Univariate Analysis of Marketing Fees and its Impact on Medical Scheme Performance, South Africa

By Michael Mncedisi Willie

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Results: The results indicated that restricted schemes spent significantly less on marketing than open medical schemes in 2019. Similarly, very large and large schemes spend more on marketing fees compared to medium and small. The number of benefit options also attracted a higher marketing expense for medical schemes, with more than four benefit options attracting more elevated levels of marketing fees.

Keywords: marketing fees, marketing initiatives, organisational performance, medical schemes, South Africa.

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Conclusion: In conclusion, this study found some evidence of factors that impacted marketing fees. The study also found product offering as one of the determinants of marketing fees in medical schemes.

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I. Introduction

Marketing strategies are investment strategies in many corporate entities that are used to maximise shareholders' returns (Jemaiyo, 2013; Daniel, 2018). Various studies have shown the effect of poor marketing strategies on organisational performance. According to Rodriguez et al., some companies have failed to increase their sales revenue due to poor marketing strategies (Rodriguez et al., 2012). Various studies have cited poor marketing as one of the contributing factors to business failure, particularly small and medium enterprises (Petrus, 2009; Nemaenzhe, 2010; Gbolagade et al., 2013). Owomoyela et al. argued that marketing strategies should provide customers with quality products at an affordable price, offer effective promotional strategies, interact with their distribution outlets, and ultimately create value for the customer and increase performance (Owomoyela et al., 2013).

II. Background

Medical scheme membership is a proxy for assessing medical scheme performance in terms of enrolment into the schemes. An increase in membership is a function of new enrollees joining the scheme; this implies higher contribution income levels and thus higher revenue for the scheme (Ambler, 2003). Membership in medical schemes has stagnated at the level of 8 million for the past decade (C.M.S., 2019). Non-health care costs, including marketing and distribution costs, have been increasing and outstripping the rate of growth in the sector.

A study conducted by Willie et al. showed that an increase in marketing fees is not always a function of membership (Willie et al., 2020). Studies have shown that poor marketing strategies are one of the attributes contributing to poor organisational performance. Rodriguez et al. (2012) noted that most companies failed to increase their sales revenue due to poor marketing strategies. Studies have shown that poor marketing strategies can potentially lead to poor organisational performance. However, marketing programs expenditure and its impact on organisational performance has not been investigated widely, in particular for non-for-profit organisations (Daniel, 2018).

III. Literature Review

a) Marketing performance measures

Various quantitative measurements of marketing effectiveness include return-on-investment (R.O.I.). Chanand colleagues employed a portfolio analysis approach to assess the association between marketing fees and the market value of firms (Baidya & Basu, 2008). The study could not find any relationship between marketing fees and the market value of organisations. However, Konak found an association between marketing fees and firm performance (Konak, 2015; O'Sullivan et al., 2009). This study, therefore, tested the effects of medical scheme expenditure on marketing activities (advertising, sales classified as brokerage fees, promotion, distribution) and their effect on organisational performance (improved financial performance measured by solvency levels). According to O'Sullivan et al., the relationship between marketing performance measure's ability and firm performance or marketing's position needs to be explored further (O'Sullivan et al., 2009).
b) Factors affecting marketing initiatives

i. Product offering

Research has shown that informational and product development capabilities work separately and contribute to improved and more successful products (Kaleka & Morgan, 2017; Morgan et al., 2009). Liu argues that successful product development could better enhance operating performance (Liu et al., 2014). Studies showed that competitive advantage factors such as quality, efficiency, innovation, and accountability were positively and significantly related to new product development (Hosseini et al., 2018; Mbithi et al., 2015; Urban & Streak, 2013; Solanki et al., 2020).

A study by Terblanche et al. considered a marketing product as one of the predictors of sales (Terblanche et al., 2013). The study investigated sales and marketing fees over time. The author presented the monthly financial income statement for each respective brand under the study period. The authors found that the nature of the significant relationship between distribution costs and sales was positive. However, another body of evidence suggested that product development does not necessarily translate to firm performance.

A study by Nwokah et al. (2009) assessed the relationship between product size and other factors such as product design and profitability, sales volume and customer loyalty and showed that it was not significant (Nwokah et al., 2009). According to Pleshko and Heiens, the relationship between product-market strategies and individual firm growth is incompletely understood (Pleshko & Heiens, 2008). The average number of products offering in medical schemes is three (3). However, this varies according to medical schemes type and size. Only a handful of studies looked at product offering and expenditure on marketing activities (Mizik & Nissim, 2011).

c) Advertising

Advertising has also been depicted as the most widely researched variable of the promotional mix (Saif, 2018). According to Esteve-Pérez and Mañez-Castillejo, organisations that develop firm-specific assets through advertising and investing in research and development (R&D) had more success in surviving (Esteve-Pérez & Mañez-Castillejo, 2008). According to Frolova, advertising increased sales and a product’s life cycle (Frolova, 2014). A recent study by Rahman et al. examined the effect of advertising productivity on firm performance (Rahman et al., 2020). The study provided evidence of advertising efficiency and profitability in the health care sector. The study showed that advertising efficiency does vary between firms and that the higher the level of efficiency, the better the firm’s profitability level can become.

