were statistically significant, thereby depicting the presence of satisfactory predictive validity in the study.

Exploratory factor analysis

The aim of this study was to determine the influence of market orientation on university performance, using evidence obtained from a sample of South African academics. The market orientation factors identified in the study consisted of seven dimensions that were extracted through the exploratory factor analysis procedure. As prescribed by Bradley (2010), Bartlett's test of Sphericity and the Keiser-Meyer-Olkin (KMO) measure of sampling adequacy were conducted first to determine the suitability of the data for a factor analysis. The results of the two tests were acceptable at p=0.000;<0.05 for the Bartlet's test and 0.955 for the KMO, thereby giving an indication that exploratory factor analysis could be satisfactorily conducted on the data (Malhotra, 2010). In the extraction of the factors, consistent reference to the percentage of variance explained, the scree plot and eigen values of the items in the scale was made. This protocol culminated in the extraction of seven market orientation factors, namely market intelligence generation, inter-functional coordination, customer orientation, market intelligence dissemination, intelligence response design, intelligence response implementation and interdepartmental dynamics. An overview of the factors, their respective operational definitions and the cumulative percentage of variance is reported in Table 2.

Table 2. Market orientation dimensions and description of dimensions

Factor	Label	Percentage of Variance Explained	Cronbach Alpha	Description
MO1	Market intelligence generation	44.053	0.926	This pertains to a set of beliefs that puts customer's interest first and raises the awareness of the need to obtain information about competitors
MO2	Inter-functional coordination	6.683	0.904	This relates to the capability of an organisation to achieve cooperation of the different units in market intelligence generation
MO3	Customer orientation	4.235	0.840	This refers to a group of initiatives implemented to support sales and service staff in considering customer needs and satisfaction of their major priorities
MO4	Market intelligence dissemination	3.645	0.803	This pertains to the efforts made to communicate market intelligence information among the functional areas
MO5	Intelligence response design	3.319	0.859	This refers to how different departments respond to various market needs

Factor	Label	Percentage of Variance Explained	Cronbach Alpha	Description
MO6	Intelligence response implementation	2.985	0.817	This involves the application of programmes geared towards the student or industry as a result of response design
MO7	Interdepart-mental dynamics	2.811	0.910	This refers to the nature of interactions between departments
	University performance	N/A	0.904	This refers to the outputs of the university in terms of teaching, research and community engagement

As shown in Table 2 the seven factors accounted for approximately 68% of the explained variance in market orientation. The value of explained variance was considered to be satisfactory since it surpasses the 60% minimum threshold recommended by Malhotra (2011). Among the seven factors, market intelligence generation made the highest contribution of approximately 44% of the variance explained in market orientation while interdepartmental dynamics made the lowest contribution of approximately 2.8% to the total variance explained.

Correlation analysis: market orientation and university performance

The degree of association between the seven market orientation constructs and university performance was measured using Person's Correlation Coefficient. The results of the correlation analysis are reported in Table 3.

Table 3. Correlation analysis, means and mean-score ranking: market orientation and university performance

CONSTRUCT	MO1	MO2	MO3	MO4	M05	MO6	MO7	UP
UP	.528**	.550**	.577**	.450**	.423**	.593**	.459**	1.000
Mean	3.52	3.52	3.60	3.61	3.74	3.50	3.46	3.64
Mean Ranking	4	4	3	2	1	6	7	N/A
Note: ** Correlation is highly significant at the 0.01 level (2 tailed) * Correlation is significant at the 0.05 level (2 tailed). MO= Market Orientation: UP= University Performance								

An analysis of the correlation matrix (Table 3), indicates a significant positive relationship between university performance and market orientation factors ranging between r= 0.423 and r=0.577 (all with p-values <0.01). The fact that all seven factors of market orientation were either moderately or strongly correlated with university performance signifies that overall market orientation is significantly correlated to university performance. Thus, the research hypothesis is accepted, which means that the degree to which market orientation is operationalised influences university performance.

Mean scores computed for all constructs ranged between 3.46 and 3.74, which demonstrates an inclination towards the 'Agree' position on the Likert Scale. This result depicts that respondents concurred that all constructs were important. Among the seven market orientation factors, intelligence response design (mean = 3.74) emerged as the most important factor while interdepartmental dynamics (mean= 3.46) emerged as the least important factor.