The authors provided a body of evidence with mixed results on the effect of advertising on firm performance (Rahman et al., 2020). According to the authors, no study thus far has investigated whether or how advertising efficiency impacts firm performance, distinct from how the absolute amount of advertising expenditure impacts firm performance. (Rahman et al., 2020). The researcher assessed whether the amount of money spent on advertising affected a firm’s financial performance.

d) Marketing distribution

The distribution channel is an essential component of the marketing strategy mix (Saif, 2018; Lamberti & Noci, 2010). Distribution expenses are all expenses incurred to improve the product reach from the manufacturer to the end-user. A study by Adimo and Osodo (2017) investigated the impact of distribution channel differentiation on organisational performance.

Another study by Amara studied the effect of marketing distribution channel strategies on a firm’s performance among commercial banks in Kenya (Amara, 2012). The author found that marketing distribution strategies resulted in increased sales, market share and profits.

e) Sector and firm size

Zehir and Balak examined the effects of sectoral differences and market dynamism and the relationship between the importance of metrics and firm performance (Zehir & Balak, 2018). According to O’Sullivan and Abela, product size is correlated with profitability and sales volume (O’Sullivan & Abela, 2007). The authors measured the ability of marketing performance and its impact on firm performance within a firm. The authors controlled firm size and firm age and measured their effect on firms’ performance (O’Sullivan & Abela, 2007). Another study by Gitundu et al., found that firm size (log of assets) was correlated to share, ROA and Tobin’s Q (Gitundu et al., 2016).

f) Business operating model

The operating model and other structural factors have various dynamics to firm performance and its survival. Saleh argued that organisational structural elements should affect performance outcomes (Saleh, 2015; Gitahi & K’Obonyo, 2018). The author further argued that the ability of a firm to manage resources best would affect its performance levels. Marketing capability was also studied from a resource-based perspective and showed its essential impact on operations’ capacity (Bromiley & Rau, 2016; Krasnikov & Jayachandran, 2008). Operations’ capacity was positively linked to a firm’s efficiency (Kamboja et al., 2015; Bromiley & Rau, 2016).

A study by Kamboja et al. provided a new viewpoint to model the functional capabilities of firms (Kamboja et al., 2015). The authors emphasised that a firm with strong marketing capabilities leads to superior financial performance than those focusing solely on operational capabilities (Kamboja et al., 2015). The study found that both marketing and operations have
capabilities to be significantly linked to and positively influence financial performance. There is, however, a body of knowledge that depicts a minor association between organisational, functional dimension and performance.

Yu and Ramanathan argued that previous studies had paid little attention to mediation analysis when examining the relationship between operational capabilities and performance (Yu & Ramanathan, 2016). This study also looked at the effect of marketing capabilities from the operating model, a stratification of internal versus external or outsourced model was assessed to assess the optimal use of resources.

g) Market share

Market share, considered an antecedent of cash flow and profitability, is another metric frequently used by scholars and practitioners (Hacıoğlu & Gök, 2013). Hussain et al. and Chin et al. provided evidence of O.P. (Organisational Performance) and financial performance (F.P.) being measures of market performance (M.P.) (Hussain et al., 2016; Chin et al., 2013; Lo et al., 2016). These authors considered O.P. measures as including the organisation's profits, return on investments (R.O.I.), market share, and sales growth. Chin et al. found that market share is one of the determinants of O.P. (Chin et al., 2013).

However, another body of knowledge argued against the use of market share as a measure of performance by alleging that marketing activities do not always translate to O.P. Inconsistent findings and different explanations on the effect of market share on firm performance suggested further research in this vital area (Yannopoulos, 2010). The author found market share to contribute to higher profitability, although it may have been exaggerated in the past (Yannopoulos, 2010). This depicts a further need to assess the effect of market share as one of the market performance measures and their association with firm performance, particularly in the health care market.

IV. Objectives

The study's objective was to assess to what extent factors that affect marketing activities and expenditure impacted scheme performance.

V. Methods

a) Study design

The study entailed a univariate analysis of factors that affect marketing activities and expenditure and their impact on scheme performance. More precisely, an analysis of variance (ANOVA) was employed to compare marketing fees. A Chi-square test was conducted to compare marketing performance to scheme performance (mainly market share and financial performance). Market share measured by growth in customer base, profit ratio, sales growth, and customer satisfaction were also considered some of the determinants of organisational performance (Chin et al., 2013). For this research scheme, performance was assessed from a financial perspective, chiefly being:

- Increase in market share in terms of membership.
- Financial performance such as profits and deficits.

The study mainly used secondary data collected from the Council for Medical Schemes (C.M.S.) annual report. The review period of the study claimed and audited transaction or claims information in 2019.

b) Population and sample

i. Population

A population is defined as the entire set of subjects whose characteristics are of interest in the research. Alvi established a target population, saying that "a target population refers to all the members who meet the criteria specified for a research investigation" (Alvi, 2016). The population in this study was drawn from the medical scheme's expenditure data.

ii. Sampling and sampling method

This study employed a convenient sampling frame, a non-probabilistic sampling method (Elfil & Negida, 2017; Wretman, 2010). The participants in a convenience sampling frame are consecutively selected in order of appearance, according to their convenient accessibility (also known as consecutive sampling) (Martínez-Mesa et al., 2016). This method is quick, inexpensive, and convenient, and the sample elements are chosen according to their convenient accessibility and proximity (Singh & Masuku, 2014). The study included a total of 54 medical schemes (12 open and 42 restricted schemes). The number of beneficiaries and marketing fees in 2019 was 68%, and 65% of industry, respectively.

iii. Setting

Medical schemes, also called health insurance companies operating in the private health sector in South Africa, are non-for-profit entities governed by a board of trustees and must be registered with the Council for Medical Schemes (C.M.S.). The C.M.S. is a statutory body, a section 31 entity that regulates medical schemes in South Africa. There are two types of medical schemes: namely open and restricted medical schemes. Open membership schemes must accept anyone who wants to become a member (Medical Schemes Act 131 of 1998). Restricted membership schemes can restrict who may become members, and they are typically employer or union-based (Medical Schemes Act 131 of 1998). Schemes were further stratified by size, and the following stratifications were employed:

- Small < 6 000 members
iv. Unit of measures

The unit of measurement for expenditure data was in rand terms (R: ZAR). This was further adjusted for membership for comparison purposes, and this was denoted by “B.M.”. As of 20 May 2020, the equivalent value was:

- 1 ZAR to GBP = 0.0502
- 1 ZAR = 0.07077 USD

VI. Results

The analysis included a total of 54 medical schemes, which was a convenience sampling frame.

**Figure 1:** A box and whisker plot for marketing fees adjusted for membership by scheme type.

### a. Size effect

Similarly, very large and large schemes spend more on marketing fees compared to medium and small schemes, with the median being (IQR), R173.8 (R65.0-R239.0); R142.4 (R91.3-R342.7), compared to R14.4 (R9.5-R80.7) and R13.4 (R9.9-R18.3), respectively. These were statistically significant, F-value = 7.82, p = 0.0003.
b. **Product line effect**

The number of benefit options also attracted a higher marketing expense for medical schemes with more than four benefit options attracting more high marketing fees than schemes with only two benefit options, with the median of R160.2 (R95.1-R239.0) and R12.4 (R10.5-R91.3). Schemes with only one benefit option attracted marketing much lower expense, compared to schemes with three or four benefit options, R10.0 (R6.1-R15.9) and R13.9 (R12.5-R26.6) or R15.74 (R7.6-R24.7), respectively. These comparisons were also statistically significant, F-value=7.7, p=0.0001.

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**Figure 2:** A box and whisker plot for marketing fees adjusted for membership by scheme size.

**Figure 3:** A box and whisker plot for marketing fees adjusted for membership by the number of benefits options.
c. **Operating model**
   The business operating model was also a critical factor in marketing expense. Schedules with an insourced operating model (n=8) spend more on marketing activities than those with an outsourced business operating model (n=46). The median expense of R125.9 (R91.3-R177.9) and R14.0 (R9.5-R80.7). These were also statistically significant, F-value=4.9, p=0.0323. Lastly, marketing performance was not statistically significant compared to organisational performance (market share) and financial performance, Chi-square=, p=0.99; and Chi-square=0.51, p=0.47.

   ![Figure 4](image)
   **Figure 4:** A box and whisker plot for marketing fees adjusted for membership by type of business operating model.