Regression analysis

Since the relationship between market orientation and university performance showed positive correlations, regression analysis was conducted. The results are reported in Table 4.

Table 4. Regression analysis: market orientation and university performance

Independent variable: Market Orientation	**Dependent variable: University Performance**				
	Beta	T	Sig	Collinearity Statistics	
				Tolerance	VIF
M01	0.015	0.268	0.789	0.588	3.472
M02	0.244	5.973	0.000	0.547	1.829
M03	0.194	4.136	0.000	0.617	2.396
M04	0.017	0.411	0.681	0.554	1.804
M05	0.134	2.942	0.003	0.641	2.267
M06	0.225	5.110	0.000	0.770	2.128
M07	0.086	1.954	0.051	0.575	2.105
R= 0.738 Adjusted R^2 = 0.538 F=85.058					

The regression model reveals that the seven market orientation sub-scales (adjusted R^2 = 0.538) explained approximately 54% of the variance in university performance. This symbolises that the remaining 46% of the variance in university performance is explained by other extraneous factors not included in this study. With regards to the evaluation of the assumptions of multicollinearity, if the Variance Inflation Factor (VIF) is greater than 10 then collinearity is a cause for concern (Field, 2005). Multi-collinearity means that several of the independent variables are in one way or another highly correlated, which reduces the distribution and of the data and makes the results of the regression analysis unreliable (Kock and Lynn, 2012). The VIF for the five subscales were acceptable since they ranged between 1.804 and 3.472. Tolerance values ranged between 0.547 and 0.770, which is beyond the 0.5 minimum thresholds recommended by Denis (2011). Therefore, collinearity statistics did not give an indication of a severe threat in this study.

5. Discussion

The Pearson correlation analysis (refer to Table 3) reveals that although there was a significant and strong positive correlation between market intelligence generation and university performance (r = 0.528; p < 0.01), the market intelligence factor was statistically insignificant (β = 0.015; t=0.268; p=0.789) in the regression

analysis. This result depicts that while higher marketing intelligence generation results in greater university performance, there appears to be no predictive relationship between the two constructs. Market intelligence generation involves obtaining market information from customers about their needs (O' Connell, 2001). According to Zebal (2003), components of market intelligence generation that lead to an increase in organisational performance include the systematic methods of organising and retrieving current market information, intelligence networking to collect and share information with everyone within the institution, systematic research approach to gather new market information, and the process of analysing information for decision-making purposes. Market intelligence generation has also been reported as a focal point that has the propensity to generate market information that becomes a source of competitor orientation and customer orientation (Carr and Lopez, 2007). Consequently, market intelligence generation becomes the source of ideas in the implementation of the marketing concept, which is renowned for enhancing the performance of organisations (Drysdale, 1999).

The correlation analysis further revealed a strong positive and significant association ($r = 0.550$; $p < 0.01$) between inter-functional coordination and university performance. In the regression analysis, inter-functional coordination was statistically significant ($\beta = 0.244$; t=5.973; p=0.000) in predicting university performance. This result demonstrates that inter-functional coordination exerts a positive influence on and predicts university performance. As mentioned before, inter-functional coordination is the capability of an organisation to achieve the cooperation of the different units in market intelligence generation and this can be achieved through integration and coordination of the higher education institution's resources (Rivero-Camino and Ayola, 2010; Hemsley-Brown and Oplatka, 2010). This coordination implies a good communication between different departments with a view of developing a good working relationship and coherence among various departments (Alhakimi and Baharun, 2010). It also encourages the existence of a good inter-personal atmosphere, where resources are shared (Akonkwa, 2013). Through this approach, it would then be possible to be more innovative and implement improvement for future students based on anticipated needs, which stimulates overall university performance. In addition, Voon (2008) argue that effective inter-functional coordination provides the focus for the consideration of teamwork, that is, coalitions of interest and information processing, which are critical for the efficient and effective administration of a higher education institution. Therefore, inter-functional coordination remains an enduring factor influencing university performance.

A strong positive and significant association ($r = 0.577$; $p < 0.01$) was observed between the customer orientation and university performance in the correlation analysis. In the regression analysis, customer orientation emerged as a statistically significant predictor ($\beta = 0.194$; t=4.136; p=0.000) of university performance. These results illustrate that the higher the customer orientation, the better the performance of the university and that customer performance may be used to forecast future university performance. Lindsay and Rodgers (1998) define customers as those who receive the benefit of the product or service and they put their hands in their pockets to pay for it. Both of these conditions can apply to the student as well as the employing organisation. This implies that at the simplest

level, universities can regard students as their customers and those who enter into relationships with higher education institutions (Asaad *et al.,* 2008). However, the role of other stakeholders, such as society, donors and government, should not be disregarded due to the influential role they play towards student's wants and preferences (Penceliah, 2004). A higher education institution performs a service to its constituents and is obligated to create a harmonious effort to fulfil the needs of its customers and retain them (Liou and Chen, 2006). Since market orientation is the operationalisation and implementation of the marketing concept, it is imperative that the fundamental premise of satisfying the needs and wants of the students be inherent in any basic conceptualisation of university marketing initiative (Lafferty and Hult, 2001). Once this is achieved, a higher quality of service will be rendered, with the outcomes being more competent graduates who are prepared to serve their countries in different capacities. Customer orientation not only leads to the satisfaction of students but other important stakeholders as well, compelling them to maintain their service to the university (Naude and Ivy, 1999). Thus, there can be no superior university performance without improved customer orientation.

In the correlation analysis, there was a moderate positive and significant correlation ($r = 0.450$; $p < 0.01$) between the fourth factor; market intelligence dissemination, and university performance. The results of the regression analysis indicate a statistically insignificant association ($\beta = 0.017$; t=0.411; p=0.681) between market intelligence dissemination and university performance. By implication, an increase in market intelligence dissemination may trigger moderate increases in university performance, but it does not predict university performance. According to Lafferty and Hult (2001), part of the organisations ability to adapt to market needs depends on how effectively it communicates and disseminates market intelligence among the functional areas. In universities, the information gathered through market intelligence generation has to be disseminated throughout the university both hierarchically and horizontally (Gray, Osborne and Mathear, 2000). Although information may be readily available, most higher education institutions find it difficult to disseminate market intelligence that will assist them to develop a quality image, which is a prerequisite to achieving sustainable competitive advantage in international education (Caruana *et al.,* 1988). The benefits of intelligence dissemination include ensuring that employees are better able to make important decisions when armed with information affecting those decisions; (2) representing a powerful feedback mechanism to help organisational members realise how their activities are affecting key performance indicators; (3) enhancing the ability of frontline employees to provide other organisational members and customers with useful information and better service, and (4) building trust by functioning in a transparent manner through openly sharing with members' information on their strategy, financial performance and expenditure (Bansal *et al.* 2001). Higher education institutions must, therefore, adapt to market needs through communicating and dissemination of market intelligence amongst their various functional areas in order to improve their performance (Gray *et al.,* 2000).

In the correlation analysis, a moderate positive and significant association ($r = 0.423$; $p < 0.01$) was observed between intelligence response design and university performance. In the regression analysis, ($\beta = 0.134$; t=2.942; p=0.003), intelligence response design was statistically significant. Response design is one

of the aspects relating to a successful response to the information generated about the market (Lings and Greenly, 2005). Response design takes the form of selecting targets markets, designing services that cater to current and anticipated needs and promoting the services in a way that elicits favourable customer response (Zebal and Goodwin, 2012). In the higher education industry, response design involves the planning of programmes based on the needs of students, community, business and industry because of generated and disseminated market intelligence (Tettey, 2010). Intelligence response design applies to universities that continually seek to provide superior value (relative to a competitor) for stakeholders and seeks to accomplish university goals (Hammond *et al.,* 2006). As described by Narver and Slater (1990), a market-oriented organisation is one that is committed, systematically and entirely, to the continuous creation of superior value to customers and stakeholders such as market specific. Thus, in order to ascertain whether the responsive actions in place have a positive or negative effect on the customers, continuous monitoring of the target customers reactions seems necessary in order to improve performance (Asaad *et al.,* 2008).