   ![Figure 5](image)
   **Figure 5** below depicts a box and whisker plot for marketing fees adjusted for membership and by marketing performance (Positive depicts an increase in marketing fees while negative depicts a decrease in marketing fees compared to the previous year. The results show that medical schemes that experienced an increase in their marketing fees between 2018 and 2019 paid slightly less than those that experienced a decrease. The respective median expenditure was R14.3 (R10.5-R128.6) and R20.2 (R5.3-R109.5). These were however not statistically significant, F-value=0.0, p=0.99.

   d. **Marketing performance**
      Figure 5 below depicts a box and whisker plot for marketing fees adjusted for membership and by marketing performance (Positive depicts an increase in marketing fees while negative depicts a decrease in marketing fees compared to the previous year. The results show that medical schemes that experienced an increase in their marketing fees between 2018 and 2019 paid slightly less than those that experienced a decrease. The respective median expenditure was R14.3 (R10.5-R128.6) and R20.2 (R5.3-R109.5). These were however not statistically significant, F-value=0.0, p=0.99.
Figure 5: A box and whisker plot for marketing fees adjusted for membership and by marketing performance (Positive depicts an increase in marketing fees while Negative represents decreased marketing fees compared to the previous year).

Figure 6 below depicts a box and whisker plot for marketing fees, adjusted for membership and financial performance measured by net surplus/ (deficit) after consolidation results. A positive category depicts an increase in the net surplus, while a decrease describes a decline or loss. The results show that medical schemes that experienced a positive financial performance spent twice as much as those that shared reductions or losses. The respective median expenditure was R21.5 (R10.0-R109.5) and R13.9 (R6.1-R142.4). These were, however, not statistically significant, F-value=0.5, p=0.4799.

Figure 6: A box and whisker plot for marketing fees adjusted for membership and financial performance (Positive depicts an increase in financial position while a negative describes losses).
Marketing performance on organisational performance

This study also sought to test whether there was a relationship between marketing fees and organisational performance. The findings depicted that marketing performance was not statistically significant compared to organisational performance (market share or change in membership) and financial performance, Chi-square= ,  \( p=0.99 \); and Chi-square=0.51, \( p=0.47 \).

Table 1: Chi-square test between marketing performance on organisational performance (Market share and financial performance)

<table>
<thead>
<tr>
<th>Market share (change in membership)</th>
<th>N (%)</th>
<th>Positive</th>
<th>Negative</th>
<th>Chi-square, ( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>17 (31.5)</td>
<td>11 (20.0)</td>
<td>0.63, 0.429</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>13 (24.1)</td>
<td>13 (24.1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial performance (Change net surplus/ (deficit) after consolidation results)</th>
<th>Marketing Performance</th>
<th>N (%)</th>
<th>Positive</th>
<th>Negative</th>
<th>Chi-square, ( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>10 (18.5)</td>
<td>18 (33.3)</td>
<td></td>
<td>0.15, 0.70</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>18 (33.3)</td>
<td>36 (66.7)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
medical schemes is required to cover the multivariate effect of drivers of marketing fees.

VIII. Conclusion

The findings of the univariate analysis depicted that factors such as the sector that the medical scheme operates in (open schemes compared to restricted schemes) affect marketing fees. Secondly, the study found higher spending levels in large and very large schemes than in medium and small types of medical schemes. The study also found product development factors to be one of the explanatory factors of marketing fees, where higher expenditure levels were found in medical schemes with more products.

IX. Limitations

The following items have been identified as research limitations:

a. This study will only consider the transaction data as a marketing audit approach to determine the quality and effectiveness of the marketing inputs (Gao, 2010, 2002; Alsem, 2007; Ambler & Kokkinaki, 2002; Chirla & Funar, 2010; Lipnická & Dačo, 2013; Morgan et al., 2002). Authors such as Palmer et al., advocated for a change from transactional marketing that maximised the number of one-time transactions to relationship marketing (Palmer et al., 2005).

b. The management perspective on marketing strategies employed in the healthcare market could provide better insights into the key drivers of marketing initiatives expenditure and their impact on growth strategies. A study by Chandell and Langfield-Smith found that marketing management plays an essential role in assessing the effectiveness and efficiency of marketing decisions (Chendall & Langfield-Smith, 2007). The importance of management perspective was also depicted by O’Sullivan et al., who in their study included senior marketing managers to examine the effect of the ability to measure marketing performance on firms’ performance (O’Sullivan et al., 2009).

c. Member's perspective could not be explored due to the researcher's limited access to member contact information. Member's perspective is essential when trying to measure the value of marketing initiatives. Thus, both financial and otherwise, resources and investments should be viewed as a value add to members (Doyle, 2000). According to Terblanche et al., marketing investments and strategies were evaluated based on their ability to enhance value (Terblanche et al., 2013).

d. The marketing function is outsourced in some schemes, while others have marketing initiatives as an in-house function. Thus, the performance of the marketing activity, in some instances, is a function of third-party performance.

e. The reporting of marketing fees by schemes is not consistent across schemes.

f. Organisation performance was evaluated from the financial perspective rather than from non-financial measures. The non-financial key indicators typically would include customer satisfaction measures (Shavazi et al., 2013).

Conflict of interests

The author declared that no competing interests existed in the completion of this research.

Authors contributions

The author drafted and proofread the article.

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