A strong positive and significant association ($r = 0.593$; $p < 0.01$) was observed between intelligence response implementation and university performance. In the regression analysis, intelligence response implementation emerged as a predictor of university performance ($\beta = 0.225$; t=5.110; p=0.000). Intelligence response implementation involves the application of programmes geared towards the student or industry as a result of response design (Penceliah, 2004). A core business of any higher education institution is its development of the curricula, which remains the greatest challenge to universities (Reddy, 2004). In line with this, universities have the challenge of designing and aligning their marketing such that it reflects their core purpose in developing curriculum (Maringe, 2005). The model of market orientation includes students' complaints and comments in order to put more weight on timeous responsiveness. Student's complaints and comments should be encouraged as they assist an organisation to evaluate itself and perform well (Letseka and Pitsoe, 2013). An ideal and holistic approach would be to develop responses to the internal environment as well as the external market. Finally, responsiveness addresses the execution of a plan of action or market focused strategy (Zebal and Goodwin, 2012:345). It means implementing and altering products and services in response to customers' current and future needs (Zebal, 2003). Therefore, the implementation of intelligence response to changes taking place in higher education has an important bearing on the performance of the university.

The seventh factor, interdepartmental dynamics was moderately and significantly associated ($r = 0.459$; $p < 0.01$) to university performance. In the regression analysis, interdepartmental dynamics did not predict university performance ($\beta = 0.086$; t=1.954; p=0.051). Caruana *et al.* (1998) affirm the importance of interdepartmental dynamics in the sense that market orientation is an organisation-wide prescription that demands that the whole institution should be coordinated in order to satisfy customer needs. Lafferty and Hult (2001) add that all departments should be responsive and this should take the form of selecting the appropriate markets. Interdepartmental dynamics is closely linked to the intensity of market orientation within an institution (Kohli and Jaworski, 1990). This entails the existence of affinity and understanding among departmental members (Flavian

and Lozano, 2006). Consequently, the capability of higher education institutions to achieve the cooperation of the different units in market value generation has a positive effect on market orientation behaviours that impact on overall performance. Trueman (2004) further argues that the existence of cohesion makes the generation of market information and its dissemination within the organisation possible and facilitates the development of a rapid response to this information. Therefore, it is reasonable to support that an interdepartmental orientation should be incorporated as a component of market orientation within the higher education sector in order to enhance university performance.

6. Conclusions and Managerial Implications

The study confirms that market orientation exerts a positive influence on university performance in South Africa. Seven fundamentally distinct but interrelated market orientation elements that are prevalent in universities of technology were identified using the exploratory factor analysis. These were market intelligence generation, inter-functional coordination, customer orientation, market intelligence dissemination, intelligence response design, intelligence response implementation and interdepartmental dynamics. Results of the Pearson correlation analysis indicated that all seven market orientation factors are positively and significantly associated with university performance. However, regression analysis indicated that only four market orientation factors, namely inter-functional coordination, customer orientation, market intelligence dissemination, and intelligence response design predicted university performance. Among these seven market orientation factors, intelligence response design emerged as the most important factor influencing university performance.

This study is not without viable implications for both academics and practitioners. On the academic front, this study makes a significant advancement in the marketing theory by systematically examining the influence of market orientation on university performance. From a theory point of view, a contribution is made to the existing literature on the relationship of market orientation and university performance. The study also contributes a new direction in the research on market orientation by opening up a debate on the importance of market orientation practices in the development and improvement of university performance in South Africa. On a broader and practical perspective, the study reaffirmed the assertion that superior university performance is influenced by the degree of market orientation inherent in HEIs. Thus, administrators and marketing practitioners within universities can apply a proportionate and appropriate mix of the market orientation elements identified in this study to either diagnose performance problems or increase the overall performance of their universities.

7. Limitations and Implications for Further Research

The study has several limitations that have to be highlighted. First, the results of the study may not be generalised to the broader South African higher education institutions' academic population since a non-probability convenience

sampling method was used and the data were exclusively collected from universities of technology. In future studies on similar issues, larger numbers of respondents could be enlisted using probability sampling approaches, which enhance the degree to which the results may be generalised to the broader South African Higher education environment. Second, the use of academics alone to measure the relationships among the constructs could have affected the validity of the responses since academics might not be fully aware of some or all market orientation practices and might have given inaccurate responses. In view of this, future research efforts should obtain representative samples, which also include non-academics from more institutions that include comprehensive and traditional universities. Third, a single cross sectional research design was adopted in the study, which accordingly lacked the depth of a longitudinal study. A longitudinal design is recommended in similar studies in the future, as it would provide valuable information concerning any changes in the relationship between the constructs at different periods of time. Another limitation concerns the use of a single method of data collection. All the data in the study were collected quantitatively, which led to common method bias inherent to quantitative methods. To mitigate the effects of common method bias in future studies, it is recommended that the mixed method approach, which integrates both quantitative and qualitative methods be used in data collection.

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